NEWHALL RANCH™

DRAFT

ENVIRONMENTAL IMPACT REPORT APPENDIX Volume III

Project # 94087
SCH # 95011015

NEWHALL RANCH SPECIFIC PLAN and WATER RECLAMATION PLANT

Prepared For:

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July, 1996

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Specific Plan Implications for the Southern Steelhead (*Oncorhynchus mykiss irideus*)

The Santa Clara River is currently identified by the U. S. Fish and Wildlife Service (USFWS) and the CDFG as a southern steelhead (*Oncorhynchus mykiss irideus*) resource. The southern steelhead are a winter sea-run rainbow trout that are adapted to the intermittent flows of southern California streams and rivers. In the past, the southern steelhead migrated upstream through the lower Santa Clara River to historic spawning grounds in Santa Paula, Sespe, and Piru creeks (Titus, et. al., 1996). Currently, the Santa Clara River serves as a migration corridor to potential spawning habitat in Sespe Creek (Chase, Entrix, personal communication as quoted from Puckett & Villa, CDFG), which is approximately 15 miles downstream of the Newhall Ranch Specific Plan site. Winter steelhead in California typically spawn from December to May, but mostly in January - March. Past runs have been estimated at 7,000-9,000 fish in the Santa Clara River. Dr. Robert Titus of the CDFG reported that steelhead are currently present in the Santa Clara River, but numbers are clearly reduced (Minutes from AFS CalNeva annual conference, 1996). Systematic surveys for steelhead have been conducted in the Santa Clara River by the CDFG and others. No more than five adult steelhead have been recorded in the Santa Clara River during the last five years (Cardenas, CDFG, personal communication, 19 March, 1996), and none have been recorded in the Specific Plan site vicinity. The genetic origin of at least two of these specimens is questionable as to their connection with the southern steelhead gene pool (Minutes from AFS CalNeva annual conference, 1996). Genetic studies conducted by Dr. Jennifer Nielsen on smolts collected at the Vern Freeman Diversion in 1995 indicate that no more than 40% of the 111 smolts collected are genetically linked to the southern steelhead population (a smolt is a young fish undergoing physiological and visible morphological changes to adapt to salt water conditions). At the recent AFS CalNeva Chapter annual conference, Sara Chubb and Cindy Carpenzano of the Los Padres National Forest reported that their on-going studies have resulted in no documented ocean run fish in the last five years in Sespe Creek.

Southern steelhead are unique in that they have adapted to the often extreme high flow events that periodically occur within their range of distribution. Migrating steelhead trout tend to seek cover during peak flow events before resuming upstream progress, but are capable of traversing great distances in extremely high flows (Dr. Thomas Haglund, UCLA Research Associate, personal communication, 21 March, 1996).

The Newhall Ranch Specific Plan will be subject to Section 402(p) of the Federal Clean Water Act which regulates construction, municipal and industrial storm water discharges under the National Pollutant Discharge Elimination System (NPDES) program. This program requires that all flood

control facilities be in compliance with the General Permit for Los Angeles County or under conditions placed upon individual NPDES permits, should an individual permit be required for any given component of the Newhall Ranch Specific Plan. As the Newhall Ranch Specific Plan builds out, development would comply with those NPDES requirements that are in effect at the time improvements are designed. Also, the Specific Plan would be required to implement the flood control requirements of Los Angeles County Department of Public Works Flood Control Division to ensure that storm flows are not impeded, that erosion and sedimentation from the Newhall Ranch site would be minimized both during construction and at buildout, and that both artificial and natural open drainage channels would be protected.

The Newhall Ranch Specific Plan site is located well upstream from the historic and potentially recoverable portion of the Santa Clara River utilized by the southern steelhead trout. Given (1) the distance from the site to the portions of the River used by the fish, (2) the characteristics of the fish itself, and (3) the fact that the Specific Plan would be required to meet the water quality, flooding, sedimentation and erosion-related requirements of the Federal Clean Water Act and Los Angeles County Department of Public Works Flood Control Division, impacts to the fish resulting directly or indirectly from the Newhall Ranch Specific Plan would not be considered significant.

Works Cited

Chase, Shawn. 1996. ENTRIX, personal communication. April, 1996.

Haglund, Tom. 1996. Personal communication. April, 1996.

Moyle, Peter B. et. al. 1995. Fish Species of Special Concern in California Second Ed. Prepared for California Department of Fish and Game, Inland Fisheries Division. June, 1995.

Titus, R.G., D.C. Erman, and W.M. Snider. 1996. "History and status of steelhead in California coastal drainages south of San Francisco Bay." Manuscript as of Tuesday, April 23, 1996.

Biota Report
Newhall Ranch Specific Plan

Santa Clara River Valley, California
Tentative Tract Map 44831

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I. PROJECT DESCRIPTION

a. Site Location and Size

The project site is located in an unincorporated portion of the Santa Clara River Valley in northwestern Los Angeles County. The site, approximately 11,963 acres in size, is located one-half mile west of the Golden State Freeway (I-5) and largely southwest of the junction of I-5 and State Route 126 (SR-126). Both the Santa Clara River and SR-126 traverse the northern portion of the project site. The regional location map **(Figure BIO-1, Regional Location)** and the site vicinity map **(Figure BIO-2, Vicinity Map)** illustrate the project site in its regional and local contexts, respectively.

b. Proposed Project

(1) Land Use Plan Summary

The applicant is currently requesting approval of the Newhall Ranch Specific Plan (and associated actions) which would permit the project site to be developed with the following:

- 24,680 dwelling units (plus up to 538 Second Units in the Estate Residential designation[1]),
- 598 acres of Mixed-Use development, including 4,493 of the 24,680 dwelling units indicated above,
- 91 acres of Commercial uses,
- 256 acres of Business Park uses,
- 37 acres of Visitor-Serving uses,
- 1,089 acres of Open Area, including
  - 274 acres of Community Parks, and
  - 815 acres in other Open Area,
- 4,763 acres in Special Management Areas (permanent open area),
- 12 neighborhood parks,
- a 15-acre lake,
- a public trail system,
- a golf course,

---

1 Chapter 3.0 of the proposed Newhall Ranch Specific Plan specifies that Second Units are permitted by right in Estate Residential land use designation areas, and in Low Residential land use designation areas only through a one for one conversion of a single family detached dwelling unit. A Second Unit is defined as an additional dwelling unit located on the same lot as a single family detached residence which may contain its own kitchen facilities and may be rented, but not sold. Throughout this entire environmental impact report and in order to analyze a worst-case environmental condition, the proposed Specific Plan is analyzed as if it would actually result in the construction of 24,680 standard dwelling units plus the 538 Second Units (or a total of 25,218 total dwelling units).

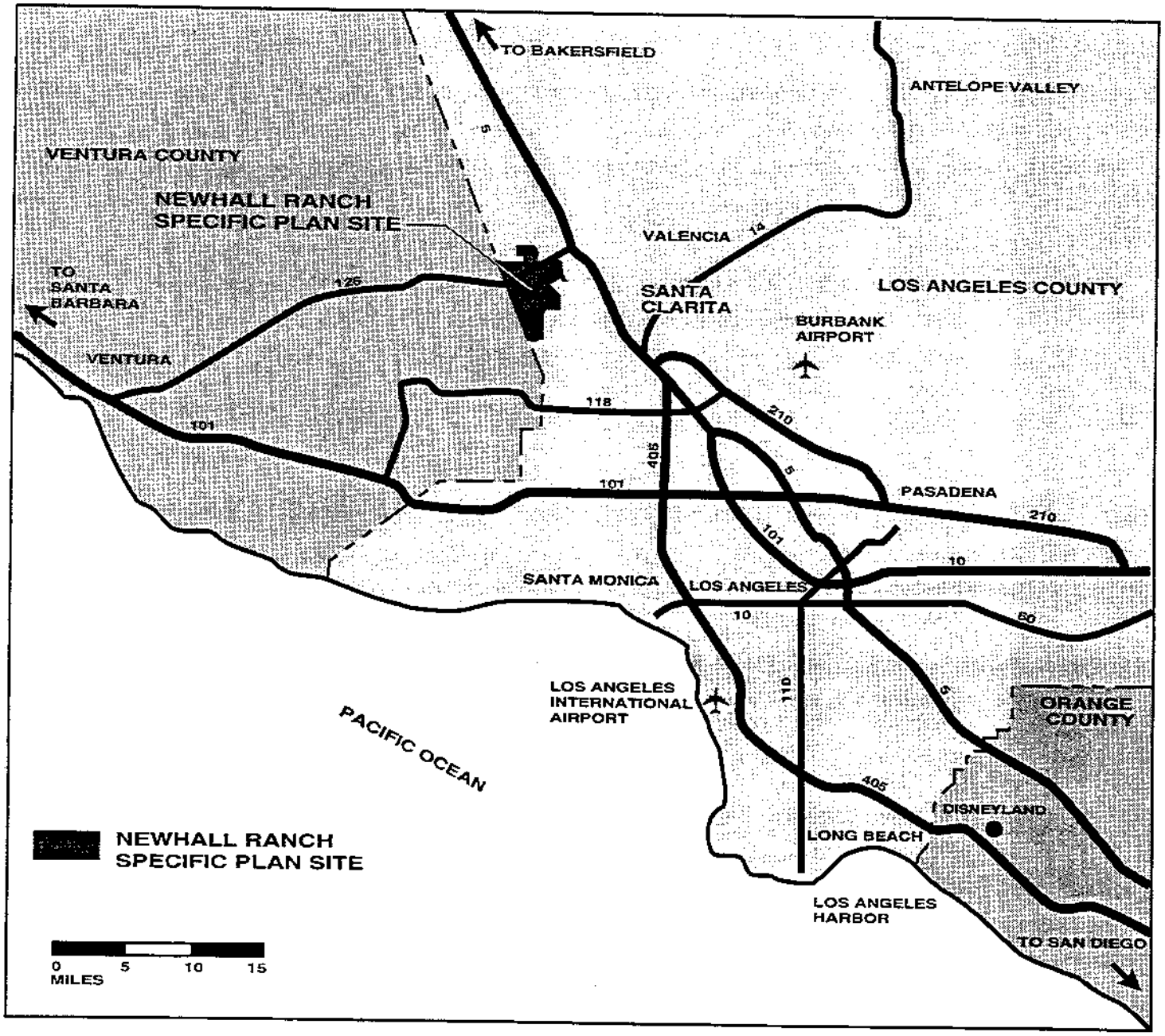

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FIGURE BIO-1

REGIONAL LOCATION

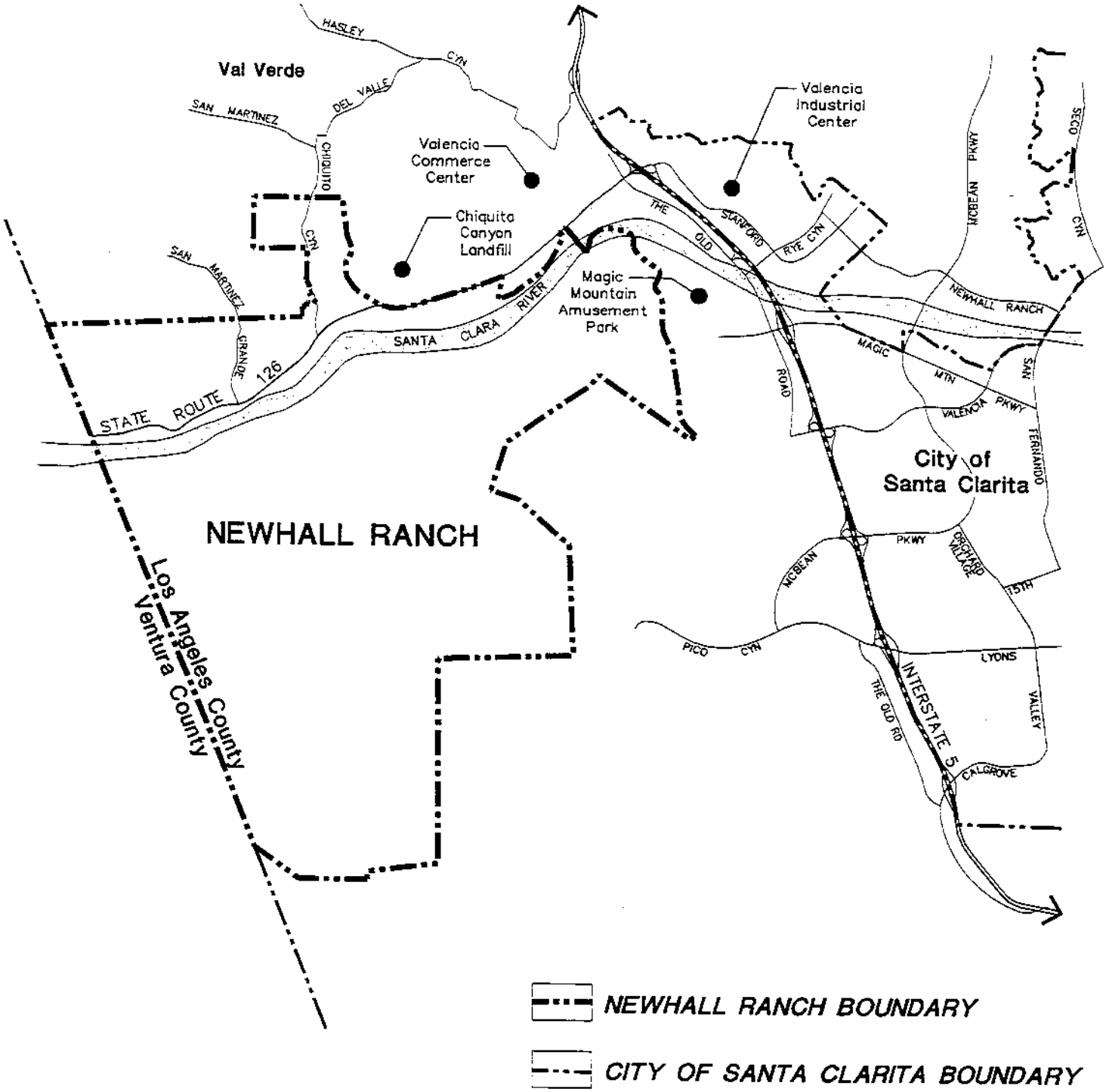

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FIGURE BIO-2
VICINITY MAP

- two fire stations,
- one library,
- the reservation of five elementary school sites, one junior high school site, and one high school site,
- a two-acre electrical substation,
- a 7.7-million gallon per day Water Reclamation Plant within a new sanitation district, and
- other associated community facilities, such as roads and bridges.

The Land Use Plan is organized into the five villages of Riverwood, Oak Valley, Potrero Valley, Long Canyon, and The Mesas (**Figure BIO-3, Land Use Plan and Figure BIO-4 Village Plan**). The physical boundaries of each of these villages are defined by natural landmarks and topographical features. Each village would contain a focal point or activity core, differing in size and amenities according to the population and market served, with the largest villages to be anchored by a mixed-use center or core containing retail, office, residential, recreational, and public uses.

(2) Resources Management Plan

The size, topography, and other characteristics of the project site, made it possible, and desirable, to set aside a large portion of the site as Open Area in order to preserve biological resources. To facilitate this, a Resource Management Plan (RMP) was prepared as part of the Specific Plan for the project to manage important biological and other features of the site and to effectively incorporate them into the overall Specific Plan design. Resources and issues addressed within the Resource Management Plan include:

- the Santa Clara River SMA corridor (813 acres),
- the High Country SMA, a large block of relatively undisturbed habitats on higher elevations of the Santa Susana Mountains (3,950 acres),
- the Salt Creek drainage corridor, which serves as a major wildlife corridor,
- Open Area (1,089 acres),
- cultural resources, such as the Asistencia historical site,
- oak trees, and
- wildfire fuel modification for fire protection.

In addition, if necessary for Specific Plan impact mitigation, restoration and/or enhancement could occur in other portions of the site. These locations are identified in the Resources Management Plan contained in the Specific Plan.

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L E G E N D

- E — ESTATE RESIDENTIAL
- L — LOW RESIDENTIAL
- LM — LOW-MEDIUM RESIDENTIAL
- M — MEDIUM RESIDENTIAL
- H — HIGH RESIDENTIAL
- MU — MIXED USE
- C — COMMERCIAL (RETAIL/OFFICE)
- BP — BUSINESS PARK
- VS — VISITOR SERVING
- OA — OPEN AREA
- RC — RIVER CORRIDOR SPECIAL MANAGEMENT AREA (SEA #23)
- HC — HIGH COUNTRY SPECIAL MANAGEMENT AREA (SEA #20)
- ROADS
- SCE/UTILITY EASEMENTS

LAND USE OVERLAYS (POTENTIAL LOCATIONS):

- CP — COMMUNITY PARK
- NP — NEIGHBORHOOD PARK
- ES — ELEMENTARY SCHOOL
- MS — MIDDLE SCHOOL
- HS — HIGH SCHOOL
- GC — GOLF COURSE
- LK — COMMUNITY LAKE
- FS — FIRE STATION
- S — ELECTRICAL SUBSTATION
- LIB — LIBRARY
- WR — WATER RECLAMATION PLANT

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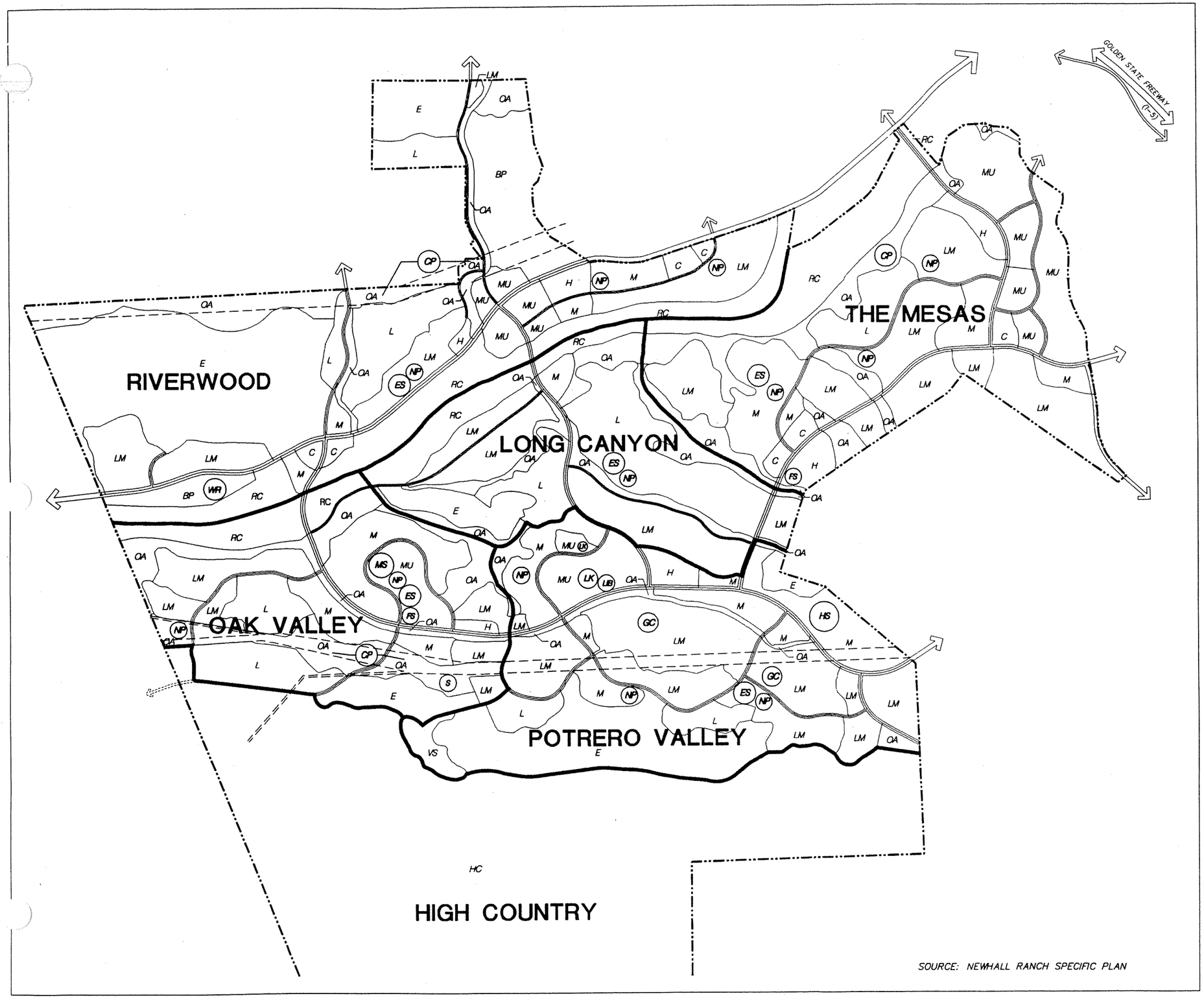
NORTH

English 0 1000' 2000'

Metric 0 225m 450m 900m

100 ACRES 400 ACRES

FIGURE BIO-3
LAND USE PLAN



SOURCE: NEWHALL RANCH SPECIFIC PLAN

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L E G E N D

E	ESTATE RESIDENTIAL
L	LOW RESIDENTIAL
LM	LOW-MEDIUM RESIDENTIAL
M	MEDIUM RESIDENTIAL
H	HIGH RESIDENTIAL
MU	MIXED-USE
C	COMMERCIAL (RETAIL/OFFICE)
BP	BUSINESS PARK
VS	VISITOR SERVING
OA	OPEN AREA
RC	RIVER CORRIDOR SPECIAL MANAGEMENT AREA
HC	HIGH COUNTRY SPECIAL MANAGEMENT AREA
	ROADS
	SCE/UTILITY EASEMENTS

LAND USE OVERLAYS (POTENTIAL LOCATIONS):

CP	COMMUNITY PARK
NP	NEIGHBORHOOD PARK
ES	ELEMENTARY SCHOOL
MS	MIDDLE SCHOOL
HS	HIGH SCHOOL
LIB	LIBRARY
GC	GOLF COURSE
LK	COMMUNITY LAKE
FS	FIRE STATION
S	ELECTRICAL SUBSTATION
WR	WATER RECLAMATION PLANT

IMPACT SCIENCES INC

NORTH

100 ACRES 400 ACRES

English 0 1000' 2000'

Metric 0 225m 450m 900m

FIGURE BIO-4
VILLAGE PLAN

Elements of the Resource Management Plan and the Recreation/Open Area Plan discussed below are presented on **Figure BIO-5, Recreation/Open Area Plan.**

(3) Recreation/Open Area Plan

The Recreation/Open Area Plan is consistent with the Los Angeles County General Plan and Santa Clarita Valley Area Plan goals and objectives, and delineates approximately 6,175 acres for parks, recreation, and Open Area. Land resources devoted to parks and Open Area for passive and active recreational uses, as well as preservation, make up approximately 52 percent of the Specific Plan area.

The Parks and Recreation/Open Area Plan delineates three community parks, twelve neighborhood parks, a network of trails and pathways, a golf course, and a community lake, as well as Open Area. The parks and Open Area are designed to provide for active and passive recreation, as well as for the preservation of environmentally sensitive resource areas.

(4) Conceptual Grading Plan

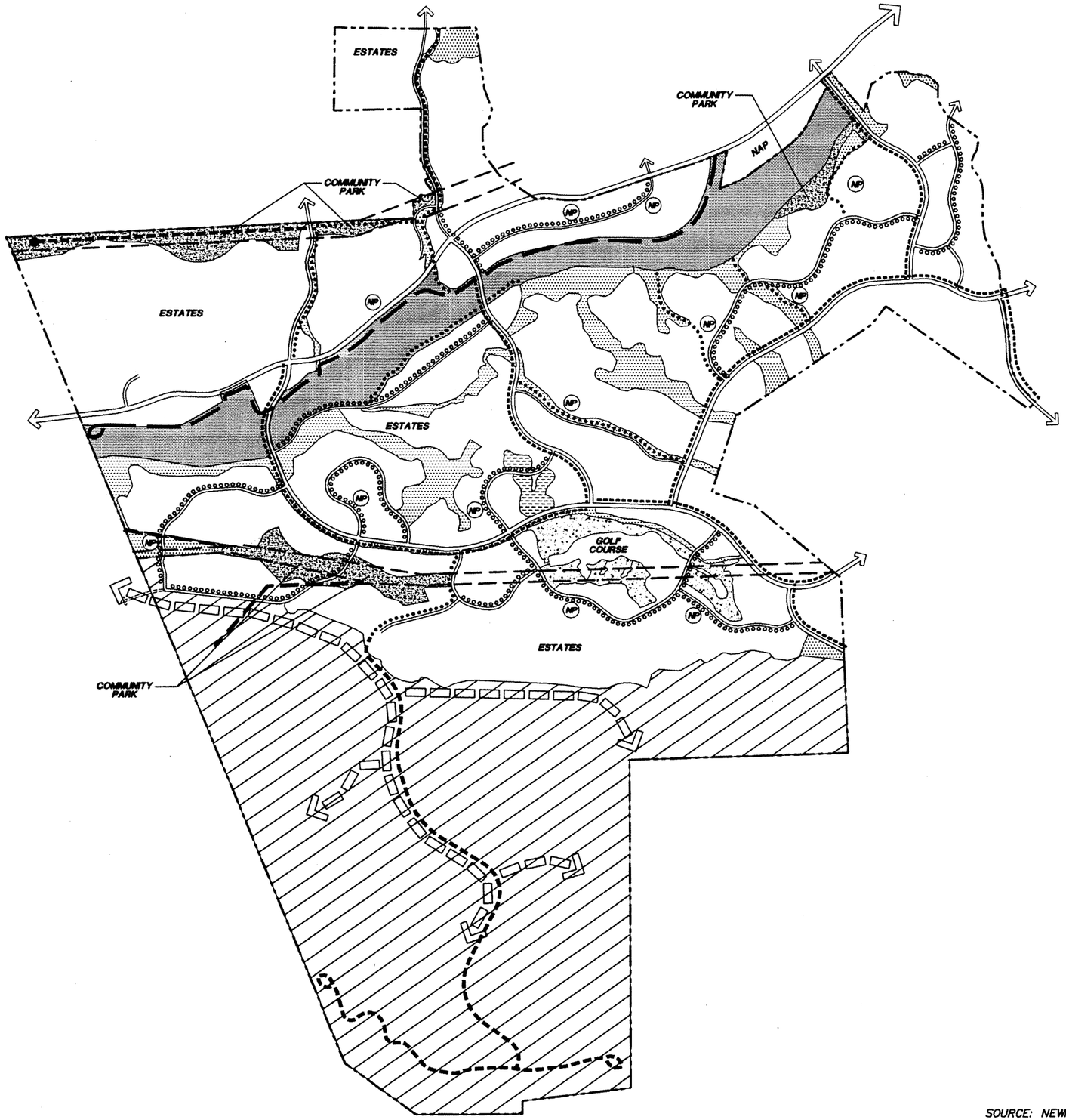
The Conceptual Grading Plan **(Figure BIO-6, Conceptual Grading Plan)**, which identifies areas of proposed grading activities, would preserve major ridgelines and steep slope areas, and would balance cut and fill amounts on site. Within the development areas, site contours would be reconfigured to reduce slopes for efficient utilization and development of the property.

The Plan incorporates the Hillside Design Guidelines established by the Los Angeles County Department of Regional Planning (December 1987).

Project grading would require the movement of approximately 95 million cubic yards of earth. The grading would be balanced on site and would entail mass grading for development areas, final grading for development pads, remedial grading (depending upon future site-specific soils and geological investigations[2]), and custom grading.

Mass grading would consist of rough grading operations that would provide for the major roads and infrastructure, and for developable sites for the various land uses within the project. For each individual development project, a detailed final grading plan in accordance with Los Angeles County regulations would be submitted to the County for review and approval concurrently with the submittal of final site plans, construction-level subdivision maps, and other construction-level infrastructure

2 Geotechnical conditions requiring remediation may include slope instability, settlement, and seismic conditions.



SOURCE: NEWHALL RANCH SPECIFIC PLAN

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L E G E N D

RECREATION AREAS

- NEIGHBORHOOD PARK (Conceptual locations)
- COMMUNITY PARKS
- GOLF COURSE (Conceptual location)
- COMMUNITY LAKE (Conceptual location)
- REGIONAL RIVER TRAIL
- COMMUNITY TRAIL
- LOCAL TRAIL
- PATHWAYS
- UNIMPROVED TRAILS

MAJOR OPEN AREAS

- OPEN AREA
- SPECIAL MANAGEMENT AREA - RIVER CORRIDOR
- SPECIAL MANAGEMENT AREA - HIGH COUNTRY
- WILDLIFE CORRIDOR

100 ACRES 400 ACRES

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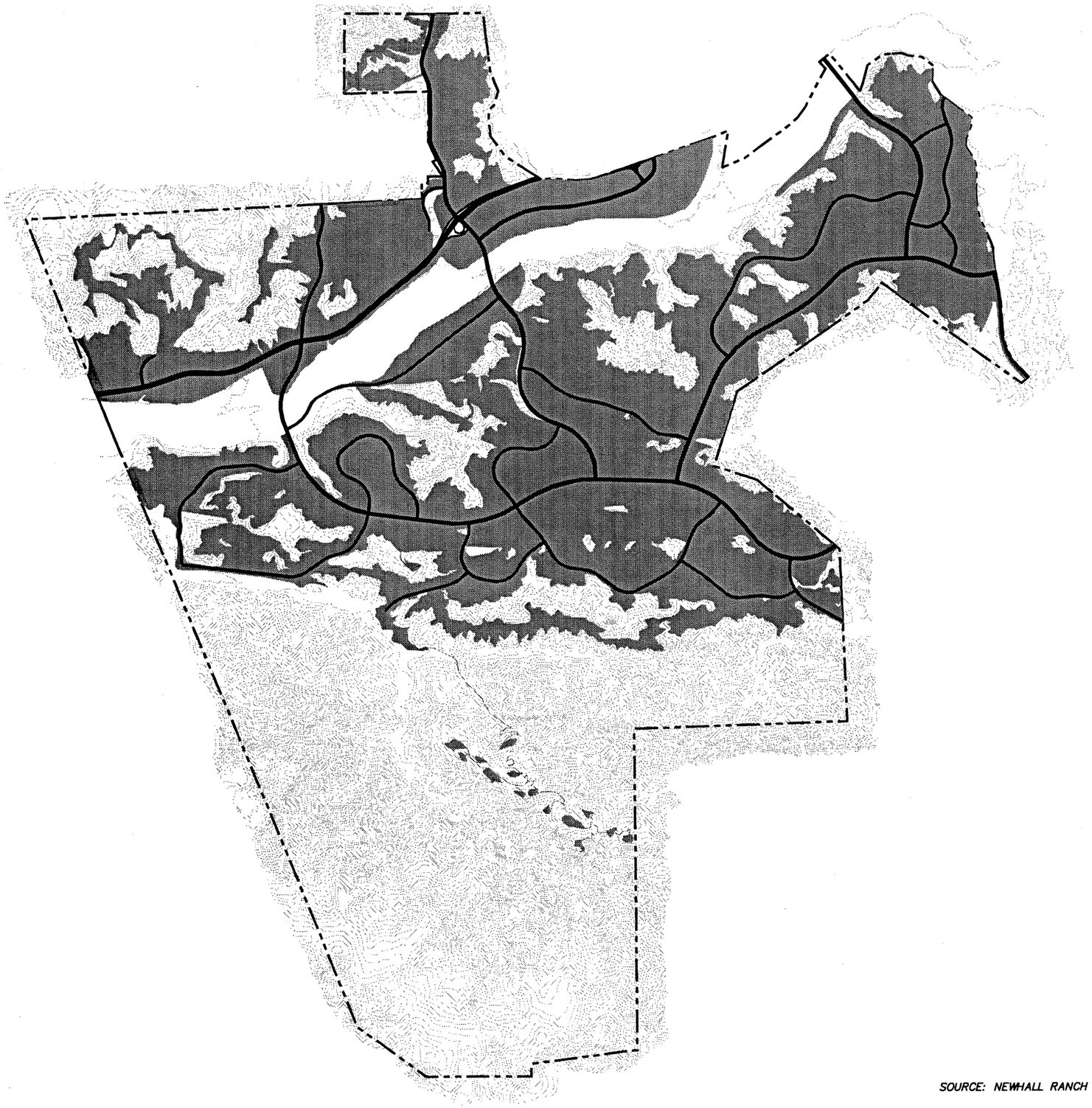
NORTH

English 0 1000' 2000'

Metric 0 225m 450m 900m

FIGURE BIO-5
RECREATION/ OPEN AREA PLAN



SOURCE: NEWHALL RANCH SPECIFIC PLAN

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L E G E N D

GRADED AREA
OPEN AREA

100 ACRES
400 ACRES

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English 0 1000' 2000'
Metric 0 225m 450m 900m

FIGURE BIO-6
CONCEPTUAL GRADING PLAN

improvement plans. Slope stabilization measures, such as buttresses, may be included as part of remedial grading operations, depending upon the findings of detailed geotechnical studies that would be submitted along with future grading permit applications. Finally, custom grading would utilize limited grading techniques tailored to achieve specific estate home site design objectives, and would occur within parts of the estate residential planning areas of the villages and in limited areas of the High Country Special Management Area.

c. Permits Requested

The 1992 Land Use Policy map of the County of Los Angeles General Plan designates the Specific Plan site as Major Commercial, Non-Urban, Open Area, and Significant Ecological Area. The Land Use Policy Map of the Santa Clarita Valley Area Plan designates the Specific Plan site as Non-Urban 1 (0.5 and 0.05 dwelling units/acre), Non-Urban 2 (1.0 dwelling units/acre), Commercial, Industry, Floodway/Flood Plain, Floodway/Flood Plain/Significant Ecological Area, Hillside Management, and Hillside Management/Significant Ecological Area. The existing zoning of the Specific Plan site is Heavy Agricultural (A-2), with a 2.0 acre minimum lot size north of SR-126 (A-2-2), and a minimum lot size of 5.0 acres south of SR-126 (A-2-5). Therefore, the Specific Plan would require not only approval of the Newhall Ranch Specific Plan, but approval of a General Plan Amendment (including an amendment to the existing SEA boundaries), a Zone Change (to Specific Plan), and amendments to the County's Master Plan of Highways, Master Plan of Trails, and to the County's demographic projections for the Santa Clarita Valley Area Plan. **Table BIO-1 (Requested Planning Designation Changes)** summarizes the changes requested for implementation of the proposed project.

In addition to the General Plan and zoning changes necessary for approval of the Specific Plan, the project applicant is also asking for the following entitlements from the County:

- Amendments to the County General Plan and Santa Clarita Valley Area Plan, including:
  - Amendments to Land Use and other Policy Maps,
  - Amendment to the County Master Plan of Highways to delete Pico Canyon Road as a Major Highway, add other highways, and change the designations of certain highways,
  - Amendment of demographic projections for the Specific Plan area,
  - Amendment to the Master Plan of Trails to permit realignment of the Pico Canyon Trail,
  - Amendment to the Scenic Highways Map to delete SR-126 as a First Priority Route for Further Study and replace with Specific Plan provisions;
- Approval of a Significant Ecological Area Conditional Use Permit for the Specific Plan, land uses and permitted uses within the SEAs, proposed changes in SEA boundaries, and the large parcel map (VTPM 24500);
- Adoption of the Newhall Ranch Specific Plan as zoning;
- A large lot (40 acre minimum lot size) parcel map;
- a Development Agreement; and
- Construction of a new Water Reclamation Plant.

Table BIO-1
Requested Planning Designation Changes

	Existing Designation	Proposed Designation
County General Plan	- Major Commercial - Non-urban - Open Area - Significant Ecological Area	- Specific Plan
Santa Clarita Valley Area Plan	- Non-urban 1 (0.5 DU/acre) - Non-urban 1 (0.05 DU/acre) -Non-urban 2 (1.0 DU/acre) - Commercial - Industry - Hillside Management (HM) - HM/Significant Ecological Areas (SEA) - Floodway/Flood Plain (W) - W/SEA	- Specific Plan
County Zoning Ordinance	- Heavy Agricultural (A-2-2)[1] - Heavy Agricultural (A-2-5)[1]	- Specific Plan

Source: Draft Newhall Ranch Specific Plan (July 1996).
[1]*With a 2.0 acre minimum lot size north of SR-126 (A-2-2), and a minimum lot size of 5.0 acres south of SR-126 (A-2-5).*

[The above list is as complete as possible at the time of this writing. If/when additional entitlement requests are identified, they will be added.]

In order to grant such approvals, the County of Los Angeles, acting as the Lead Agency, must certify that an EIR has adequately described the potential impacts of the proposed Specific Plan.

The project would require approval by the County of various tract maps, parcel maps, conditional use permits, and oak tree permits necessary to implement the Specific Plan. These will be obtained in phases over buildout of the Specific Plan. Additional permits or approvals would also be required from the various Responsible Agencies identified in **Table BIO-2 (Future Responsible Agency Actions).**

The EIR being prepared by the County is analyzing a Specific Plan and not a Tentative Tract Map. As is normal for Specific Plan EIRs, the EIR is intended to be programmatic in nature and does not analyze the more micro-scale impacts the Plan might generate. Rather it focuses on the macro-scale impacts of the Plan. The micro-scale impacts would be analyzed in future years as part of the environmental review processes (including possible Negative Declarations and project-level EIRs) of individual tract map applications that will be submitted over the buildout of the Specific Plan.

Table BIO-2
Future Responsible Agency Actions[1]

Responsible Agency	Action Required
• U.S. Army Corps of Engineers	Section 404 permit of the Federal Clean Water Act
• U.S. Fish and Wildlife Service	Section 7 and/or Section 10 consultations as required by the Federal Endangered Species Act
• California Department of Fish and Game	Section 1601/1603 permit of the State Fish and Game Code
• California Department of Transportation	Encroachment Permit
• Regional Water Quality Control Board	National Pollutant Discharge Elimination System permit and Section 401 permit of the Federal Clean Water Act
• South Coast Air Quality Management District	Various rules permits for air emissions regulation found in the Air Quality Management Plan
• Local Agency Formation Commission	Approval of new County sanitation district and school district boundary reorganization

[1]*This table is not intended to provide the complete and final listing of future actions required to implement the project. This is an attempt to identify those actions which are known at this time to be required in the future*

d. Summary of Significant Impacts

Impacts on the biological environment are discussed and described in Section III of this report. In summary, the project would have unavoidable and significant project-specific impacts on several sensitive upland habitat types (including coastal sage scrub and oak woodlands), and the sensitive wildlife associated with upland habitats on the site (including San Diego coast horned lizard, California horned lizard, coastal western whiptail, southern California rufous-crowned sparrow, San Diego desert woodrat and San Diego black-tailed jackrabbit, and others). Also, due to the conversion of approximately 5,132 acres of habitat that is in a largely natural condition to a suburban and urban condition and the reduction in open land available for wildlife movement between the River and upland areas, the project would substantially diminish habitat for fish, wildlife and plants, and would significantly impact the movement of resident wildlife species. Consequently, the project's individual and cumulative impacts on the site's and the regional biotic environment are considered significant impacts that cannot be mitigated. Mitigation is proposed or required that would reduce other biological impacts to levels that are not significant.

II. SETTING

a. Color Aerial Photograph of the Site

A color aerial photograph of the site is provided in a pocket at the end of this report **(identified as Appendix A).**

b. Color Site Photographs

Color photographs of the site which are considered representative of the site's existing condition are incorporated as **Appendix B (Color Site Photographs)** and are located in a pocket at the end of this report.

c. USGS Topographic Maps

United States Geological Survey (USGS) topographic maps of the site are incorporated as **Appendix C (USGS Topographic Maps)** and are provided in a pocket at the end of this report. Site boundaries occur on three separate topographic maps that include Val Verde, East Simi Valley, and Newhall.

d. Drainage Patterns

(1) Santa Clara River Watershed

The project site is located within the Santa Clara River basin and its watershed. That portion of the Santa Clara River watershed situated upstream, or generally east of the site, is approximately 640 square miles in size and drains portions of the Los Padres National Forest from the north, the Angeles National Forest from the northeast and east and the Santa Susana Mountains from the south and southeast. The Newhall Ranch project site incorporates approximately 18.7 square miles of the 640 square mile Santa Clara River watershed (or approximately 3 percent of the total watershed area).

(2) Drainage Areas

Ten drainage areas are located within the project site either wholly or partially, all of which are part of the Santa Clara River watershed. Combined, the ten drainage areas total 20,724 acres, of which 11,963 acres occur within the Newhall Ranch project site and approximately 8,761 acres being off the project site. Drainage areas are located within an area that is generally delineated by SR-126 and lower portions of San Martinez Grande and San Martinez Chiquito Canyons on the north, the Magic

Mountain Theme Park to the east, the crest of the Santa Susana Mountains to the south, and the Los Angeles/Ventura County line on the west. **Figure BIO-7 (Existing Drainage Areas)**, illustrates the locations of drainage areas on the site, identifying them as Drainage Areas 1 through 10. **Figure BIO-7** also illustrates the locations of blueline streams that are mapped on the site. Each of the Drainage Areas are described in **Table BIO-3 (Existing Drainage Areas)**, in terms of their total acreage, linear feet and acreage within the Newhall Ranch project.

Table BIO-3
Existing Drainage Areas

Drainage Area	Tributary Drainage Course	Acreage[1]	Linear Feet[2]
1	Unnamed	1,726	3,000
2	Salt Canyon	4,035	55,670
3	Potrero Canyon	3,220	33,330
4	Unnamed	1,305	8,830
5	Unnamed	1,268	12,420
6	Unnamed	1,265	17,040
7	San Martinez Grande Canyon	2,433	5,250
8	San Martinez Chiquito Canyon	4,114	8,330
9	Unnamed	391	8,500
10	Unnamed	967	1,920
	Totals	**20,724**	**154,290**

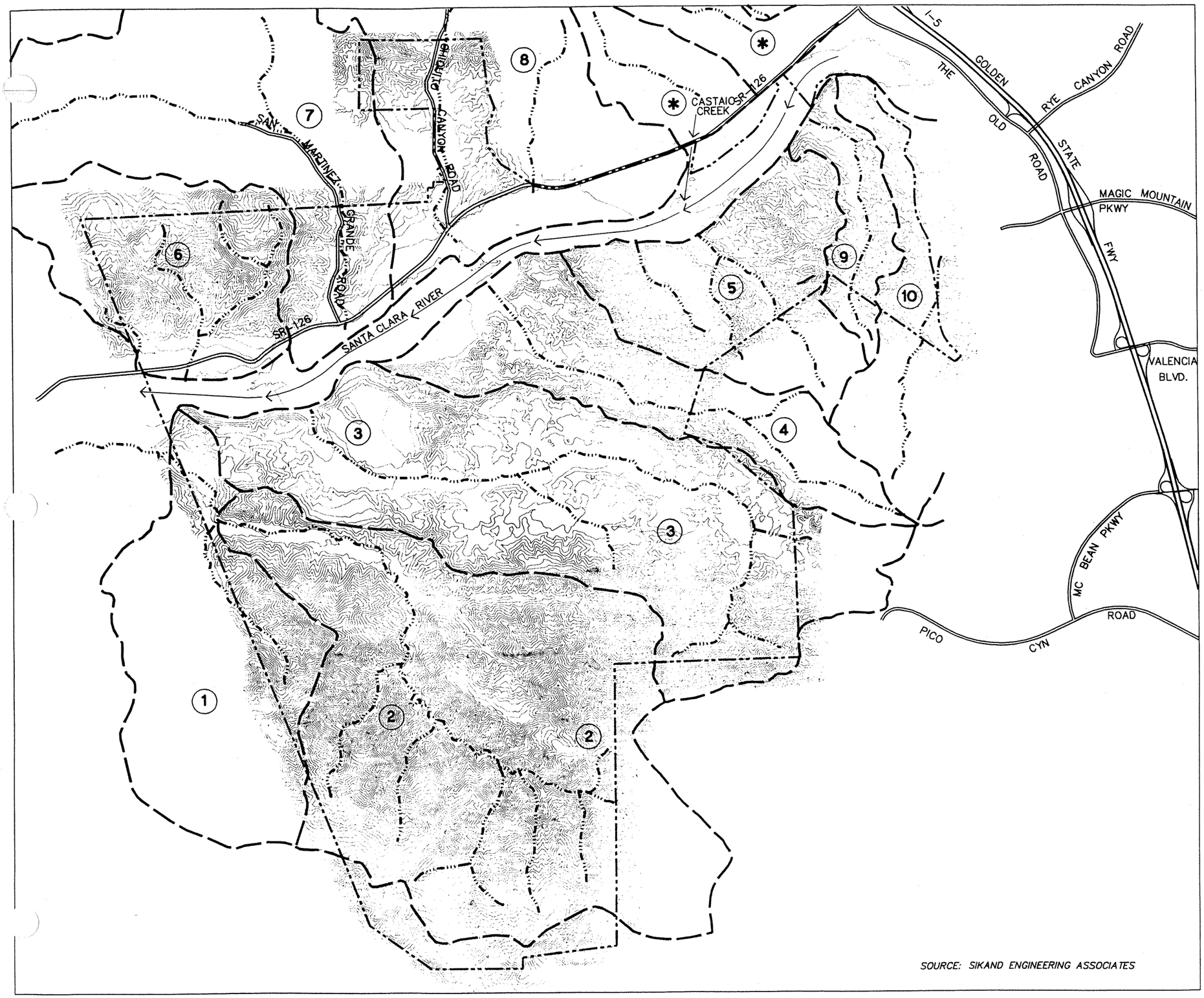
Source: Sikand Engineering Associates (April 1995).
[1]*The acreages are for the entire **drainages, portions of which are located off the Newhall Ranch site.** Each was calculated by Sikand Engineering Associates.*
[2]*The lengths shown are for watercourses within the project boundaries only, and were calculated by Impact Sciences Inc. to the nearest 10 feet.*

(3) Watercourses

(a) Santa Clara River

The Santa Clara River, which is the largest river system in southern California that remains in a relatively natural state,[3] is the largest watercourse on the project site. It flows through the northern portion of the site from east to west. Many earthen crossings have been in place on the River in the past and are still used today. These crossings provide farmers and ranchers access and water to land south of the River.

[3] California Regional Water Quality Control Board, Los Angeles Region, Draft Water Quality Control Plan, (Monterey Park, California: June 13, 1994), p. 1-18.



SOURCE: SIKAND ENGINEERING ASSOCIATES

NEWHALL RANCH
Newhall Ranch Company

L E G E N D

- DRAINAGE BOUNDARY
- (9) DRAINAGE AREA NUMBER
- (*) NOT WITHIN PROJECT DRAINAGE AREAS
- BLUELINE STREAMS

100 ACRES 400 ACRES

IMPACT SCIENCES INC

NORTH

English 0 1000' 2000'

Metric 0 225m 450m 900m

FIGURE BIO-7

EXISTING DRAINAGE AREAS AND BLUELINE STREAMS

(b) Tributary Drainage Courses

Each of the drainages illustrated in **Figure BIO-7** has been mapped as blueline streams by the U.S. Geological Survey (USGS). While it is the intent of the USGS to indicate that blueline streams are flowing perennial streams, in arid states such as California and in particular southern California, this is not always the case. As an example from the project site, a blueline stream mapped in upper Potrero Canyon contains water only during and shortly after rainy periods. During non-rainy periods (which is the majority of the time in southern California), this stream contains no water and is an ephemeral stream. The same is true for each of the unimproved drainages found on the project site. The length of each watercourse within the project boundaries is listed in **Table BIO-2** by the drainage area in which it is located. With the exception of drainage crossings under SR-126, all of the other watercourses within the project boundaries are unimproved. Regarding the SR-126 drainage crossings, Caltrans is designing a roadway widening project for SR-126 at the time of this writing which includes existing drainage structure modification.

e. Geological Features

The project site is located within the tectonically active Transverse Ranges of southern California and is cut by segments of the potentially active Del Valle and Salt Creek Faults. The very northeastern tip of the site near Castaic Junction is part of the Holser Structural Zone and may include the Holser Fault. Bedrock formations found on the site include the Modelo, Towsley, Pico, Saugus, and Pacoima Formations, as well as Quaternary Terrace Deposits. Surficial deposits include quaternary alluvium, slopewash, soil, and artificial fill. In addition, numerous landslides, ranging from shallow surficial failures to large megalithic landslides, are present on Newhall Ranch.

A topographic map of the Newhall Ranch is provided as **Appendix D (Topography and Place Names)** and is included in a pocket at the end of this report. This topographic map identifies the various canyons, ridges and other significant landmarks on the Newhall Ranch site. As illustrated, site topography is dominated by east, west, and northwest trending primary ridges with generally north- and south-trending secondary ridges. Site elevations range from approximately 825 feet above mean sea level in the Santa Clara River bottom at the County line to approximately 3,200 feet above mean sea level on the ridgeline of the Santa Susana Mountains along the southern edge of the site. Slope gradients vary from moderate to steep in the hillside areas to very gentle within the Santa Clara River flood plain, major tributary canyons, and on uplifted terrace (mesa) surfaces adjacent to the river. Approximately 46 percent of the project site is comprised of slopes less than 25 percent in gradient.

Distinctive elevated features include Sawtooth Ridge along the northeastern side of Long/Adobe Canyon, Ayers Rock at the northern edge of Potrero Canyon, and various mesas which lie above the river along its southern bank. There are other numerous distinctive ridges within the Santa Susana Mountains, which compose the southernmost portion of the property.

f. Ecological Characteristics of the Project Site

(1) Project Description

(reference Section I b. of this report)

(2) General Description of Habitats and Vegetation Communities Present

Information on biological resources for Newhall Ranch is derived from surveys conducted on the site by RECON in spring and summer of 1995. Supplemental information was also obtained from other biological reports prepared on the Newhall Ranch over the past eight years.

Habitat descriptions used in this report are based largely on the previous surveys with updates based on the 1995 RECON surveys. Floral and faunal lists of observed species on the Newhall Ranch are derived principally from the 1995 RECON surveys with some reference to previous surveys.

A description of all habitat types identified on the Newhall Ranch are provided below following a description of the field surveys performed and an identification of methods used in the field.

(a) A Summary of Biota Surveys Conducted On and Near the Newhall Ranch Site

A number of biological resource surveys have been conducted on and near the Newhall Ranch over the past eight years. Information derived from these surveys is incorporated into this Biota Report in appropriate sections. A brief summary of the type of survey and methodology used for these recent studies is provided below.

Various studies of the biological resources have occurred along the Santa Clara River which focused on the location of sensitive bird and fish species, mapping of habitat types along the river, and upland surveys and habitat mapping of the Ranch. Bird surveys were conducted along the river from 1988

through 1995. Fish surveys associated with the reconstruction of berms and maintenance of river crossings were conducted from 1989 through 1993, while habitat mapping of the riparian corridor of the Santa Clara River on the Ranch was conducted in 1993. General biology surveys and habitat mapping of the upland portions of the Ranch were conducted from 1992 to present.

Bird Surveys -- Bird surveys focused on the directed search for least Bell's vireo (*Vireo bellii pusillus*) were conducted by Daniel Guthrie from 1988 through 1995 on and near the Newhall Ranch site. These surveys followed U.S. Fish and Wildlife survey protocol for the least Bell's vireo. In addition, a list was compiled of all other bird species observed during the vireo surveys each year, with special notes made on other sensitive birds observed or detected. The results of these surveys are reported under the appropriate sensitive species section later in the report.

Avian surveys conducted by Daniel Guthrie included:

- Spring and early Summer 1988 - A survey was conducted in the vicinity of Valencia, California to determine the status of the least Bell's vireo in the region. The areas surveyed were the Santa Clara River from the mouth of Castaic Creek upstream to Bouquet Canyon Road crossing, Castaic Creek from the Santa Clara River to I-5, and a riparian section of San Francisquito Creek about a mile from the Santa Clara River (Guthrie 1988).

- Spring and early Summer 1989 - A survey was conducted in the vicinity of Valencia, California to determine the status of the least Bell's vireo in the region. The areas surveyed were the Santa Clara River channel from the mouth of Castaic Creek upstream to Bouquet Canyon Road crossing, Castaic Creek from the Santa Clara River to I-5, and a riparian section of San Francisquito Creek about a mile from the Santa Clara River (Guthrie 1989).

- Spring and early Summer 1990 - A survey was conducted in the vicinity of Valencia, California to determine the status of the least Bell's vireo in the region. The areas surveyed were the Santa Clara River channel from the mouth of Castaic Creek upstream to Bouquet Canyon Road crossing, Castaic Creek from the Santa Clara River to I-5, a riparian section of San Francisquito Creek about a mile from the Santa Clara River, South Fork of Santa Clara River (McBean Parkway to Magic Mountain), and South Fork of Santa Clara River from SR-126 to Newhall Creek (Guthrie 1990).

- Spring and early Summer 1992 - A survey was conducted in the vicinity of Valencia, California to determine the status of the least Bell's vireo in the region. The areas surveyed were the Santa Clara River channel from the mouth of Castaic Creek upstream to Bouquet Canyon Road crossing, Castaic Creek from the Santa Clara River to I-5, and a riparian section of San Francisquito Creek

about a mile from the Santa Clara River (Guthrie 1992a). In addition, bird surveys centered on the least Bell's vireo and other sensitive bird species were conducted at two proposed pipeline crossings of the Santa Clara River. One crossing site was near Las Brisas bridge in Ventura County. The other crossing site surveyed was located just west of Castaic Junction (Guthrie 1992b).

- Spring and early Summer 1993 - Surveys for least Bell's vireo and other sensitive bird species were conducted along the section of the Santa Clara River from the confluence with Castaic Creek, west to Las Brisas bridge in Ventura County (Guthrie 1993).

- Spring and Summer 1994 - Surveys for the least Bell's vireo along the Santa Clara River from Castaic Creek to near Las Brisas bridge were conducted (Guthrie 1994).

- Spring and Summer 1995 - Surveys for least Bell's vireo and other sensitive bird species were conducted along the section of the Santa Clara River from the confluence with Castaic Creek, west to Las Brisas bridge in Ventura County (Guthrie 1995a).

- Spring and early Summer 1995 - A survey was conducted in the vicinity of Valencia, California to determine the status of the least Bell's vireo in the region. The areas surveyed were the Santa Clara River channel from the mouth of Castaic Creek upstream to the Bouquet Canyon Road crossing, Castaic Creek from the Santa Clara River to I-5, a riparian section of San Francisquito Creek about a mile from the Santa Clara River, Castaic Creek to its confluence with SR-126, Castaic Creek from SR-126 to I-5, South Fork of Santa Clara River (McBean Parkway to Magic Mountain), and the South Fork of Santa Clara River from SR-126 to Newhall Creek (Guthrie 1995b).

River Surveys – Documentation of fish as well as selected reptiles and amphibians within the Santa Clara River on and near the Newhall Ranch site were conducted from 1989 through 1993. Thomas Haglund and Jonathan Baskin were the primary biologists involved in these surveys. These surveys focused on the detection of the unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*) and other sensitive fish (e.g., Santa Ana sucker [*Catostomus santaanae*], arroyo chub [*Gila orcutti*]), reptiles (e.g., southwestern pond turtle [*Clemmys marmorata pallida*], two-striped garter snake [*Thamnophis hammondii*]), and amphibians (e.g., California toad [*Bufo boreas halophilus*], arroyo toad [*Bufo microscaphis californicus*], California red-legged frog [*Rana aurora draytonii*]) that have the potential to occur in the study areas. All surveys were conducted according to appropriate state and federal survey protocols. Results of these studies are presented under the appropriate sensitive species discussion later in this report. The following studies by Haglund or Baskin included the following:

- 1989 - A report was prepared on the occurrence of the unarmored threespine stickleback in portions of the Santa Clara River on the Ranch. The study was conducted to determine the degree to which the endangered subspecies is represented in the stickleback population within the study area (Haglund 1989).

- 1992 - Fish surveys were conducted on the Santa Clara River as part of the conditions of a California Department of Fish and Game Streambed Alteration Agreement for the maintenance of river crossings on The Newhall Land and Farming Company holdings. The surveys were conducted at Alfalfa Crossing, Humble Crossing, Salt Creek Crossing, Mayo Crossing and Long Canyon Crossing (Baskin and Haglund 1992).

- 1992 - Sensitive aquatic species surveys were conducted at two proposed pipeline crossings of the Santa Clara River. One crossing site was near the Las Brisas bridge in Ventura County, while he other crossing site surveyed was just west of Castaic Junction on Newhall Ranch. Species surveyed for included two-striped garter snake, California red-legged frog, unarmored threespine stickleback, Santa Ana sucker and arroyo chub (Haglund 1992).

- 1993 - Fish surveys associated with the construction of a diversion berm on the Santa Clara River near Castaic Junction were conducted to minimize any impacts to these sensitive animals. Fish and amphibian species of concern included California red-legged frog, unarmored threespine stickleback, Santa Ana sucker, and arroyo chub (Baskin and Haglund 1993).

- 1995 - Surveys designed to document the presence/absence and distribution of sensitive aquatic species including fish, reptiles and amphibians in the Santa Clara River between the Castaic Creek confluence and Bouquet Canyon Road bridge were conducted during May and June (Haglund and Baskin 1995).

Habitat Mapping on the Santa Clara River — In 1993, RECON biologists mapped the distribution of riparian habitat types along the Santa Clara River corridor for The Newhall Land and Farming Company (RECON 1993). Riparian habitats within the river corridor were mapped on 1" = 400' scale orthophoto maps in December of 1993. Habitat mapping covered the river corridor from the western extent of The Newhall Land and Farming Company ownership in Ventura County to the confluence of the river with Castaic Creek in Los Angeles County. The entire length of the river was walked, riparian habitats were identified according to descriptions contained in Holland (1986) and their boundaries mapped.

General Biology Surveys and Habitat Mapping of Uplands on the Ranch -- A report was prepared for The Newhall Land and Farming Company which provided descriptive information and mapping of the distribution of vegetation types and associated wildlife occurring on the Newhall Ranch site (Dames & Moore 1993; **Appendix E**). Information on sensitive species and habitats was also presented. Biological resource studies were conducted by Dames & Moore biologists in the spring and summer of 1992. These surveys included vegetation mapping on 1" = 400' scale base maps, rare plant surveys, two surveys for common and sensitive species with emphasis on birds and sensitive wildlife species, two nights of small mammal trapping, one evening of spotlight surveys and incidental observations of wildlife species during the above surveys. Results of the Dames & Moore surveys are discussed under the appropriate sections of this Biota Report.

Biological Resource Surveys Conducted by RECON in 1995 – The following section describes the results of biota surveys conducted by RECON on the Newhall Ranch project site in 1995. A description of the survey methodologies used as well as a summary of the survey personnel and survey times and dates is included in the discussion. Subsections describe the flora and fauna observed during the current surveys and a description of the habitats present on the property.

Survey Methodology -- Current biological resource surveys conducted by RECON occurred between March 15 and August 3, 1995. Specific dates and times of the surveys are provided in **Table BIO-4 (Dates and Times of 1995 Biological Surveys on the Newhall Ranch Property)**. The following RECON biologists participated in the surveys; botanical surveys: Gerry Scheid, Bobbie Stephenson, Julie Vanderwier; wildlife surveys: Rick Eisenbart, Pete Famolaro, Mark Dodero; butterfly surveys: Jessa Netting, Terri Ayres. Resumes listing the qualifications of each of these personnel is given in **Appendix F**.

General botanical and wildlife surveys were conducted by walking in representative habitat types found on the various portions of the Newhall Ranch site. An effort was made to visit many different areas on the Ranch to sample the diversity of topography and local micro-environmental conditions. The many dirt roads on the property aided in access to the majority of the site, while long hikes were required to reach the more remote areas of the site. Weather conditions during the surveys ranged from warm days and cool nights in the spring (March - May) to hot days and warm nights in the summer (June - August). Winds were typically low to none in the early morning and breezy in the afternoons.

Plant species identifications were done in the field when possible, but some species were collected, pressed, and identified in the laboratory. All plant species identifications follow the nomenclature used in the Jepson Manual (Hickman 1993). Wildlife species identifications relied on direct observation of animals, often with the aid of binoculars and by indirect means such as the

identification of calls (i.e., birds, amphibians) and observation of animal sign (e.g., tracks, scat, nests, etc.). Manuals used in the identification of wildlife species include: birds (National Geographic 1983), mammals (Burt and Grossenheider 1976), small mammals (Roest 1980; Ryan 1968), reptiles and amphibians (Stebbins 1985; Sweet 1992), animals tracks (Brown 1983, Halfpenny and Biesiot 1986), and butterflies (Emmel and Emmel 1973; Garth and Tilden 1986; Mattoni 1990).

In addition to the general wildlife surveys conducted, three focused surveys were performed; small mammal trapping, an amphibian survey, and butterfly surveys. The methods used for each survey are described below.

Table BIO-4
Dates and Times of 1995 Biological Surveys on the Newhall Ranch Property

Date	Time	Survey type/Personnel
March 28	8:00 am - 5:00 pm	**General Botany/Wildlife** -Gerry Scheid, Bobbie Stephenson
March 29	8:00 am - 5:00 pm	**General Botany/Wildlife** -Gerry Scheid, Bobbie Stephenson
March 30	8:00 am - 5:00 pm	**General Botany/Wildlife** -Gerry Scheid, Bobbie Stephenson
April 10	8:00 am - 5:00 pm	**General Botany/Wildlife/Butterfly** - Gerry Scheid, Julie Vanderwier, Rick Eisenbart, Pete Famolaro, Jessa Netting, Terri Ayers
April 11	8:00 am - 5:00 pm 7:30 pm - 9:30 pm	**General Botany/Wildlife/Butterfly** - Gerry Scheid, Julie Vanderwier, Rick Eisenbart, Pete Famolaro, Jessa Netting, Terri Ayers; **Nighttime amphibian** surveys - Gerry Scheid, Rick Eisenbart
April 12	8:00 am - 5:00 pm 7:30 pm - 9:30 pm	**General Botany/Wildlife** - Gerry Scheid, Julie Vanderwier, Rick Eisenbart, Pete Famolaro; **Nighttime amphibian** surveys - Gerry Scheid, Rick Eisenbart
April 13	8:00 am - 5:00 pm 7:30 pm - 9:30 pm	**General Botany/Wildlife** - Gerry Scheid, Julie Vanderwier, Rick Eisenbart, Pete Famolaro; **Nighttime amphibian** surveys - Gerry Scheid, Rick Eisenbart
April 14	8:00 am - 5:00 pm	**General Botany/Wildlife** - Gerry Scheid, Julie Vanderwier, Rick Eisenbart, Pete Famolaro; **Nighttime amphibian** surveys - Gerry Scheid, Rick Eisenbart
April 29	8:00 am - 3:00 pm	**General Botany** - Gerry Scheid
May 16	8:00 am - 5:00 pm	**General Botany/Wildlife** - Gerry Scheid, Julie Vanderwier
May 17	8:00 am - 5:00 pm	**General Botany/Wildlife/Butterfly** - Gerry Scheid, Julie Vanderwier, Jessa Netting, Terri Ayers
May 18	8:00 am - 5:00 pm	**General Botany/Wildlife** - Gerry Scheid, Jessa Netting, Terri Ayers
June 19	4:00 pm - 8:00 pm	**Small Mammal Trapping** - Gerry Scheid, Rick Eisenbart, Pete Famolaro, Mark Dodero
June 20	6:00 am - 8:00 am 8:00 am - 4:00 pm 4:00 pm - 8:00 pm	**Small Mammal Trapping** - Gerry Scheid, Rick Eisenbart, Pete Famolaro, Mark Dodero **General Botany/Wildlife/Butterfly** - Gerry Scheid, Rick Eisenbart, Pete Famolaro, Mark Dodero, Jessa Netting
June 21	6:00 am - 8:00 am 8:00 am - 4:00 pm 4:00 pm - 8:00 pm	**Small Mammal Trapping** - Gerry Scheid, Rick Eisenbart, Pete Famolaro, Mark Dodero **General Botany/Wildlife/Butterfly** - Gerry Scheid, Rick Eisenbart, Pete Famolaro, Mark Dodero, Jessa Netting
June 22	6:00 am - 8:00 am 8:00 am - 12:00 pm	**Small Mammal Trapping** - Gerry Scheid, Rick Eisenbart, Pete Famolaro, Mark Dodero **General Botany/Wildlife** - Gerry Scheid, Rick Eisenbart, Pete Famolaro, Mark Dodero
July 12	4:00 pm - 8:00 pm	**General Botany/Wildlife/Amphibian** - Gerry Scheid, Rick Eisenbart
July 13	8:00 am - 2:00 pm	**General Botany/Wildlife/Amphibian** - Gerry Scheid, Rick Eisenbart
August 1	8:00 am - 5:00 pm	**General Botany/Wildlife/Amphibian** - Gerry Scheid, Rick Eisenbart
August 2	8:00 am - 5:00 pm	**General Botany/Wildlife/Amphibian** - Gerry Scheid, Rick Eisenbart
August 3	8:00 am - 5:00 pm	**General Botany/Wildlife/Amphibian** - Gerry Scheid, Rick Eisenbart

- Small Mammal Trapping -- Three nights of small mammal trapping were conducted on the project site during the evenings of June 19, 20, and 21. The goal of the trapping effort was to capture as many different species of small mammals as possible. As such, the sensitivity of the traps was not set to exclusively capture any one taxon. However, one of the field personnel conducting the trapping effort has extensive experience trapping in desert areas and has captured mice in the genus *Perognathus*. This trapping effort captured small mammals of a variety of weights, including those in the genus *Peromyscus*. Given the size of the property, it was decided that the trap lines would be moved to a new location each night in order to sample a higher diversity of habitat conditions on the property. Six trap lines were set out each night with each line consisting of between 25 and 30 Sherman live traps baited with oatmeal and bird seed. The traps were set at a particular location during the late afternoon and checked early the next morning. A total of 543 trap nights were accomplished. The locations of the various trap lines and capture data are given in **Table BIO-5 (Location, Number of Traps, and Results of 1995 Small Mammal Trapping on the Newhall Ranch Property)**.

Table BIO-5
Location, Number of Traps, and Results of 1995 Small Mammal Trapping on the Newhall Ranch Property

Trapping Location	Number of Traps Set	Species Trapped
Lower Potrero - coastal sage scrub	30	Brush mouse (1), Deer mouse (4)
Middle Potrero - grassland	30	Brush mouse (1)
Middle Potrero - coastal sage scrub	26	Brush mouse (1)
Long Canyon - coastal sage scrub	30	Brush mouse (1), Dusky-footed woodrat (1), California pocket mouse (1)
Long Canyon - coastal sage scrub	34	Pacific kangaroo rat (2), Dusky-footed woodrat (1)
Upper Potrero - oak woodland	34	Brush mouse (1)
Lower Lion Canyon - river flood plain/alluvial scrub	25	Deer mouse (3), Pacific kangaroo rat (1)
Upper Lion Canyon - alluvial scrub/chaparral	30	Pacific kangaroo rat (3)
Canyon west of Grape Vine Mesa - oak woodland	30	None
Middle Canyon - coastal sage scrub/oak woodland	42	Deer mouse (2), San Diego desert woodrat (2)
Middle Canyon - coastal sage scrub	30	California pocket mouse (1), Deer mouse (1)
Middle Canyon - coastal sage scrub	26	Deer mouse (8), Brush mouse (5), Pacific kangaroo rat (2)
Salt Creek Canyon - mule fat scrub	29	None
Salt Creek Canyon - great basin scrub	30	Pacific kangaroo rat (2)
High Country - mixed chaparral/oak woodland	30	California pocket mouse (1)
High Country - mixed chaparral	25	Brush mouse (2), Pacific kangaroo rat (1)
High Country - grassland/coastal sage scrub	32	Pacific kangaroo rat (3),
High Country - mixed chaparral	30	Pacific kangaroo rat (4)

In association with the small mammal trap program, scent stations were placed in the field. Scent stations consisted of an area cleared of annual vegetation and swept level with a broom. They were then baited with fish (e.g., kipper snacks, jack mackerel). The scent stations were checked the following morning and any animal tracks observed were identified. Scent stations were located near trap lines set in Salt Creek Canyon and in the High Country.

- Amphibian Survey -- Amphibian surveys were conducted on the evenings of April 10, 11, and 12, 1995. Survey methodology followed that used by Sweet (1992) for arroyo toads and included the location of appropriate breeding pools with proper adjacent upland habitat, being in position prior to 30-40 minutes after sunset to hear calls and minimize disturbance to breeding toads, surveying on evenings when air temperature is not below 56 degrees F, surveying on evenings with no wind, surveying on evenings not within 2-3 nights of a full moon, water temperatures above 58 degrees F at edge of breeding pools, and minimizing noise while approaching within 100 yards of a potential breeding pool. Locations of potential breeding pools for various frogs and toads along the Santa Clara River and Castaic Creek were noted during the daylight hours. These locations were then carefully visited at night (as stated above) to detect any toads, frogs, or other night time wildlife associated with wet conditions. Amphibians were identified by direct observation, with the aid of a flashlight, or by call. Some additional observations of amphibians were made by direct observation during daylight hours while conducting the general wildlife surveys on July 12 and 13, and August 1, 2, and 3. Manuals used to identify frogs and toads include Stebbins (1985) and Sweet (1992).

- Butterfly Survey -- Focused butterfly surveys were conducted over a three month period (April 10 and 11; May 17 and 18; June 20 and 21), two days each month, to sample the diversity of this insect type on the Ranch property. Conditions on the days of the surveys and geographical information of where the surveys took place are described in **Table BIO-6 (Butterfly Survey Information)**. Up to six people were employed during the surveys within the various habitats on the project site. Butterflies were captured using sweep nets and identified. Initially, representative individuals of each species that were captured were placed in "kill jars" for later identification. The identification of the butterfly species follows the nomenclature used in Mattoni (1990). After a species had been caught and identified, any additional individuals of that particular species caught were released unharmed. Additional observations of butterflies were conducted during the general wildlife and botanical surveys.

Habitat Mapping -- Habitat mapping of the Newhall Ranch property was conducted by Dames & Moore during their 1993 surveys in upland portions of the site (Dames & Moore 1993; **Appendix E**). The boundaries of the vegetation types were mapped on 1" = 400' feet scale base maps with the aid of aerial

photographs. Field surveys conducted by RECON in 1995 verified these boundaries and a habitat/vegetation map is provided as **Figure BIO-8 (Existing Vegetation/Habitat)**. Additional habitat mapping was conducted by RECON in 1995 along two proposed off-site road alignments; the extension of Magic Mountain Parkway, and the extension of Valencia Boulevard. Habitats were mapped on 1" = 200' topographic maps with the aid of a 1993 aerial photograph. A habitat map along these road alignments is provided as **Figure BIO-9 (Impact to Off-site Vegetation/Habitat)**. All habitat information was transferred to digital databases for mapping and planning purposes.

Table BIO-6
Butterfly Survey Information

Date	Time of Survey	Weather Conditions	Geography of Search Locations
April 10, 1995	9:30 am - 4:30 pm	cool morning, warm afternoon; early morning overcast, late morning and afternoon sunshine; no wind early; late morning through afternoon light winds	morning - exposed ridges and grasslands; afternoon sheltered canyons and drainages.
April 11, 1995	9:30 am - 4:30 pm	cool morning, warm afternoon; early morning overcast, late morning and afternoon sunshine; light wind early, late morning through afternoon moderate winds	morning - exposed ridges and grasslands, open sage and chaparral; afternoon sheltered canyons and drainages, woodlands.
May 17, 1995	9:00 am - 4:30 pm	warm days; sunshine all day; light breeze morning, windy afternoon.	morning - exposed ridges and grasslands, open sage and chaparral; afternoon sheltered canyons and drainages, woodlands.
May 18, 1995	9:00 am - 4:30 pm	warm days; sunshine all day; light breeze all day	morning - exposed ridges and grasslands, open sage and chaparral; afternoon sheltered canyons and drainages, woodlands.
June 20, 1995	8:00 am - 5:00 pm	Warm mornings, hot afternoons; sunshine all day; light to moderate winds all day	early morning exposed grasslands and ridges; late morning and afternoon brushlands and woodland of canyons/drainages.
June 21, 1995	8:00 am - 5:00 pm	Warm mornings, hot afternoons; sunshine all day; light to moderate winds all days	early morning exposed grasslands and ridges; late morning and afternoon brushlands and woodland of canyons/drainages.

(b) Description of Habitats

The majority of the Newhall Ranch property addressed in this Biota Report descends from high country chaparral and oak woodlands of the Santa Susana Mountains down the north-facing coastal sage scrub-covered slopes to the riparian scrubs and woodlands of the Santa Clara River. The northern one-quarter of the site encompasses the south-facing coastal sage scrub-covered slopes of lowland hills and canyons descending towards the Santa Clara River through agricultural areas at the base of the

SOURCE: DAMES AND MOORE, RECON

NEWHALL RANCH.
Newhall Ranch Company

L E G E N D

UPLAND HABITAT

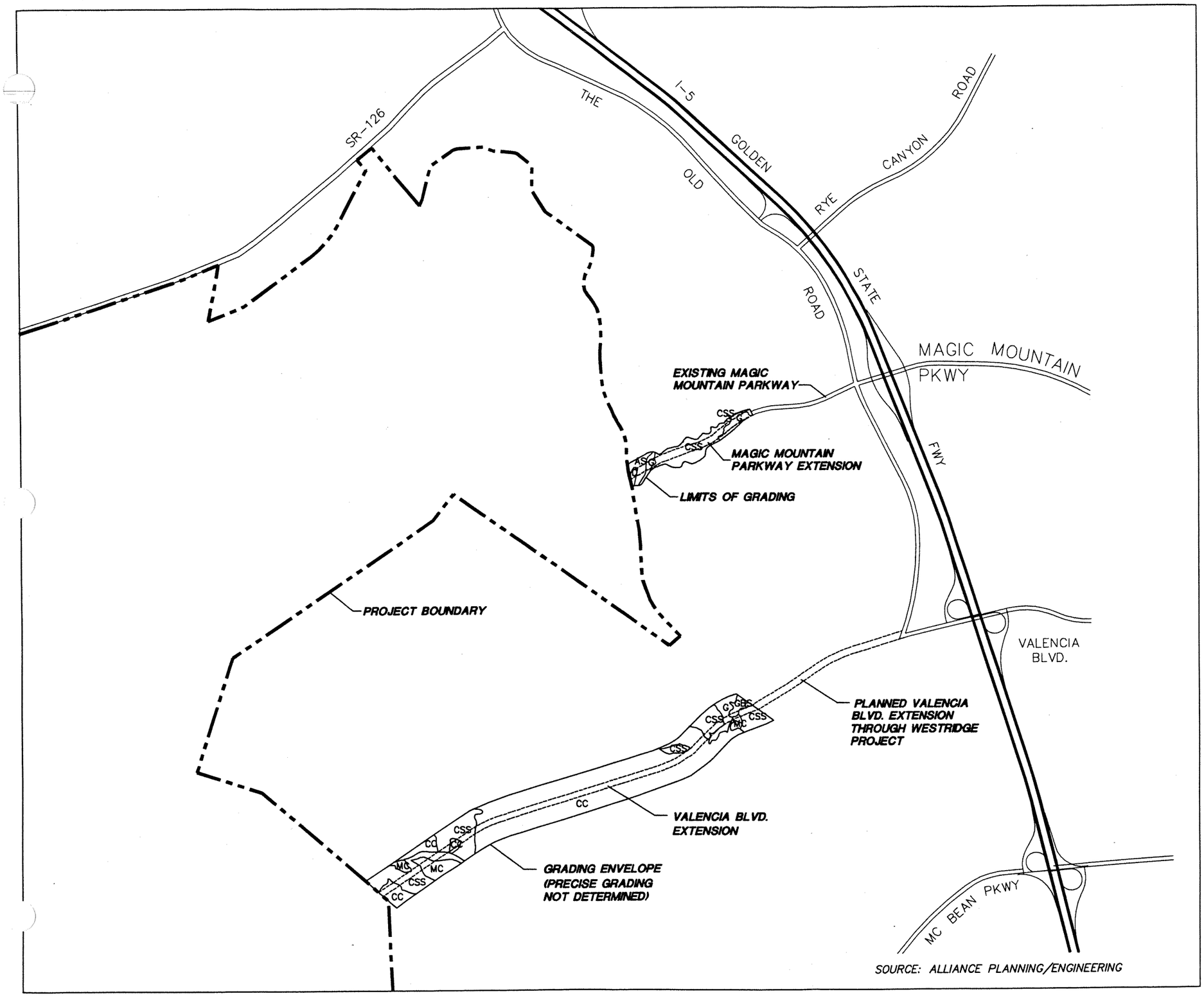
- G — GRASSLAND
- CC — CHAMISE CHAPARRAL
- MC — MIXED CHAPARRAL
- GBS — GREAT BASIN SCRUB
- GBS-MC — GREAT BASIN SCRUB / MIXED CHAPARRAL
- CSS — COASTAL SAGE SCRUB
- CSS-G — COASTAL SAGE / GRASSLAND
- ES — ELDERBERRY SCRUB
- LOW — COAST LIVE OAK WOODLAND
- LOW-MC — COAST LIVE OAK WOODLAND / MAINLAND CHERRY
- VOW — VALLEY OAK WOODLAND
- VOS — VALLEY OAK SAVANNAH

RIPARIAN / WETLANDS HABITAT

- AS — ALLUVIAL SCRUB
- AS-MC — ALLUVIAL SCRUB / MIXED CHAPARRAL
- AWS — ARROW WEED SCRUB
- SS — SCALEBROOM SCRUB
- MFS — MULE FAT SCRUB
- SMFS — SUCCESSIONAL MULE FAT SCRUB
- WS — SOUTHERN WILLOW SCRUB
- COW — COTTONWOOD / OAK WOODLAND
- CRW — SOUTHERN COTTONWOOD WILLOW RIPARIAN FOREST
- WRW — SOUTHERN WILLOW RIPARIAN WOODLAND
- MM — MESIC MEADOWS
- P — POND
- FM — VALLEY FRESHWATER MARSH
- D — DEVELOPED / DISTURBED AREAS

English 0 1000' 2000'
Metric 0 450m 900m
NORTH

FIGURE BIO-8
EXISTING VEGETATION/HABITAT



SOURCE: ALLIANCE PLANNING/ENGINEERING

NEWHALL RANCH
Newhall Ranch Company

L E G E N D

UPLAND HABITATS

- G — GRASSLAND
- CC — CHAMISE CHAPARRAL
- MC — MIXED CHAPARRAL
- GBS — GREAT BASIN SCRUB
- CSS — COASTAL SAGE SCRUB

RIPARIAN HABITAT

- AS — ALLUVIAL SCRUB

- D — DEVELOPED / DISTURBED AREA

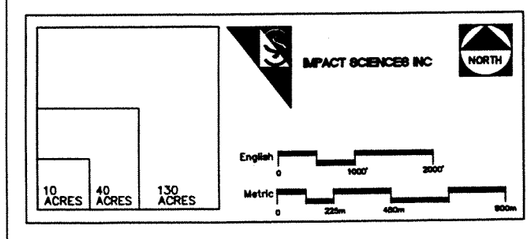


FIGURE BIO-9

IMPACT TO OFF-SITE VEGETATION/HABITAT

hills. A diverse assemblage of habitat types is found on the approximately 11,963-acre property that supports a variety of plant and animal species. The biological and physical character of the site has been affected by agriculture, oil/natural gas operations and by cattle grazing, especially at the lower elevations.

The natural and disturbed plant communities that occur on the Ranch property are described below. Plant communities are listed in **Table BIO-7 (Vegetation Types and Percent Coverage)** with the acreage of each community and percent coverage on-site.

Table BIO - 7
Vegetation Types and Percent Coverage

Vegetation Community Type	Approximate Acres Present	Approximate Percent Coverage
Coastal Sage Scrub	5,183	43.3%
Chamise Chaparral	7	0.1%
Mixed Chaparral	1,206	10.1%
Great Basin Scrub	81	0.7%
Coast Live Oak Woodland	670	5.6%
Valley Oak Woodland	26	0.2%
Valley Oak Savanna	394	3.3%
Elderberry Scrub	24	0.2%
Non-Native Grassland	1,896	15.8%
Mainland Cherry Forest	18	0.2%
Disturbed Areas	1,523	12.7%
Mule Fat Scrub	222	1.9%
Successional Mule Fat Scrub	275	2.3%
Southern Willow Scrub	96	0.8%
Southern Willow Riparian Woodland	126	1.1%
Southern Cottonwood-Willow Riparian Forest	93	0.8%
Arrow Weed Scrub	16	0.1%
Valley Freshwater Marsh and Ponds	5	0.1%
Cottonwood/Oak Woodland	26	0.2%
Alluvial Scrub	39	0.3%
Scalebroom Scrub	20	0.2%
Mesic Meadow	14	0.1%
Total of Rounded Numbers	**11,963**	**98.8%**

Upland habitats are predominate on the Newhall Ranch property, where they occur on approximately 11,028 acres, about 92 percent of the property. The descriptions of upland habitats are based on information contained in an existing biological resource report for the Newhall Ranch property (Dames & Moore 1993; **Appendix E**) supplemented and verified by observations made by RECON during their current 1995 field surveys.

Coastal Sage Scrub (5,183 total acres on site, 43 percent of site coverage) – Coastal sage scrub habitat is characterized by a dominance of drought-deciduous plant species of the coastal hills. On the Newhall Ranch property, the dominant species that occur in this plant community include California sagebrush (*Artemisia californica*), purple sage (*Salvia leucophylla*), common encelia (*Encelia californica*), California buckwheat (*Eriogonum fasciculatum*), and California broom (*Lotus scoparius*).

Coastal sage scrub habitat is distributed in Newhall Ranch on the drier south-facing slopes of the hilly lowlands and on north-facing slopes and canyons of the Santa Susana Mountains. Dames & Moore (1993) identified two subtypes: sparse and dense coastal sage scrub. Sparse coastal sage scrub occurs in areas where the dominant species account for less than 50 percent of the vegetation cover. Open areas between the sparse shrubs are either bare ground or vegetated with small grasses and herbs. Dense coastal sage scrub occurs in areas where the dominant species make up greater than 50 percent of the vegetation cover. Of the total acreage of coastal sage scrub habitat on the Newhall Ranch property, approximately 272 acres are a coastal sage scrub/grassland mix.

Dames & Moore 1993 (**Appendix E**) reported the following regarding this vegetation type:

> "Extensive tracts of sparse coastal sage scrub occur in the hills located north of Route 126, the slopes above Potrero, Salt Creek, and Long canyons, and in the vicinity of Magic Mountain Amusement Park.... Sparse coastal sage provides a moderate level of biomass to support bird and terrestrial mammal species. The relatively open characteristics of the vegetation would provide foraging opportunities for raptors which prey on exposed small animals species (e.g., rabbits, mice, kangaroo rats, snakes, lizards, etc.). The sparsity of the vegetation would be less restrictive on the movements of regional wildlife species (e.g., deer, coyote, bobcat) than denser vegetation types.
>
> Extensive tracts of dense coastal sage occur throughout the West Ranch [Newhall Ranch project site] in hilly terrain on north-facing slopes of the Santa Susana Mountains and within several canyons (e.g., Rawhide, Grave, Via, Dead End canyons), and in the vicinity of Magic Mountain. The relatively moister regime of these areas compared to sparse coastal sage areas promotes a more dense growth of scrub vegetation. The denser growth also indicates that the vegetation is at or near a mature stage of development and that these areas have probably not burned in several decades.... Dense coastal sage has more biomass than sparse coastal sage scrub and can potentially support somewhat higher numbers of birds. However, this habitat would probably not be utilized to a great extent by most raptor species because of escape cover for potential prey species. The density of the vegetation and the associated rugged terrain probably limit large mammal movements. Evidence of wildlife movements within areas of dense scrub was mostly apparent on dirt roads and along water courses....."

Wildlife species observed during the 1995 RECON field surveys within coastal sage scrub habitat on the Newhall Ranch included the following:

Reptiles - San Diego horned lizard (*Phrynosoma coronatum blainvillei*), side-blotched lizard (*Uta stansburiana*), long-nosed leopard lizard (*Gambelia wislizenii wislizenii*), coastal western whiptail (*Cnemidophorus tigris multiscutatus*), San Diego gopher snake (*Pituophis melanoleucus annectens*), red coachwhip (*Masticophis flagellum piceus*), chaparral whipsnake (*Masticophis lateralis lateralis*), southern Pacific rattlesnake (*Crotalus virdis helleri*)

Birds - White-tailed kite (*Elanus leucurus*), red-shouldered hawk (*Buteo lineatus elegans*), red-tailed hawk (*Buteo jamaicensis*), California quail (*Callipepla californica californica*), greater roadrunner (*Geococcyx californianus*), white-throated swift (*Aeronautes saxatalis*), black-chinned hummingbird (*Archilochus alexandri*), Anna's hummingbird (*Calypte anna*), ash-throated flycatcher (*Myiarchus cinerascens cinerascens*), Cassin's kingbird (*Tyrannus vociferans vociferans*), western kingbird (*Tyrannus verticalis*), tree swallow (*Tachycineta bicolor*), violet-green swallow (*Tachycineta thalassina lepida*), northern rough-winged swallow (*Stelgidopteryx ruficollis*), barn swallow (*Hirundo rustica erythrogaster*), cliff swallow (*Hirundo pyrrhonota tachina*), scrub jay (*Aphelocoma coerulescens obscura*), American crow (*Corvus brachyrhynchos hesperis*), common raven (*Corvus corax clarionensis*), rock wren (*Salpinctes obsoletus obsoletus*), canyon wren (*Catherpes mexicanus consperus*), California thrasher (*Toxostoma redivivum redivivum*), western bluebird (*Sialia mexicana occidentalis*), hermit thrush (*Catharus guttatus*), wrentit (*Chamaea fasciata henshawi*), loggerhead shrike (*Lanius ludovicianus*), lesser goldfinch (*Carduelis psaltria hesperophilus*), Lawrence's goldfinch (*Carduelis lawrencei*), blue grosbeak (*Guiraca caerulea salicaria*), Lazuli bunting (*Passerina amoena*), rufous-sided towhee (*Pipilo erythrophthalmus megalonyx*), California towhee (*Pipilo crissalis*), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), lark sparrow (*Chondestes grammacus strigatus*), white-crowned sparrow (*Zonotrichia leucophrys*)

Mammals - coyote (*Canis latrans*), mule deer (*Odocoileus hemionus*), California ground squirrel (*Spermophilus beecheyi*), California pocket mouse (*Chaetodipus californicus dispar*), Pacific kangaroo rat (*Dipodomys agilis*), brush mouse (*Peromyscus boylii rowleyi*), deer mouse (*Peromyscus maniculatus*), San Diego desert woodrat (*Neotoma lepida intermedia*), desert cottontail (*Sylvilagus audubonii*)

Butterflies - Western tiger swallowtail (*Papilio rutulus rutulus*), cabbage white (*Pieris rapae*), Becker's white (*Pieris chloridice beckeri*), common white (*Pieris protodice*), Sara orangetip (*Anthocaris sara sara*), Harford's sulfur (*Colias alexandra harfordii*), alfalfa (*Colias eurytheme*), striated queen (*Danaus gilippus strigosus*), California ringlet (*Coenonympha tullia californica*), chalcedon checkerspot (*Euphydryas chalcedona chalcedona*), Gabb's checkerspot (*Melitaea gabbii gabbii*), painted lady (*Vanessa cardui*), west coast lady (*Vanessa carye anabella*), buckeye (*Precis coenia*), Lorquin's admiral (*Limnitis lorquini lorquini*), California sister (*Adelpha bredowii california*), Behr's metalmark (*Apodemia mormo virgulti*), California green hairstreak (*Callophrys affinis perplexa*), Gorgon copper (*Lycaena gorgon*), pygmy blue (*Brephidium exilis*), acmon blue (*Plebejus acmon acmon*), lupine blue (*Plebejus lupini monticola*), fiery skipper (*Hylephila phyleus*), funereal duskywing (*Erynnis zarucco funeralis*), large white skipper (*Heliopetes ericetorum*)

Chamise Chaparral (7 total acres on site, less than one percent of site coverage) -- Chamise chaparral is characterized by relatively homogeneous stands of the shrub chamise (*Adenostoma fasciculatum*). It occurs in a few scattered patches in the hilly terrain located north of Potrero Canyon.

Dames & Moore 1993 (**Appendix E**) reported the following regarding Chamise Chaparral on the Newhall Ranch:

> "Although chamise chaparral vegetation may achieve a relatively high density and biomass, chamise is not a highly valuable resource plant for wildlife species. This vegetation provides habitat for a relatively low to moderate diversity of reptiles, birds, and small mammals."

Wildlife species observed during the 1995 RECON field surveys within chamise chaparral habitat on the Newhall Ranch included the following:

Reptiles - San Diego horned lizard, coastal western whiptail, side-blotched lizard, San Diego gopher snake, chaparral whipsnake

Birds - Red-shouldered hawk, California quail, greater roadrunner, white-throated swift, black-chinned hummingbird, Anna's hummingbird, ash-throated flycatcher, Cassin's kingbird, western kingbird, northern rough-winged swallow, barn swallow, cliff swallow, scrub jay,

common raven, rock wren, canyon wren, California thrasher, wrentit, blue-gray gnatcatcher (*Polioptila caerulea*), loggerhead shrike, lesser goldfinch, Lawrence's goldfinch, blue grosbeak, rufous-sided towhee, California towhee, southern California rufous-crowned sparrow, lark sparrow

Mammals - Coyote, mountain lion (*Felis concolor*), bobcat (*Felis rufus*), Pacific kangaroo rat, deer mouse, San Diego desert woodrat, desert cottontail

Mixed Chaparral (1,206 total acres on site, 10 percent of site coverage) -- The dominant plant species of mixed chaparral communities are comprised of a variety of shrubs at more or less equal densities. Shrub species present in this habitat type on the Newhall Ranch property include hoaryleaf ceanothus (*Ceanothus crassifolius*), coast blue lilac (*Ceanothus tomentosus*), lemonadeberry (*Rhus integrifolia*), laurel sumac (*Malosma laurina*), toyon (*Heteromeles arbutifolia*), black sage (*Salvia mellifera*), white sage (*Salvia apiana*), and chamise. Understory components are poorly developed due to the dense vegetation cover.

Dames & Moore 1993 (**Appendix E**) reported regarding the mixed chaparral vegetation:

> "Mixed chaparral is a dense, woody vegetation type that occurs in the hilly terrain located north and south of Potrero Canyon. Extensive tracts occur to the southeast and southwest of Grape Vine Mesa. The composition of mixed chaparral includes many shrub species that produce berries and seeds that are consumed by birds and mammals. However, most of the mixed chaparral on the West Ranch [Newhall Ranch project site] occurs on areas of rugged terrain; this is likely to restrict mammal densities and movements to the vicinities of arroyos and dirt roads. Raptors are not likely to extensively utilize this habitat for foraging purposes due to the high level of escape cover afforded prey species. The species composition of wildlife that utilizes this habitat would be similar to that of chamise chaparral."

Wildlife species observed during the 1995 RECON field surveys within mixed chaparral habitat on the Newhall Ranch included the following:

Reptiles - San Diego horned lizard, coastal western whiptail, side-blotched lizard, San Diego gopher snake, chaparral whipsnake

Birds - Red-shouldered hawk, California quail, greater roadrunner, white-throated swift, black-chinned hummingbird, Anna's hummingbird, ash-throated flycatcher, Cassin's kingbird, western kingbird, northern rough-winged swallow, barn swallow, cliff swallow, scrub jay, common raven, rock wren, canyon wren, California thrasher, wrentit, blue-gray gnatcatcher, loggerhead shrike, lesser goldfinch, Lawrence's goldfinch, blue grosbeak, rufous-sided towhee, California towhee, southern California rufous-crowned sparrow, lark sparrow

Mammals - Coyote, mountain lion, bobcat, Pacific kangaroo rat, deer mouse, San Diego desert woodrat, desert cottontail

Butterflies - Sara orangetip, striated queen, California ringlet, painted lady, Lorquin's admiral, California sister, Behr's metalmark, California green hairstreak, fiery skipper, large white skipper

Great Basin Scrub (81 total acres on site, nearly 1 percent of site coverage) – Great Basin scrub is characterized by an almost pure stand of big sagebrush (*Artemisia tridentata*). This habitat occurs on Newhall Ranch within the arroyos and on the upper flood plain terraces adjacent to the riparian areas along the Santa Clara River, Salt Creek, and in Long and Lion Canyons. In this region, Great Basin scrub is at the extreme of its distribution.

Dames & Moore 1993 (**Appendix E**) stated that:

> "The fauna of Great Basin scrub habitat is similar to that of sage scrub habitats, but with some species that also utilize riparian zones, particularly birds. In addition to habitat provided, Great Basin scrub in the study area occurs within movement corridors."

Wildlife species observed during the 1995 RECON field surveys within Great Basin scrub habitat on the Newhall Ranch included the following:

Amphibians - Western spadefoot toad (*Scaphiopus hammondii*)

Reptiles - Coastal western whiptail, side-blotched lizard, southern Pacific rattlesnake

Birds - California quail, ash-throated flycatcher, northern rough-winged swallow, barn swallow, Bewick's wren (*Thryomanes bewickii*), house wren (*Troglodytes aedon parkmanii*), phainopepla (*Phainopepla nitens lepida*), lesser goldfinch, rufous-sided towhee, California towhee, song sparrow (*Melospiza melodia*)

Mammals - Common raccoon (*Procyon lotor*), coyote, mule deer, California ground squirrel, brush mouse, bobcat, desert cottontail

Butterflies - Western tiger swallowtail, cabbage white, Becker's white, California white (*Pieris sisymbrii sisymbrii*), Sara orangetip, Harford's sulfur, California ringlet, chalcedon checkerspot, west coast lady, mourning cloak (*Nymphalis antiopa antiopa*), buckeye, Lorquin's admiral, California sister, Gorgon copper, large white skipper

Oak Woodlands — Three subtypes of oak woodland occur on the Newhall Ranch property. In total, oak woodland communities occur on approximately 1,090 total acres on the site, about 9 percent of site coverage. Each subtype of oak woodland is described below. In addition, a large portion of the community described herein as mainland cherry forest supports oaks and has characteristics of an open oak woodland.

- **Coast Live Oak Woodland (670 total acres on site, 6 percent of site coverage):** Coast live oak woodlands are typically located in riparian areas on the drier margins of the flood plain where trees of coast live oak (*Quercus agrifolia*) dominate the community. Coast live oak woodlands in the study area occur on the outer, drier portions of the Santa Clara River flood plain, especially on the south side of the river near the foothills and slopes of the surrounding hills. Isolated individuals of coast live oak occur on the upper flood plain and terraces of drier sites. The habitat is also found in canyons of the Santa Susana Mountains and in hilly terrain surrounding Potrero Canyon.

Dames & Moore 1993 (**Appendix E**) describes coast live oak woodlands as follows:

> "Oak woodlands provide valuable resources and habitat for as many as 60 species of mammals and 110 species of birds in California. Acorns are high in caloric value and easily obtained by wildlife species. Oaks provide browse and serve as habitat for insects which are preyed upon by insectivorous birds and mammals. The dense foliage

provides thermal cover for roosting and nesting birds and escape cover for prey species. Cavities in limbs and trunks are used as nest sites by birds and den sites by small mammals. Understory components contribute to the overall biomass and can increase the overall wildlife habitat value of oak woodlands."

"The oak woodlands on the West Ranch [Newhall Ranch project site] can be considered "edge habitats" because they occur as relatively limited areas within larger blocks of scrub vegetation. Edge habitats are areas where there is a great amount of interfacing between two or more different vegetation types. Such areas are synergistic with regard to the production and availability of resources for wildlife species due to the greater diversity of plant species per unit area. Oak woodlands and their edge areas provide habitat for a relatively high diversity of wildlife species on the West Ranch [Newhall Ranch project site]."

- **Valley Oak Woodland (26 total acres on site, less than one percent of site coverage):** This habitat type is characterized by open and closed stands of valley oak (*Quercus lobata*). The valley oak woodland may have an understory of coastal sage scrub, chaparral, or riparian habitat, depending on the topographical location of the stand of trees. Valley oak woodland occurs on the site in lower Rawhide Canyon and Via Canyon. The discussion provided above for fauna associated with coast live oak woodlands also pertains to valley oak woodlands, thus habitat values for wildlife and wildlife species diversity are similar for both oak woodland types.

- **Valley Oak Savanna (394 total acres on site, 3 percent of site coverage):** The valley oak savanna areas of the Ranch property are characterized by widely-spaced valley oak trees within grassland habitat. Savannas form in areas that are frequently disturbed by natural (e.g., fire) or human(e.g., grazing) causes that inhibit the formation of a shrub understory and favor grassland development. This plant community type occurs on extensive areas of Lower Potrero Canyon and along the ridgeline of the Santa Susana Mountains between Bear Flat and Via Pond.

Dames & Moore 1993 (**Appendix E**) discuss valley oak savanna as follows:

"The wildlife habitat values of valley oak savanna are similar to that described above for oak woodlands except that the former has lower overall biomass due to the presence of a grassland understory. As such, the density and diversity of breeding birds is expected to be lower than that of oak woodland. Foraging opportunities for raptors and terrestrial predators are high in savanna vegetation types because of the open physiognomic characteristics."

Wildlife species observed during the 1995 RECON field surveys within oak woodlands/savanna habitat on the Newhall Ranch included the following:

Amphibians - Pacific treefrog (*Pseudacris regilla*)

Reptiles - Western fence lizard (*Sceloporus occidentalis biseriatus*), side-blotched lizard

Birds - Mallard (*Anas platyrhynchos platyrhynchos*), white-tailed kite, red-shouldered hawk, red-tailed hawk, American kestrel (*Falco sparverius*), mourning dove (*Zenaida macroura marginella*), common barn owl (*Tyto alba pratincola*), great horned owl (*Bubo virginianus*), acorn woodpecker (*Melanerpes formicivorus bairdi*), Nuttall's woodpecker (*Picoides nuttallii*), downy woodpecker (*Picoides pubescens*), hairy woodpecker (*Picoides villosus*), northern flicker (*Colaptes auratus*), western wood pewee (*Contopus sordidulus*), ash-throated flycatcher, western kingbird, tree swallow, violet-green swallow, scrub jay, common raven, plain titmouse (*Parus inornatus transpositus*), bushtit (*Psaltriparus minimus minimus*), white-breasted nuthatch (*Sitta carolinensis aculeata*), house wren, northern mockingbird (*Mimus polyglottus polyglottus*), western bluebird, American robin (*Turdus migratorius propinquus*), hermit thrush, blue-gray gnatcatcher, phainopepla, Hutton's vireo (*Vireo huttoni huttoni*), warbling vireo (*Vireo gilvus swainsonii*), orange-crowned warbler (*Vermivora celata*), black-throated gray warbler (*Dendroica nigrescens*), Townsend's warbler (*Dendroica townsendi*), yellow-rumped warbler (*Dendroica coronata*), Wilson's warbler (*Wilsonia pusilla*), lesser goldfinch, Lawrence's goldfinch, house finch (*Carpodacus mexicanus frontalis*), black-headed grosbeak (*Pheuticus melanocephalus maculatus*), blue grosbeak, Lazuli bunting, dark-eyed junco (*Junco hyemalis*), brown-headed cowbird (*Molothrus ater*), hooded oriole (*Icterus cucullatus nelsonii*), northern oriole (*Icterus galbula*), European starling (*Sturnus vulgaris*)

Mammals - Common raccoon, coyote, common gray fox (*Urocyon cinereoargenteus*), red fox (*Vulpes vulpes*), mountain lion, bobcat, black bear (*Ursus americanus*), mule deer, California ground squirrel, Pacific kangaroo rat, brush mouse, pinon mouse (*Peromyscus truei martirensis*), deer mouse, dusky-footed woodrat (*Neotoma fuscipes macrotis*), desert cottontail

Butterflies - Western tiger swallowtail, cabbage white, Becker's white, common white, Sara orangetip, Harford's sulfur, alfalfa, California ringlet, Comstock's fritillary (*Argynnis callippe comstocki*), chalcedon checkerspot, Gabb's checkerspot, painted lady, west coast lady, mourning cloak, buckeye, Lorquin's admiral, California sister, California hairstreak (*Satyrium californicum*), cloudy copper (*Lycaena arota nubila*), pygmy blue, lupine blue, echo blue (*Celastrina argiolus echo*), funereal duskywing, large white skipper

Characteristics of the oak trees occurring within a portion of these communities on the Newhall Ranch property are summarized later in this Biota Report in the sensitive oak woodlands habitat discussion.

Elderberry Scrub (24 total acres on-site, less than one percent of site coverage) – Thickets of blue or Mexican elderberry (*Sambucus mexicana*) characterize this community type. It generally occurs on the Newhall Ranch property in association with riparian and scrub communities north of Potrero Canyon, adjacent to the Santa Clara River. Observed and expected wildlife is similar to those species listed previously for coastal sage scrub and mixed chaparral. Wildlife values of this habitat were reported by Dames & Moore 1993 (**Appendix E**) as follows:

> "Several bird and mammal species use the berries and foliage of Mexican elderberry as resources. Elderberry scrub provides habitat for a fauna that is similar to that found in sage scrubs and mixed chaparral. This habitat provides a moderate cover to about eight to ten feet in height. At ground level, there are scattered openings and a variable amount of bare ground."

Grassland (1,896 total acres on site, 16 percent of site coverage) – The grassland areas of the Newhall Ranch property are dominated by non-native grasses, such as ripgut grass, smooth brome, foxtail chess, and downy brome (*Bromus diandrus, B. hordaceous, B. madritensis* ssp. *rubens,* and *B. tectorum,* respectively); wild oats and slender wild oats (*Avena fatua* and *A. barbata,* respectively); hare barley (*Hordeum leporinum*), and rattail fescue (*Vulpia myorus* var. *hirsuta*). Some native and non-native herbaceous species that occur among the grasses are dove weed (*Eremocarpus setigerus*), common cryptantha (*Cryptantha intermedia*), purple owl's clover (*Castilleja exserta*), white-stemmed filaree (*Erodium cicutarium*), short-pod mustard (*Hirschfeldia incana*), radish (*Rhaphanus sativa*), cheeseweed (*Malva parviflora*), and London rocket (*Sisymbrium irio*). Grasslands are distributed on Newhall Ranch in Potrero, Salt Creek, and Long Canyons, the crest of the Santa Susana Mountains, near Airport Mesa, on Grape Vine Mesa, and on the eastern portion of the Ranch south of the Magic Mountain Theme Park.

On the wildlife values of non-native grasslands, Dames & Moore 1993 (**Appendix E**) reported the following:

> "The potential utilization of grasslands within the corridor for native wildlife species has been somewhat reduced by disturbances associated with cattle grazing and agriculture. Grasslands on the West Ranch [Newhall Ranch project site] are (together with sparse coastal sage scrub) primary foraging areas for raptors and loggerhead shrike. Raptors forage for small mammals which occur in the grasslands at varying densities."

Wildlife species observed during the 1995 RECON field surveys within non-native grassland habitat on the Newhall Ranch included the following:

Amphibians - California toad (*Bufo boreas halophilus*), Pacific treefrog

Reptiles - Side-blotched lizard, San Diego gopher snake, southern Pacific rattlesnake

Birds - White-tailed kite, northern harrier (*Circus cyaneus*), Cooper's hawk (*Accipiter cooperii*), red-shouldered hawk, red-tailed hawk, California quail, horned lark (*Eremophila alpestris*), tree swallow, violet-green swallow, northern rough-winged swallow, American crow, common raven, loggerhead shrike (*Lanius ludovicianus*), American robin, house finch, western meadowlark (*Sturnella neglecta*), lark sparrow, red-winged blackbird (*Agelaius phoeniceus*), Brewer's blackbird (*Euphagus cyanocephalus*), brown-headed cowbird, European starling

Mammals - Long-tailed weasel (*Mustela frenata*), coyote, mule deer, California ground squirrel, California vole (*Microtus californicus*), desert cottontail, San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)

Butterflies - Cabbage white, Becker's white, alfalfa, California ringlet, Comstock's fritillary, west coast lady, buckeye, western elfin (*Callophrys agustus iroides*), Gorgon copper, acmon blue, lupine blue, funereal duskywing, large white skipper

Mainland Cherry Forest (18 total acres on site, less than one percent of site coverage) -- This community type is not well described, but typically is composed of tall stands of hollyleaf cherry (*Prunus ilicifolia* ssp. *ilicifolia*) or Lyon cherry (*Prunus ilicifolia* ssp. *lyonii*) that reach the size of trees (up to 15 meters in height). The plant community is found on rocky, steep, dry, north-facing slopes of coastal mainland in southern California and the California Channel Islands. Lyon cherry is more common on the Channel Islands, while hollyleaf cherry is generally found on the mainland.

Large shrub/small tree specimens of hollyleaf cherry occur along the banks of the drainage and on lower canyon slopes of Long Canyon on the Newhall Ranch. Another stand of hollyleaf cherry occurs in Lion Canyon, especially in the upper portion. Hollyleaf cherry specimens at both locations are intermixed with coast live oak trees present in the canyon. Since the canopy of the hollyleaf cherry plants is not continuous, the vegetation at this site is not a characteristic example of mainland cherry forest. Rather, it is more of an open oak woodland containing a few large specimens of hollyleaf cherry. In addition, mainland cherry forest is present in association with alluvial scrub and Great Basin scrub communities. However, the presence of these large specimens of hollyleaf cherry coupled with the rarity of the community type on the mainland add importance to this vegetation type. Wildlife species expected to use this habitat type are similar to those listed under oak woodlands above.

Disturbed Areas (1,523 total acres on site, percent of site coverage) -- Areas of Newhall Ranch that have been cleared for roads, agricultural activities, fuel breaks, development (i.e., ranch houses, oil company facilities), or that have been extensively grazed are characterized as disturbed habitats. These disturbed areas either lack vegetation or are characterized by a dominance of primarily non-native weeds and grasses. Types of habitats categorized by Dames & Moore (1993) (**Appendix E**) under this habitat type on the property include ruderal vegetation, agriculture fields, disturbed areas (lack vegetation), and areas of ornamental plantings. On the site, disturbed areas occur in and near the Newhall Potrero Oilfield, Castaic Junction Oilfield, other oilfields scattered in Potrero Canyon, Long Canyon, and near the Magic Mountain Theme Park, and active and fallow agricultural fields adjacent to the Santa Clara River, Potrero Mesa, and Grape Vine Mesa.

Wildlife species observed during the 1995 RECON field surveys within disturbed habitat on the Newhall Ranch included the following:

Reptiles - San Diego horned lizard, side-blotched lizard, coastal western whiptail

Birds - Common barn owl, scrub jay, American crow, common raven, American robin, house finch, savanna sparrow (*Passerculus sandwichensis*), Brewer's blackbird, house sparrow (*Passer domesticus*)

Mammals - Common gray fox, mule deer, California ground squirrel, San Diego black-tailed jackrabbit, desert cottontail

Riparian Habitats and Wetlands -- Riparian habitats occur primarily along the Santa Clara River and tributaries, where they cover (in total) approximately 932 acres, about eight percent of the site. The majority of the descriptions of the riparian and wetland habitats are based on information contained in the biological resources report prepared for the Santa Clara River by RECON (1993). Some community descriptions were also taken from the Dames & Moore (1993) report (**Appendix E**). Information was supplemented with data from the 1995 surveys where it was appropriate.

Mule Fat Scrub (497 total acres on site, 4 percent of site coverage) -- Mule fat scrub is typically a mature riparian habitat dominated by mule fat shrubs (*Baccharis salicifolia*). Co-dominant plant species include narrow-leaved willow (*Salix exigua*), giant cane (*Arundo donax*), and some tamarisk (*Tamarix* sp.). This habitat type is found along the Santa Clara River on upper portions of the flood plain and on some levees on the Ranch property. Mule fat scrub also occurs in almost every major and minor drainage on the upland portions of the property.

A subclass of mule fat scrub was used to denote the development of this plant community along the active channel of the Santa Clara River. Successional mule fat scrub denotes a young, successional community dominated by young saplings of predominantly mule fat and narrow-leaved willow. This subclass is found within the low flow (active) channel of the Santa Clara River on sand bars where frequent scouring by floods prevents it from fully developing into mature mule fat scrub. Total acreage for the two subtypes of mule fat scrub on the Newhall Ranch property is approximately 497 acres, about 4 percent of the site. Acreage of mule fat scrub is estimated to be approximately 222 acres, and approximately 275 acres of successional mule fat scrub occur along the river corridor.

Dames & Moore (**Appendix E**) discuss mule fat scrub wildlife habitat values as follows:

> "Mule fat scrub which occurs on the upland portions of the West Ranch [Newhall Ranch project site] functions primarily as edge habitat, and is used principally as foraging habitat by birds. However, mule fat scrub is not very extensive and is considered suitable breeding habitat for a limited number of bird species. Raptors such as Cooper's hawk, and red-shouldered hawk, probably use mule fat scrub, as well as other riparian scrub and riparian woodland types, as foraging habitat. The arroyos and washes with mule fat scrub, including other riparian scrub and riparian woodland vegetation types, function as movement corridors for mule deer, coyote, and other mammals."

Wildlife species observed during the 1995 RECON field surveys within mule fat scrub habitat on the Newhall Ranch included the following:

Amphibians - Pacific treefrog, California toad

Reptiles - California horned lizard (*Phrynosoma coronatum frontale*), San Diego gopher snake, western fence lizard, side-blotched lizard

Birds - American kestrel, Cooper's hawk, red-shouldered hawk, mourning dove, great horned owl, black-chinned hummingbird, Costa's hummingbird (*Calypte costae*), Anna's hummingbird, Nuttall's woodpecker, western wood pewee, Pacific-slope flycatcher (*Empidonax difficilis*), black phoebe (*Sayornis nigricans semiatra*), bushtit, Bewick's wren, house wren, phainopepla, Wilson's warbler, Lazuli bunting, rufous-sided towhee, song sparrow, brown-headed cowbird, and European starling.

Mammals - Virginia opossum (*Didelphis virginiana*), common raccoon, coyote, common gray fox, mule deer, California pocket mouse, brush mouse, pinon mouse, deer mouse, dusky-footed woodrat, desert cottontail

Butterflies - Cabbage white, Becker's white, Sara orangetip, alfalfa, California ringlet, chalcedon checkerspot, Gabb's checkerspot, west coast lady, buckeye, Lorquin's admiral, California green hairstreak, acmon blue, lupine blue, mournful duskywing (*Erynnis tristis tristis*), funereal duskywing

Southern Willow Scrub (96 total acres on site, nearly 1 percent of site coverage) -- This riparian habitat community type is dominated by willow shrubs and small trees, such as arroyo willow (*Salix lasiolepis*), red willow (*Salix laevigata*), and narrow-leaved willow. Mule fat shrubs are often co-dominant with the willows. These thickets often lack a well-developed understory. Southern willow scrub is found along the Santa Clara River in areas of the flood plain and along the banks of the low-flow channel where frequent flood disturbance prevents the community from developing into a riparian woodland. The habitat is also found in the drainages within Potrero Canyon and Salt Creek Canyon. Included in the acreage estimates provided above are areas where grazing, clearing, or other factors have opened the willow scrub habitat, allowing either giant cane to invade or a herbaceous layer to develop in the openings.

Willow scrub provides habitat for a variety of small birds and foraging raptors. Nests and perch sites are available in this habitat type for birds and cover for small mammals. Wildlife species observed during the 1995 RECON field surveys within southern willow scrub habitat on the Newhall Ranch included the following:

Amphibians - Pacific treefrog, California toad

Reptiles - California horned lizard, San Diego gopher snake, western fence lizard, side-blotched lizard

Birds - American kestrel, mourning dove, great horned owl, black-chinned hummingbird, Costa's hummingbird, Anna's hummingbird, Nuttall's woodpecker, western wood pewee, Pacific-slope flycatcher, black phoebe, bushtit, Bewick's wren, house wren, phainopepla, Wilson's warbler, Lazuli bunting, rufous-sided towhee, song sparrow, brown-headed cowbird, European starling

Mammals - Virginia opossum, common raccoon, coyote, common gray fox, mule deer, California pocket mouse, brush mouse, pinon mouse, deer mouse, dusky-footed woodrat, desert cottontail

Butterflies - Cabbage white, Becker's white, Sara orangetip, alfalfa, California ringlet, chalcedon checkerspot, Gabb's checkerspot, west coast lady, buckeye, Lorquin's admiral, California green hairstreak, acmon blue, lupine blue, mournful duskywing, funereal duskywing

Southern Willow Riparian Woodland (126 total acres on site, 1 percent of site coverage) -- This woodland community represents a mature riparian habitat where a tall tree layer has developed. The community is dominated by trees of red willow and arroyo willow with occasional individuals of cottonwood (*Populus fremontii* and *P. balsamifera* ssp. *trichocarpa*). A shrub layer of mule fat, narrow-leaved willow, and shrubby arroyo willows occurs in the understory of the trees. Southern willow riparian woodland is found on the property along the upper banks, upper flood plain, and some terraces of the Santa Clara River.

Included in the above acreage total is southern willow riparian woodland areas where the understory has been opened up due to disturbance from grazing or brush clearing. Southern willow riparian woodland areas that have been grazed often have giant cane invading the understory.

Wildlife species observed during the 1995 RECON field surveys within southern willow riparian woodland habitat on the Newhall Ranch included the following:

Amphibians - Pacific treefrog, California toad, African clawed frog (*Xenopus laevis*)

Reptiles - Western fence lizard, side-blotched lizard, two-striped garter snake (*Thamnophis hammondii*)

Birds - Great blue heron (*Ardea herodias herodias*), great egret (*Casmerodius albus*), snowy egret (*Egretta thula thula*), green heron (*Butorides virescens*), black-crowned night heron (*Nycticorax nycticorax hoatli*), turkey vulture (*Cathartes aura*), white-tailed kite, Cooper's hawk, red-shouldered hawk, red-tailed hawk, American kestrel, California quail, killdeer (*Charadrius vociferus vociferus*), spotted sandpiper (*Actitus macularia*), mourning dove, greater roadrunner, common barn owl, great horned owl, white-throated swift, black-chinned hummingbird, Costa's hummingbird, Anna's hummingbird, acorn woodpecker, Nuttall's woodpecker, downy woodpecker, hairy woodpecker, northern flicker, western wood pewee, Pacific-slope flycatcher, black phoebe, vermilion flycatcher (*Pyrocephalus rubinus flammeus*), tree swallow, violet-green swallow, northern rough-winged swallow, cliff swallow, scrub jay, American crow, common raven, plain titmouse, white-breasted nuthatch, bushtit, Bewick's wren, northern mockingbird, California thrasher, western bluebird, American robin, wrentit, blue-gray gnatcatcher, American pipit (*Anthus rubescens*), phainopepla, loggerhead shrike, Hutton's vireo, least Bell's vireo, warbling vireo, orange-crowned warbler, Nashville warbler (*Vermivora ruficapilla ridgwayi*), yellow warbler (*Dendroica petechia*), yellow-rumped warbler, common yellowthroat (*Geothlypis trichas*), Wilson's warbler, yellow-breasted chat (*Icteria virens auricollis*), lesser goldfinch, Lawrence's goldfinch, purple finch (*Carpodacus purpureus californicus*), house finch, summer tanager (*Piranga rubra rubra*), black-headed grosbeak, blue grosbeak, Lazuli bunting, rufous-sided towhee, California towhee, savanna sparrow, song sparrow, white-crowned sparrow, red-winged blackbird, tricolored blackbird (*Agelaius tricolor*), Brewer's blackbird, brown-headed cowbird, hooded oriole, northern oriole, European starling

Mammals - Virginia opossum, common raccoon, coyote, mule deer, California pocket mouse, deer mouse, dusky-footed woodrat, desert cottontail

Butterflies - Cabbage white, Becker's white, Sara orangetip, alfalfa, California ringlet, chalcedon checkerspot, Gabb's checkerspot, west coast lady, buckeye, Lorquin's admiral, California green hairstreak, acmon blue, lupine blue, mournful duskywing, funereal duskywing

Southern Cottonwood-Willow Riparian Forest (93 total acres on site, nearly 1 percent of site coverage) – This community type is also a mature riparian woodland habitat where a substantial tree layer has developed. Cottonwood trees dominate the forest with large red willow trees as co-dominants. Smaller shrub and tree forms of arroyo willow along with mule fat and arrow weed (*Pluchea sericea*) shrubs are common in the understory. An occasional western sycamore (*Platanus racemosa*) and California bay (*Umbellularia californica*) also occur in this habitat. It is found on the Newhall Ranch along the upper banks, upper flood plain, and some terraces of the Santa Clara River.

Included in the acreage total above is southern cottonwood-willow riparian forest areas where the understory has been opened up due to disturbance from grazing or brush clearing. Giant cane has invaded the understory in some areas.

Wildlife species observed during the 1995 RECON field surveys within southern cottonwood-willow riparian forest habitat on the Newhall Ranch included the following:

Amphibians - Pacific treefrog, California toad, African clawed frog

Reptiles - Western fence lizard, side-blotched lizard, two-striped garter snake

Birds - Great blue heron, great egret, snowy egret, green heron, black-crowned night heron, turkey vulture, white-tailed kite, Cooper's hawk, red-shouldered hawk, red-tailed hawk, American kestrel, California quail, killdeer, spotted sandpiper, mourning dove, greater roadrunner, common barn owl, great horned owl, white-throated swift, black-chinned hummingbird, Costa's hummingbird, Anna's hummingbird, acorn woodpecker, Nuttall's woodpecker, downy woodpecker, hairy woodpecker, northern flicker, western wood pewee, Pacific-slope flycatcher, black phoebe, vermilion flycatcher, southwestern willow flycatcher, tree swallow, violet-green swallow, rough-winged swallow, cliff swallow, scrub jay, American crow, common raven, plain titmouse, white-breasted nuthatch, bushtit, Bewick's wren, northern mockingbird, California thrasher, western bluebird, American robin, wrentit, blue-gray gnatcatcher, American pipit, phainopepla, loggerhead shrike, Hutton's vireo, least Bell's vireo, warbling vireo, orange-crowned warbler, Nashville warbler, yellow warbler, yellow-rumped warbler, common yellowthroat, Wilson's warbler, yellow-breasted chat, lesser goldfinch, Lawrence's goldfinch, purple finch, house finch, summer tanager, black-headed grosbeak, blue grosbeak, Lazuli bunting, rufous-sided towhee, California towhee, savanna sparrow, song sparrow, white-crowned sparrow, red-winged blackbird, tricolored blackbird, Brewer's blackbird, brown-headed cowbird, hooded oriole, northern oriole, European starling

Mammals - Virginia opossum, common raccoon, coyote, mule deer, California pocket mouse, Pacific kangaroo rat (in open areas), deer mouse, dusky-footed woodrat, desert cottontail

Butterflies - Cabbage white, Becker's white, Sara orangetip, alfalfa, California ringlet, chalcedon checkerspot, Gabb's checkerspot, west coast lady, buckeye, Lorquin's admiral, California green hairstreak, acmon blue, lupine blue, mournful duskywing, funereal duskywing

Arrow Weed Scrub (16 total acres on site, less than one percent of site coverage) -- This shrub-dominated plant community is characterized by a nearly pure stand of arrow weed shrubs. Big saltbush (*Atriplex lentiformis*) and mule fat shrubs are often co-dominants in more open stands, especially along road cuts. Wet areas where this habitat has developed may also have some freshwater marsh species occurring with the arrow weed. On the Ranch, this plant community is located on the upper Santa Clara River flood plain and terraces at the edges of woodlands, forests, and along the manufactured slopes near SR-126. Wildlife using arrow weed scrub habitat are similar to those described for the mule fat scrub habitat.

Valley Freshwater Marsh and Ponds (5 total acres on site, less than one percent of site coverage) -- These two types of vegetation can be very similar, and as such they are considered together in this discussion. Freshwater marsh is a type of wetland habitat that occurs in areas which are inundated or saturated for prolonged periods of time and support plant species adapted to tolerate these wet conditions. These wet areas are typically dominated by broad-leaved cattail (*Typha latifolia*), species of bulrush (*Scirpus* spp.), species of sedge (*Carex* spp.), and species of rush (*Juncus* spp.). Freshwater marsh (approximately 4 acres, or about 0.4 percent) is found on the Ranch in portions of the Santa Clara River channel where water ponds and along small tributary streams/drainages in the woodlands on the flood plain. Freshwater marsh provides habitat for amphibians, aquatic reptiles, and birds, as well as a site for drinking water by wildlife species.

Constructed ponds on the Ranch can also be considered a type of freshwater marsh habitat when the banks of the pond are vegetated, for example, with cattails or bulrushes. The few ponds that occur on the Ranch appear to serve as flood control structures or water holes for cattle. The most prominent ponds on the Ranch are Via Pond in the high country of the Santa Susana Mountains and two large, seasonal ponds in Middle Potrero Canyon. Total acreage for pond habitat on the site is about 0.2 acres.

Wildlife species observed during the 1995 RECON field surveys within valley freshwater marsh and ponds habitat on the Newhall Ranch included the following:

Amphibians - Pacific treefrog, California toad, African clawed frog

Reptiles - Western fence lizard, side-blotched lizard, two-striped garter snake, southwestern pond turtle (*Clemmys marmorata pallida*)

Birds - Mallard, great blue heron, great egret, snowy egret, green heron, black-crowned night heron, cliff swallow, American robin, song sparrow, red-winged blackbird, tricolored blackbird, Brewer's blackbird, brown-headed cowbird

Mammals - Virginia opossum, common raccoon

Cottonwood/Oak Woodland (26 total acres on site, less than one percent of site coverage) – This habitat type is characterized by a mixture of coast live oak and cottonwood trees. The plant community is typically found as an interface between riparian and upland areas and, as such, cottonwood/oak woodland is located on the Ranch property on the higher terraces along the Santa Clara River and at the mouth of a canyon south of Airport Mesa near Magic Mountain. Wildlife species observed in this habitat type are similar to those described for the cottonwood/willow woodland habitat discussed above. Dames & Moore 1993 (**Appendix E**) described wildlife values for this habitat type as follows:

> "Cottonwood/oak woodland provides habitat for a variety of wildlife species because of the oak resource and because it functions as edge habitat. The vertical layering of cover provides a greater diversity of habitats for breeding birds. Among those known or expected to breed in this habitat type are American kestrel, acorn woodpecker, other woodpecker species, plain titmouse, and white-breasted nuthatch."

Alluvial Scrub (39 total acres on site, less than one percent of site coverage) -- Alluvial scrub habitat is characterized as a mixture of shrubs that colonize alluvial materials within intermittent creeks, arroyos, and the drier terraces within large washes. Alluvial scrub typically occurs adjacent to and intergrades with sage scrub communities on higher ground and riparian communities in the flood plains. These sandy-gravelly flood-deposited soils have a deeper permanent water table and flood infrequently, thus, they support a primarily upland plant association. Plant species observed in this habitat type on the Ranch include big sagebrush, scalebroom (*Lepidospartum squamatum*), blue elderberry, big saltbush (*Atriplex lentiformis*) and squaw bush (*Rhus trilobata*), with some areas having high densities of big sagebrush. The alluvial scrub association on the Ranch is in general

consistent with the description provided in Hanes, et al. (1989), differing slightly in species composition. In their 1989 publication, the authors describe three phases of alluvial scrub vegetation which are directly related to elapsed time since the last scouring flood event: pioneer, intermediate, and mature. Floristically, California buckwheat and scalebroom were the most important components of the alluvial scrub communities examined during the 1989 work, followed by white sage, California broom, and California sagebrush. Big sagebrush was not described as an important component of this community in the 1989 publication. Alluvial scrub is situated within the drier portions of the arroyos and washes located north of Potrero Canyon (i.e., Long Canyon, Lion Canyon, and unnamed washes below Airport Mesa and south of the Magic Mountain Theme Park). Wildlife species using this habitat type are similar to those discussed for Great Basin scrub, arrow weed scrub, and mule fat scrub.

Scalebroom Scrub (20 total acres on site, less than one percent of site coverage) -- Similar to alluvial scrub, scalebroom scrub (*Lepidospartum* scrub) is characterized by homogeneous stands of scalebroom that grow in arroyos and washes. Due to the sparse, nearly pure stands of scalebroom, wildlife use of this community type tends to be low, but similar to the other scrub habitat situated within drainages (i.e., alluvial scrub, Great Basin scrub). Therefore, wildlife species use of this habitat type are similar to those discussed above for Great Basin sage scrub, arrow weed scrub, and mule fat scrub.

Mesic Meadow (14 total acres on site, less than one percent of site coverage) -- Mesic meadows form in grassland areas where seeps, springs, or groundwater surfaces. In these areas, soils remain saturated most of the year. Plant species found in mesic meadows can tolerate the moist conditions for prolonged periods. Herbaceous species present include yerba mansa (*Anemopsis californica*), curly dock (*Rumex crispus*), spike rush (*Eleocharis* sp.), annual beard grass (*Polypogon monspeliensis*), rush (*Juncus* sp.), and saltgrass (*Distichlis spicata*). Mesic meadows on the Ranch are located within Potrero Creek, on an unnamed drainage at the east end of Middle Potrero Canyon, and in Via Canyon. This mesic meadow vegetation is similar to a cismontane form of the alkali seep vegetation type described in Holland (1986), with relatively minor differences in vegetation components. Mesic meadows provide habitat for insects, amphibians, and may provide a permanent source of water for wildlife. Wildlife species expected in the mesic meadow habitat would be similar to those described for freshwater marsh habitat.

Flora -- A total of 336 plant species were identified on the Newhall Ranch project site. Of this total 247 species (73.5 percent) are considered native to California and 89 species (26.5 percent) are considered introduced to California. The range in topographical and geographical relief on the Ranch supports a wide range of habitat types which, in turn, results in a high plant species diversity. Although large portions of the Newhall Ranch property are disturbed by past and present agricultural activities (e.g., cattle grazing, oil production, agriculture), areas occur on the site that are relatively undisturbed

(especially steep slopes, the upper reaches of some of the canyons, and portions of the high country) where native plant species are dominant. As expected, the majority of the non-native species that occur on the site are found in the grazed grasslands/shrublands and along the edges of the agricultural areas. Ungrazed areas that have not been disturbed by man-caused actions have the highest diversity of native plant species. A complete list of the plant species observed on the site during the 1995 surveys is provided in **Appendix G** of this Biota Report.

Fauna -- As previously described, general wildlife surveys on the Newhall Ranch property were conducted by Dames & Moore in 1992 (Dames & Moore 1993) and RECON in 1995. Other wildlife surveys focused on species specific studies generally along the Santa Clara River and included surveys for the least Bell's vireo (Guthrie 1988 through 1995) and fish populations (Baskin and Haglund 1992, 1993; Haglund 1992; and Haglund and Baskin 1995). The combined results of these surveys indicate that a total of 146 vertebrate wildlife species were observed or detected on the project site, including five fish, five amphibian, 12 reptile, 104 bird, and 20 mammal species. A review of the literature estimates that a total of 234 vertebrate wildlife species would be expected to substantially utilize habitat on the Newhall Ranch (inclusive of those already observed), including 5 fish, 8 amphibians, 21 reptiles, 153 birds and 47 mammals. A compilation of vertebrate wildlife species, including those species observed or detected and those not observed but expected to occur on the Ranch are provided in **Appendix H** of this Biota Report

A total of 33 species of butterfly was identified on the Ranch property. These butterflies were captured on various portions of the Ranch in a variety of habitats. Many were caught and identified while moving up and down drainages and small canyons, or flying over ridges. Some were caught near their preferred food plant. A list of all the butterfly species observed on Newhall Ranch is provided in **Table BIO-8 (Butterfly Species Observed)**.

The number and diversity of wildlife species, particularly birds, were highest in the riparian areas (i.e., woodlands and scrubs) of the Santa Clara River and its tributaries. Numbers and diversity of wildlife species were also relatively high in the oak woodlands/savanna (i.e., live oak woodland, valley oak woodland, valley oak savanna) and the brushland areas (e.g., coastal sage scrub, chaparral) on the site. Abundance and diversity of wildlife decreased in the grassland and disturbed areas. The diversity of butterfly species tended to be highest in the coastal sage scrub and oak woodland habitats, moderate in the alluvial scrub and riparian habitats, and lowest in the grassland and mixed chaparral areas.

Table BIO-8
Butterfly Species Observed

Scientific Name	Common Name	Month	Location	Habitat	Foodplant
Papilio rutulus rutulus	Western tiger swallowtail	A/M	UPC, ULC, GMC, MC	CSS, O, AS	sycamore, cottonwood, willows, alders
Pieris rapae	Cabbage white	A/M/J	UPC, ULC, SMM, LC, RC, SCR	CSS, O, G, R, AS	mustards
Pieris chloridice beckeri	Becker's white	A/M/J	SCR, OC, RC	CSS, O, G, R, AS	bladderpod
Pieris protodice	Common white	A/M/J	UPC, VC, RC	CSS, O	mustards
Pieris sisymbrii sisymbrii	California white	M	USC	AS	wild mustards
Anthocaris sara sara	Sara orangetip	A/M/J	UPC, ULC, VC, USC, RC	CSS, O, AS, MC, AS, R	mustards
Colias alexandra harfordii	Harford's sulfur	A/M/J	UPC, USC	CSS, O, AS	rattlepod
Colias eurytheme	Alfalfa	A/M/J	UPC, ULC, VC, RC, SCR, SMM	O, CSS, G, R	legumes
Danaus gilippus strigosus	Striated queen	J	ULC	CSS, MC	non-local milkweeds
Coenonympha tullia californica	California ringlet	A/M/J	UPC, ULC, SMM, VC, USC, RC, SCR, GC, VC	CSS, O, G, AS, MC, R	native bunch grasses
Argynnis callippe comstocki	Comstock's fritillary	J	HC	O, G	passion-vine
Euphydryas chacedona chalcedona	Chalcedon checkerspot	A/M/J	UPC, ULC, SCR, GMC, RC	CSS, O, R, AS	monkey-flower
Melitaea gabbii gabbii	Gabb's checkerspot	A/M/J	ULC, VC, RC, GC	CSS, O, R	perennial native asters
Vanessa cardui	Painted lady	A/M	UPC, ULC, SMM, VC, SMG	CSS, O, M, MC	various, especially thistles
Vanessa carye anabella	West coast lady	A/M	UPC, ULC, SMM, SCR	CSS, O, G, R, AS	mallows
Nymphalis antiopa antiopa	Mourning cloak	A/M	UPC, SMM, GMC	O, AS	willow and poplar
Precis coenia	Buckeye	M/J	ULC, SCR, RC	CSS, O, G, R, AS	*Plantago* spp.
Limnitis lorquini lorquini	Lorquin's admiral	J	SCR, RC	CSS, O, R, AS, MC	willows
Adelpha bredowii californica	California sister	AM/J	UPC, ULC, VC	CSS, O, AS, MC	oaks
Apodemia mormo virgulti	Behr's metalmark	A	UPC, ULC	CSS, MC	perennial buckwheats
Satyrium californicum	California hairstreak	M	USC	O	wild lilac and oak
Callophrys agustus iroides	Western elfin	M	SMM	G	various, especially dodder
Callophrys affinis perplexa	California green hairstreak	A	UPC, ULC	CSS, MC, R	deerweed and buckwheat
Lycaena arota nubila	Cloudy copper	J	UPC	O	wild gooseberry
Lycaena gorgon	Gorgon copper	M/J	SMM	CSS, G, AS	Eriogonum elongatum
Brephidium exilis	Pygmy blue	J	UPC, RC	CSS, O	saltbushes and relatives
Plebejus acmon acmon	Acmon blue	A/J	ULC, SMM, SCR, LC	CSS, G, R	Lotus and buckwheats
Plebejus lupini monticola	Lupine blue	A/M/J	ULC, SMM, VC, SCR, LC	CSS, O, G, R, AS	buckwheat
Celastrina argiolus echo	Echo blue	M	UPC	O	various perennials
Hylephila phyleus	Fiery skipper	J	ULC	CSS, MC	grasses

Table BIO-8 (con't.)
Butterfly Species Observed

Scientific Name	Common Name	Month	Location	Habitat	Foodplant
Erynnis tristis tristis	Mournful duskywing	A	SCR	R	live oak
Eryynnis zarucco funeralis	Funereal duskywing	A/J	ULC, SCR, RC LC	CSS, O, G, R	deerweed
Heliopetes ericetorum	Large white skipper	A/M/J	UPC, ULC, SMM, VC	CSS, O, G, AS, MC, AS	Malacothamnus faciculatus

LOCATION
UPC = Upper Potrero Canyon
ULC = Upper Lyon Canyon
SMM = South of Magic Mountain
LC = Long Canyon
GMC = Grapevine Mesa Canyon
VC = Via Canyon
SCR = Santa Clara River
SMG = San Martinez Grande Canyon
RC = Rawhide Canyon
USC = Upper Salt Creek

HABITAT
CSS = Coastal Sage Scrub
O = Oak Woodland (live oak woodland, valley oak woodland, and cottonwood-oak woodland)
G = Grassland
R = Riparian (riparian woodlands and scrubs)
AS = Alluvial Scrub (Great Basin scrub, scalebroom scrub, alluvial scrub)
MC = Mixed Chaparral

g. Description of Sensitive Species/Habitats

Plant and wildlife species that are classified as endangered or threatened, proposed for listing as endangered or threatened, or are candidate species for listing by federal and/or state resource agencies are considered sensitive. In addition, plants occurring on Lists 1 or 2 of the California Native Plant Society (CNPS) classification and wildlife considered species of special concern, special animals, or fully protected in the state of California are also considered sensitive. Plants that occur on the CNPS List 3 and 4 are included as sensitive species since these species are considered vulnerable and are being monitored. All wetland habitat is considered sensitive by the resource agencies. Other habitat types are classified as sensitive by the CDFG in the Natural Diversity Data Base (NDDB) and are discussed and described below. Maps illustrating the location of sensitive plants, animals, or habitats are provided in **Appendix N**.

In late February 1996, the U.S. Fish and Wildlife Service (USFWS) published an updated list of plant and animal taxa that it regards as candidates for possible addition to the List of Endangered and Threatened Wildlife and Plants under the Endangered Species Act of 1973, as amended (USFWS, 1996a). These candidate species are those for which USFWS has on file sufficient information on biological vulnerability and threats to support a proposed rule to list, but issuance of such a proposed rule is precluded. In general, the currently designated "candidate" species correspond with the

'Category 1' candidate species previously designated by USFWS. The USFWS no longer includes the former 'Category 2' species as candidates, but does acknowledge these previously designated species as federal "species of concern." In addition, it has been the policy of the CDFG to consider the previously designated Category 2 candidates as either California Species of Special Concern or as Special Animals.

(1) Plant Species

A total of 29 sensitive plant species have a potential for occurrence on the Newhall Ranch property. Only one of the 29 species was observed on the site, Peirson's morning-glory (*Calystegia peirsonii*) (Dames & Moore 1993; **Appendix E**). The remaining 28 species were considered to have varying probabilities of occurrence on the site based on their habitat requirements, their present and historic range, and the geographical location of the Ranch property. Species of plants that are either federal or state listed, candidates for listing, federal species of concern, or on List 1B, 2, 3 or 4 of the CNPS ranking (Skinner and Pavlik 1994) are discussed and described below. All sensitive plant species are included in **Table BIO-9 (Sensitive Plant Species with the Potential for Occurrence on the Newhall Ranch)**. California Native Plant Society definitions of sensitivity classifications are also provided in this table.

(a) Plant Species Observed

Peirson's Morning-glory (*Calystegia peirsonii*) – This plant is a CNPS List 4 species (plants of limited distribution - a watch list), and is a federal species of concern Taxa on List 4 are not considered to be severely threatened by CNPS, but the CNPS feels the plant's occurrence should be considered during the decision making process. The local USFWS office has supporting information gathered during the past several years which indicate that this plant is more widespread and abundant than previously believed (Rutherford, USFWS, personal communication, 1995).

This prostrate perennial herb occurs in chaparral, chenopod scrub, cismontane woodland, coastal sage scrub, and lower coniferous forest in Los Angeles County. It flowers from May to June. The species is threatened by grazing and habitat loss.

Table BIO-9
Sensitive Plant Species Observed or with the Potential for Occurrence on Newhall Ranch

Species	Status: Federal/State* CNPS List†	Habitat, Local Distribution, and Likelihood of Occurrence on the Ranch
Slender-horned spineflower *Dodecahema* (=*Centrostegia*) *leptoceras*	FE/CE 1B	Chaparral, coastal sage scrub of alluvial fans; Known occurrence in Santa Clara River drainage located approximately 10 miles east of site; Low potential.
California Orcutt grass *Orcuttia californica*	FE/CE 1B	Vernal pool habitat; Occurs both east and west of the site (within 8 miles); Low potential.
Lyon's pentachaeta *Pentachaeta lyonii*	FPE/CE 1B	Chaparral and valley foothill grassland; Highly restricted range; Low potential.
Nevin's barberry *Berberis (Mahonia) nevinii*	FPE/CE 1B	Chaparral, cismontane woodlands, coastal sage scrub, and riparian scrub, sandy or gravelly areas; Two populations in upper San Francisquito Canyon; Moderate potential.
Thread-leaved brodiaea *Brodiaea filifolia*	FPT/CE 1B	Coastal sage scrub, chaparral, grasslands, vernal pools, heavy clay soils; Low potential.
Santa Susana tarplant *Hemizonia minthornii*	FSC/CR 1B	Chaparral, coastal sage scrub, rocky areas; Santa Susana Mountains, Santa Monica Mountains, and Simi Hills; Low potential.
Braunton's milk vetch *Astragalus brauntonii*	FPE/- 1B	Chaparral, coastal sage scrub, grasslands, particularly after burns; Limestone soils; Current records from the vicinity of Thousand Oaks and Oak Park; Low potential.
Slender mariposa lily *Calochortus clavatus* var. *gracilis*	FSC 1B	Chaparral; Occurs in nearby San Gabriel Mountains; Low potential.
Plummer's mariposa lily *Calochortus plummerae*	FSC/- 1B	Chaparral, cismontane woodlands, coastal sage scrub, and valley foothill grassland; Granitic substrates; Low potential.
San Fernando Valley spineflower *Chorizanthe parryi* var. *fernandina*	FSC/- 1A	Coastal sage scrub, sandy places; Historic occurrence in the project area, but now presumed extinct; Low potential.
Dune larkspur *Delphinium parryi* ssp. *blochmaniae*	FSC/- 1B	Maritime chaparral and coastal dunes; Occurrence records from vicinity of Conejo Pass; Low potential.
Blochman's dudleya *Dudleya blochmaniae* ssp. *blochmaniae*	FSC/- 1B	Coastal bluff scrub, coastal sage scrub, clayey and serpentine substrates; Coastal mountains, San Luis Obispo County to San Diego County; Low potential.
Many-stemmed dudleya *Dudleya multicaulis*	FSC/- 1B	Chaparral, coastal sage scrub, grasslands, often on rocky outcrops and clay substrates; Known location east of Simi Valley; Low potential.
Palmer's grappling hook *Harpagonella palmeri*	FSC/- 2	Chaparral, coastal sage scrub, grassland, often clay substrate; Historic occurrences near Newhall, but believed extirpated at this location; Low potential.
Ocellated lily *Lilium humboldtii* ssp. *ocellatum*	FSC/- 4	Chaparral, cismontane woodlands, lower coniferous forest; Low potential.
Short-joint beavertail cactus *Opuntia basilaris* var. *brachyclada*	FSC/- 1B	Chaparral, pinyon-juniper woodland, desert communities; San Gabriel Mountains and San Bernardino Mountains; Low potential.
Heart-leaved thorn-mint *Acanthomintha obovata* ssp. *cordata*	-/- 4	Chaparral (openings), cismontane woodland; Low potential.
California androsace *Androsace elongata* ssp. *acuta*	-/- 4	Chaparral, cismontane woodland, coastal sage scrub; Low potential.
Plummer's baccharis *Baccharis plummerae* ssp. *plummerae*	-/- 4	Chaparral, cismontane woodland, coastal sage scrub, rocky; Low potential.

Table BIO-9 (cont.)
Sensitive Plant Species with the Potential for Occurrence on Newhall Ranch

Species	Status: Federal/State* CNPS List†	Habitat, Local Distribution, and Likelihood of Occurrence on the Ranch
Round-leaved boykinia *Boykinia rotundifolia*	-/- 4	Chaparral (mesic), riparian woodland, moist situations near streams,<2000 meters; Low potential.
Brewer's calandrinia *Calandrinia breweri*	-/- 4	Chaparral, coastal sage scrub, disturbed sites, burns; Low potential.
Catalina mariposa lily *Calochortus catalinae*	-/- 4	Chaparral, cismontane woodland, coastal sage scrub, valley and foothill grassland; Moderate potential.
Peirson's morning-glory *Calystegia peirsonii*	-/- 4	Sparse coastal sage scrub, chaparral, chenopod scrub, cismontane woodland, lower montane conifer forest; Known occurrences in Santa Clara River drainage; Observed.
Prostrate spineflower *Chorizanthe procumbens*	-/- 4	Chaparral, coastal sage scrub, valley and foothill grassland, gabbroic clay, granitic; Low potential.
Small-flowered morning-glory *Convolvulus simulans*	-/- 4	Coastal sage scrub, valley and foothill grassland, clay, serpentine seeps; Low potential.
Santa Barbara bedstraw *Galium cliftonsmithii*	-/- 4	Cismontane woodland; Low potential.
Southwestern spiny rush *Juncus acutus* ssp. *leopoldii*	-/- 4	Coastal dunes (mesic),meadows (alkaline seeps), coastal salt marsh, moist saline places, generally <300 meters; Moderate potential.
Small-flowered microseris *Microseris douglasii* var. *platycarpha*	-/- 4	Cismontane woodland, coastal sage scrub, valley and foothill grassland, clay; Low potential.
California spineflower *Mucronea californica*	-/- 4	Chaparral, cismontane woodland, coastal sage scrub, valley and foothill grassland, sandy; Low potential.
Slender nemacladus *Nemacladus gracilis*	-/- 4	Cismontane woodland, valley and foothill grassland; Low potential.
Pringle's (adobe) yampah *Perideridia pringlei*	-/- 4	Chaparral, cismontane woodland, coastal sage scrub, grassy slopes, serpentine outcrops; Low potential.

Table BIO-9 (cont.)
Sensitive Plant Species with the Potential for Occurrence on Newhall Ranch

*Status Codes:

FE	=	Listed as an endangered species by the U.S. Fish and Wildlife Service (USFWS).
FPE	=	Currently proposed for listing as an endangered species by USFWS; Review in process.
FPT	=	Currently proposed for listing as a threatened species by USFWS; Review in process.
FSC	=	Federal species of concern; These species represent the pool of species of concern from which future candidates may be chosen.
CE	=	A State of California endangered species as listed by the California Department of Fish and Game (CDFG); Data indicate the species is in serious danger of becoming extinct throughout all or a significant portion of its range.
CR	=	A State of California rare species as listed by CDFG; Data suggest that although not presently threatened with extinction, the species occurs in such small numbers throughout its range that it may become endangered if conditions worsen.

† California Native Plant Society (CNPS) List:

1A	=	CNPS designation for plant presumed extinct in California.
1B	=	CNPS designation for plants that are considered rare, threatened, or endangered in California and elsewhere.
2	=	CNPS designation for plants that are considered rare, threatened, or endangered in California, but more common elsewhere.
4	=	CNPS designation for plants that are of limited distribution and are being monitored for change in status (a watch list).

Peirson's morning-glory intergrades on the project site with a much more common and widespread species, chaparral morning-glory (*Calystegia macrostegia* ssp. *cyclostegia; C. m.* ssp. *intermedia*). These two subspecies of chaparral morning-glory are abundant on the site sprawling over shrubs in the coastal sage scrub and chaparral habitats, however, Dames & Moore 1993 (**Appendix E**) did not report the presence of chaparral morning-glory. The identification of Pierson's morning-glory can be difficult due to its similarities to other species of morning-glory. In addition, the reported distribution of Peirson's morning-glory is on rocky slopes at 1,000 - 1,500 m (approximately 3,000 - 4,500 feet) elevation in the northern San Gabriel Mountains and adjacent Mojave Desert (Hickman 1993). The majority of the Newhall Ranch site is below this elevation and west of these geographic locations. However, records reported to the California Natural Diversity Data Base (CNDDB 1995; **Appendix M**) in 1982 reported the species in San Francisquito Canyon at an elevation of 1,800 feet and in Bitter Canyon at 1,300 feet elevation. These elevations are within those of the Newhall Ranch property, especially the southern half of the site. In 1993, Dames & Moore (**Appendix E**) reported that Peirson's morning-glory was found on the Newhall Ranch property in sparse coastal sage scrub on steep slopes near Salt Creek Holding, West Fork of Salt Creek near the Ventura County line, Middle Potrero, Adobe Canyon, Red Rock Canyon, Lion Canyon, and Dead End Canyon. The species was relocated in Middle Potrero and Salt Creek canyons during the 1995 RECON surveys, and a new location was documented in a grassland area south of Six Flags Magic Mountain. Only a few individuals were observed at each of these sites in 1995. Approximately five individuals were observed in sparse coastal sage scrub in Middle Canyon, eight individuals in sparse coastal sage scrub in Salt Creek Canyon, and three individuals in the grassland south of Six Flags Magic Mountain.

Given the difficulty in identification of the species due to similarities to other morning-glory species, the abundant presence of other subspecies of chaparral morning-glory, and the fact that the site is west of the known range for this species, Peirson's morning-glory is considered to be uncommon on the site, occurring as small, scattered and localized populations. Based on the observations of Pierson's morning-glory made during the 1995 RECON surveys, it was estimated that the species occurs on approximately one percent of the sparse coastal sage scrub areas on the Ranch property (the grassland area near Six Flags Magic Mountain is developing into sparse coastal sage scrub). Thus, only about 29 acres of the 2,927 acres of sparse coastal sage scrub are likely to be occupied by this species.

(b) Sensitive Plants Not Observed, But Those That Have Potential for Occurrence

The following discussion of sensitive plants that have the potential for occurrence on the Newhall Ranch ranks the likelihood of occurrence based on background information for the species (e.g., distribution, habitat, elevation, known occurrences, etc.), observations of habitat made during previous biological surveys conducted by Dames & Moore and by RECON, and observations made in the field

during the 1995 RECON field surveys (e.g., disturbance level, presence of appropriate habitat and substrate, etc.). A high likelihood of occurrence indicates that conditions on the site are extremely favorable for this species to occur, even though it was not observed. A moderate likelihood for occurrence indicates that although the site is within the range of the species and appears to have proper habitat, local conditions of the habitats (i.e., disturbance level) or lack of proper substrate conditions on the site could preclude the occurrence of this species. A low likelihood of occurrence indicates that the site is lacking with respect to appropriate habitats, proper substrates, the site is marginal in relation to the range of the species, or the species is conspicuous and would have been observed if present (i.e., large perennials, shrubs, or a plant with showy flowers).

Slender-horned Spineflower (*Dodecahema leptoceras*) -- This plant is a federal and state listed endangered species (reference Table BIO-9). It is also considered a List 1B species by CNPS. It is a prostrate annual herb with small white to pink flowers which appear from April through June. It is found in sandy alluvium in coastal sage scrub and chaparral. Historically, this species ranged from Los Angeles through San Bernardino and Riverside counties. Many former occurrences have been lost to urbanization and the remaining localities are currently threatened by development, flood control, off-road vehicle activity, and a proposed reservoir. This species has been recorded in the Santa Clara River drainage approximately 10 miles east of Newhall Ranch. Slender-horned spineflower was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. Because of its rarity and range, the likelihood of occurrence for this plant species on the Newhall Ranch site is considered to be low.

California Orcutt Grass (*Orcuttia californica*) – This plant is a federal and state listed endangered species (reference Table BIO-9) which is also considered a List 1B species by CNPS. This grass is found in vernal pool habitats in southern California and northern Baja California, where it is known from fewer than 20 occurrences. The species flowers from April to August after the water in the pools has evaporated. This species is threatened by agriculture, development, non-native plants, grazing, and vehicles. California Orcutt grass has recently been described from Ventura County in Moorpark (Impact Sciences, in house files). In addition, it is also known from within eight miles east of Newhall Ranch. This species was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. Given the lack of vernal pools or vernal pool-like conditions on the Newhall Ranch site, the likelihood of occurrence for this plant species on the site is considered to be low.

Lyon's Pentachaeta (*Pentachaeta lyonii*) -- This plant is proposed for federal listing as endangered, is listed by the state of California as endangered, and is considered a List 1B species by CNPS (reference Table BIO-9). This annual herb flowers from March to August and is found in chaparral and valley-

foothill grassland. The species is found in Los Angeles and Ventura counties and is threatened by development and recreational activities. Lyon's pentachaeta was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. The likelihood of occurrence on-site is considered to be low since this species is more typically found in coastal sagebrush and grassland ecotones nearer the coast.

Nevin's Barberry (*Berberis nevinii*) -- This plant is proposed for federal listing as endangered, is listed as endangered by the state of California, and is considered a List 1B species by CNPS (reference Table BIO-9). It is a perennial evergreen shrub with stiff branched stems and spine-tipped leaves. The flowering period for this shrub is from March to April. This species is typically found in sandy and gravelly places in chaparral, cismontane woodlands, coastal sage scrub, and riparian scrub habitats. Its known distribution includes locations in Los Angeles, Riverside, San Bernardino, and San Diego counties. Two populations are known from San Francisquito Canyon (CNDDB 1995; **Appendix M**). Many historical occurrences have been extirpated and remaining populations are threatened by development and road maintenance. This species was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. The likelihood of occurrence on the site is considered moderate as suitable habitat for this plant occurs along the river.

Thread-leaved Brodiaea (*Brodiaea filifolia*) -- This plant is listed by the state as threatened. It is also proposed for federal listing as threatened, and is considered a List 1B species by CNPS. This spring flowering perennial herb typically grows in heavy clay soils of coastal sage scrub and chaparral vegetation, and also occurs in grasslands and in association with vernal pools. This species was re-discovered in Los Angeles County in the early 1990's. Thread-leaved brodiaea was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. Given the lack of substantial areas of clay soils, the likelihood of occurrence of this species on-site is considered low.

Santa Susana Tarplant (*Hemizonia minthornii*) -- This plant is listed by the state of California as rare. It is also a federal species of concern, and is considered a List 1B species by CNPS. This shrubby plant with sticky fragrant leaves, flowers from July to November. It is found in rocky chaparral and coastal sage scrub habitats in both Ventura and Los Angeles County. The species is threatened by development. Twelve records for Santa Susana tarplant occur in the 1995 CNDDB in the immediate vicinity of the Newhall Ranch project site (**Appendix M**). All of these recorded locations are south of the project site either on the south side of the Santa Susana Mountains, or in the vicinity of the Simi Hills. Although no observations of this plant were noted during past surveys on the site, species specific surveys were conducted for this plant on the Newhall Ranch site on August 1, 2, and 3, 1995 due

to the presence of appropriate habitat. Appropriate habitat in the upper elevations of the Santa Susana Mountains, as well as other potential areas on the site were surveyed for the presence of this species by RECON in 1995. No individuals of Santa Susana tarplant were observed on the Newhall property. Because the plant would have been observed if present on the Newhall Ranch property, the likelihood of occurrence of this species on the Newhall Ranch site is considered to be low.

Braunton's Milk Vetch (*Astragalus brauntonii*) – This plant is proposed for federal listing as endangered and is considered a List 1B species by CNPS. It is a stout perennial herb with densely hairy white leaves. This species which flowers from March to July, can be found on limestone substrates in chaparral, coastal sage scrub, and grasslands habitats, especially after fires or other disturbance. The species is known from fewer than 10 occurrences in Los Angeles, Orange, and Ventura counties. It is threatened by development and alteration of local fire regimes. Braunton's milk vetch was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. Given the lack of appropriate substrate (i.e., limestone), the likelihood of occurrence on the site is considered to be low.

Slender Mariposa Lily (*Calochortus clavatus* var. *gracilis*) – This plant is a federal species of concern, and is considered a List 1B species by CNPS. This bulbiferous perennial herb occurs in chaparral habitats in the nearby San Gabriel Mountains. It flowers in March. The species is threatened by development throughout its range. A variety of slender mariposa lily (*Calochortus clavatus* var. *pallidus*) was observed on the site. However, slender mariposa lily was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. Because the plant would have been observed if present on-site, the likelihood of occurrence of this plant on the site is considered to be low.

Plummer's Mariposa Lily (*Calochortus plummerae*) -- This plant is a federal species of concern, and is considered a List 1B species by CNPS. This bulbiferous perennial herb occurs in a variety of habitats with granitic substrates including chaparral, cismontane woodland, coastal sage scrub, and valley-foothill grassland. The species flowers from May to July and its range encompasses the following counties: Los Angeles, Riverside, San Bernardino, and Ventura. This species has been significantly reduced by development and continues to decline. Plummer's mariposa lily was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. Because the plant would have been observed if present on-site, the likelihood of occurrence of this plant on the Newhall Ranch site is considered to be low.

San Fernando Valley Spineflower (*Chorizanthe parryi* var. *fernandina*) -- This plant is a federal species of concern, and is considered a List 1A species by CNPS, which means it is presumed extinct in California. This small plant was known to flower from April to June and was found in sandy coastal sage scrub habitats. Originally, this species ranged from Los Angeles, through Orange to San Diego counties, but all known occurrences have been heavily urbanized. Given historic records and suitability of habitat present, the greatest chance for re-discovery of the species is considered to be in northwestern Los Angeles County. San Fernando Valley spineflower was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site; however, two other species of *Chorizanthe* do occur on the site. Given the extreme rarity of this species, the likelihood of occurrence of this taxon on the Newhall Ranch site is considered to be low.

Dune Larkspur (*Delphinium parryi* ssp. *blochmaniae*) -- This plant is a federal species of concern, and is considered a List 1B species by CNPS. This perennial herb produces showy spikes of purple flowers from April to May. Typically the species grows in maritime chaparral and coastal dunes. It ranges from San Luis Obispo through Santa Barbara to Ventura counties with the nearest known location being in the vicinity of Conejo Pass. The species is threatened by development. Dune larkspur was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. Given the lack of appropriate habitat, the likelihood of occurrence of this taxon on the Newhall Ranch site is considered to be low.

Blochman's Dudleya (*Dudleya blochmaniae* ssp. *blochmaniae*) -- This plant is a federal species of concern, and is considered a List 1B species by CNPS. This small succulent perennial occurs on coastal bluffs and rock outcrops usually in clay soils. Blochman's dudleya produces small white flowers from April to June. It ranges from central California to northern Baja California. The species is threatened by development throughout its range. Blochman's dudleya was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. Given the lack of rock outcrops in clay soils and distance from the coast, the likelihood of occurrence of this taxon on the Newhall site is considered to be low.

Many-stemmed Dudleya (*Dudleya multicaulis*) -- This plant is a federal species of concern, and is considered a List 1B species by CNPS. This small succulent perennial herb produces yellow flowers from April to June. This species often grows in clay soils around rock outcrops in chaparral, coastal sage scrub, and valley-foothill grasslands. It ranges through Los Angeles, San Bernardino, Orange, and Riverside counties to northern San Diego County. Known locations near the project site include areas east of Simi Valley. Threats to this species include the loss of habitat from development, road construction,

grazing, and recreation. Many-stemmed dudleya was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. Given the lack of significant areas of rock outcrops in clay soils, the likelihood of occurrence of this species on the Newhall Ranch site is considered to be low.

Palmer's Grapplinghook (*Harpagonella palmeri*) -- This small plant is a federal species of concern, and is considered a List 2 species by CNPS. A CNPS List 2 species is one that is rare, threatened, or endangered in California but is more common elsewhere. This species ranges from Los Angeles and Riverside counties southward to Baja California and Sonora, Mexico. This herbaceous annual produces small white flowers from March to April. It is found growing on clay soils in chaparral, coastal sage scrub, and valley-foothill grasslands. It has been found within a few miles of the project site. Palmer's grapplinghook was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. Given the lack of significant areas of clay soils, the likelihood of occurrence of this species on-site is considered low.

Ocellated Lily (*Lilium humboldtii* ssp. *ocellatum*) -- This plant is a federal species of concern, and is considered a List 4 species by CNPS. This bulbiferous perennial herb is found in chaparral, cismontane woodland, and lower coniferous forest in southern California. It flowers from April through July. This lily is threatened by development and horticultural collecting. This taxon was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. Since the taxon is most commonly found in yellow pine forest and oak canyons and the plant would have been observed if present, the likelihood of occurrence on-site is considered low.

Short-joint Beavertail Cactus (*Opuntia basilaris* var. *brachyclada*) – This plant is a federal species of concern, and is considered a List 1B species by CNPS. This stem succulent of the cactus family flowers from April to June. It occurs in the desert slopes of the San Gabriel and San Bernardino Mountains in chaparral, pinyon-juniper woodland, and desert plant communities. Occurrences for this species have been recorded in Quigley Canyon east and north of Newhall (CNDDB 1995; **Appendix M**). These locations are east of the Newhall Ranch project site. This taxon is threatened by urbanization, mining, horticultural collecting, grazing, and vehicles. Short-jointed beavertail cactus was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. As this taxon is typically found on more desert slopes, the likelihood of occurrence on the Newhall Ranch site is considered low.

Heart-leaved Thorn-mint (*Acanthomintha obovata* ssp. *cordata*) -- This annual herb is endemic to California occurring in chaparral openings, cismontane woodland, pinyon and juniper woodland, and valley and foothill grassland habitats. The species occurs from the central and southern South Coast Ranges to the western and central Transverse Range (San Luis Obispo to Ventura counties), and is considered a List 4 species by CNPS. It produces white with purple tipped flowers from April to July. This species is threatened by off road vehicle use and grazing. Heart-leaved thorn-mint was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. Given that the main distribution of this taxon is to the north and east of the project site, the likelihood of occurrence of this variety of thorn-mint on-site is considered to be low.

California Androsace (*Androsace elongata* ssp. *acuta*) -- This annual herb is highly localized and often overlooked in its range which is from the San Joaquin Valley south to Baja California, and is considered a List 4 species by CNPS. It occurs in chaparral, cismontane woodland, and coastal scrub habitats. This species produces white flowers from March to June and is considered rare in southern California. California androsace was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. Given the rarity of this plant, the fact that the plant is conspicuous and would have been observed if present, and the level of disturbance to the grasslands on the site from cattle grazing, the likelihood of occurrence of this taxon on the Newhall Ranch site is considered low.

Plummer's Baccharis (*Baccharis plummerae* ssp. *plummerae*) -- This deciduous shrub blooms August to October. It occurs in chaparral, cismontane woodland, and coastal scrub or rocky habitats of the central coast, outer South Coast Ranges, south coastal areas, and the Western Transverse Ranges, and is considered a List 4 species by CNPS. This taxon was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. Since this plant (a shrub) would have been easily observed if present on the site, the likelihood of occurrence of this shrub on the Newhall Ranch is considered low.

Round-leaved Boykinia (*Boykinia rotundifolia*) -- This perennial herb, endemic to California, blooms June to July. It occurs in mesic chaparral and riparian woodland habitats of the outer South Coast Ranges, Transverse Range and Peninsular Range, and is considered a List 4 species by CNPS. Round-leaved boykinia was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. Although the plant was not observed, the amount of streambank and riparian woodland habitat present along the Santa Clara River provides sufficient habitat for this species. Therefore, the likelihood of occurrence on-site is considered moderate.

Brewer's Calandrinia (*Calandrinia breweri*) – This annual herb is rare yet widely scattered throughout its range (North Coast Ranges, south to Baja California), and is considered a List 4 species by CNPS. It produces red flowers from March to June and occurs in chaparral, and disturbed burned areas of coastal scrub. Brewer's calandrinia was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site, however, a related species, red maids (*Calindrinia ciliata*) was found on the site. Because this plant is conspicuous and would have been easily observed if present, the potential for occurrence of Brewer's calandrinia on the Newhall Ranch is considered low.

Catalina Mariposa Lily (*Calochortus catalinae*) – This bulbiferous perennial herb produces bowl-shaped white flowers tinged with lilac and purple spots from February to May. It is endemic to California occurring in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland habitats within the southern central coast areas to the western south coastal areas, and is considered a List 4 species by CNPS. This lily is threatened by development. Catalina mariposa lily was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. However, other species of *Calochortus* were observed. Since the species is conspicuous and would have easily been observed during the 1995 survey period, the potential for occurrence of this species on the Newhall Ranch site is considered low to moderate.

Prostrate Spineflower (*Chorizanthe procumbens*) – This annual herb flowers from April to June. It is widely scattered throughout its range which is from the central and southern south coastal areas, the southern Transverse Range, south to the western Peninsular Range and Baja California, Mexico, and is considered a List 4 species by CNPS. It occurs in chaparral, coastal scrub habitats, and valley and foothill grasslands of gabbroic clay or granitic substrates. This species is threatened by non-native grasses, and much of its habitat has already been lost to development. Although two other species of *Chorizanthe* were found on the site, prostrate spineflower was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. Given the lack of appropriate substrates (i.e., gabbroic clay or granitic substrates), the likelihood of occurrence of this species on the Newhall Ranch site is considered low.

Small-flowered Morning-glory (*Convolvulus simulans*) – This annual herb produces small bell-shaped pink or blue flowers from March to June. It is rare in southern California, but widely distributed throughout the San Joaquin Valley to the north, and is considered a List 4 species by CNPS. This species occurs in coastal scrub habitats, and valley and foothill grasslands on wet clay and serpentine

ridges. Small-flowered morning-glory was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. Given the more northern distribution of the species and lack of appropriate substrate (i.e., clay and serpentine), the likelihood of occurrence of this species on-site is considered low.

Santa Barbara Bedstraw (*Galium cliftonsmithii*) -- This climbing perennial herb produces clusters of yellow flowers from May to July. It is endemic to California, occurring in cismontane woodland habitats of the outer South Coast Range and Western Transverse Range, and is considered a List 4 species by CNPS. Three other species of *Galium* were found on the site; however, Santa Barbara bedstraw was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. Since the species is conspicuous and would have easily been observed during the 1995 survey period, the potential for occurrence of this species on the Newhall Ranch site is considered low.

Southwestern Spiny Rush (*Juncus acutus* ssp. *leopoldii*) -- This perennial rhizomatous herb produces spherical red-brown flowers from May to June. It occurs in meadows of alkaline seeps, mesic coastal dunes, and coastal salt marsh and swamp habitats from the central coastal areas to the south coastal areas and into the Sonoran desert, and is considered a List 4 species by CNPS. This taxon is threatened by urbanization and flood control activities. Southwestern spiny rush was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. Since this plant is conspicuous and would have easily been observed during the 1995 survey period, the potential for occurrence of this taxon on the Newhall Ranch site is considered low to moderate.

Small-flowered Microseris (*Microseris douglasii* ssp. *platycarpha*) -- This annual herb produces small yellow flowers from March to May. It occurs in cismontane woodland, coastal scrub, valley and foothill grasslands of clay, and often near vernal pools. The species occurs from the central and southern south coastal areas to Baja California, Mexico, and is considered a List 4 species by CNPS. It is threatened by habitat loss of grasslands. Small-flowered microseris was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. Given the lack of significant clay soils and vernal pool-like conditions, the likelihood of occurrence of this taxon on-site is considered low.

California Spineflower (*Mucronea californica*) -- This annual herb produces solitary pinkish flowers from March to August. It occurs in chaparral, cismontane woodland, coastal scrub, coastal dunes, and sandy valley and foothill grasslands from western central California to southwestern California, and is considered a List 4 species by CNPS. This species is threatened by aggregate mining, off road

vehicles, flood control modification activities, and water percolation projects. California spineflower was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. Because this plant is most commonly found closer to the coast, the likelihood of occurrence of this species occurring on the Newhall Ranch site is considered low.

Slender Nemacladus (*Nemacladus gracilis*) – This annual herb produces white flowers with lavender veins from March to May. It occurs on rocky slopes and sandy washes of cismontane woodland, and valley and foothill grasslands of the Tehachapi Mountains, San Joaquin Valley (southwest Merced County), southern outer South Coast Range, western Transverse Range, and western Mojave Desert, and is considered a List 4 species by CNPS. Slender nemacladus was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. Because this plant is more likely to be found on the desert side of the above-mentioned mountain ranges to the east of the Ranch, the likelihood of this member of the bellflower family occurring on-site is considered low.

Pringle's Yampah (*Perideridia pringlei*) – This species has no state listing, but has a C3c federal listing which means that this plant is too widespread and/or not threatened (reference Table BIO-9). It is considered a List 4 species by CNPS. This perennial herb is widely distributed throughout its range (Tehachapi Mountains, south Coast Range, and western Transverse Range), flowering from April to July. It occurs in chaparral, cismontane woodland, coastal scrub, and grassy slopes of serpentine outcrops. Pringle's yampah was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. Given the lack of the appropriate substrate (i.e., serpentine outcrops), the likelihood of occurrence of this species on-site is considered low.

(2) Wildlife Species

A number of sensitive wildlife species occur on the Newhall Ranch property. These sensitive animals are listed in **Table BIO-10 (Sensitive Wildlife Species Observed or Detected on the Newhall Ranch Property)**. In addition to those sensitive species that were observed on site, there are several wildlife species that were not directly observed, but have the potential for occurrence on the property based on habitat preference and/or the geographical location of the project in relation to the known range of the animal. Sensitive wildlife species observed and expected to occur on the project site are discussed separately below.

Table BIO-10
Sensitive Wildlife Species Observed or Detected on Newhall Ranch

Species	Status	Habitat	Location Observed	Noted Abundance
Unarmored threespine stickleback[1] *Gasterosteus aculeatus williamsoni*	FE, CE	SCR	Observed in the Santa Clara River in 1993 at Castaic Junction, and in 1995.	Rare
Arroyo chub[5,6] *Gila orcutti*	FSC, CSC	SCR	Observed in 1992, 1993, and 1995 at several areas in the Santa Clara River.	Common
Santa Ana sucker[2] *Catostomus santaanae*	FSC, CSC	SCR	Observed in the Santa Clara River in 1992 at Alfalfa and Humble Crossings.	Uncommon
Western spadefoot toad *Scaphiopus (= Spea) hammondii*	FSC, CSC	P, GBS	Tadpoles in Potrero Canyon Pond and Via Pond (4); Single adult observed in Salt Creek Canyon.	Uncommon
Southwestern pond turtle *Clemmys marmorata pallida*	FSC, CSC	SCR	Observed in the Santa Clara River in 1992 and 1995.	Uncommon
California horned lizard*[2] *Phrynosoma coronatum frontale*	FSC, CSC	RS/AS	One individual noted (4) during 1992 surveys; Specific identification of these species on-site is debatable; Four horned lizards were observed or detected by scat in various areas of the Ranch in 1995.	Uncommon
San Diego horned lizard* *Phrynosoma coronatum blainvillii*	FSC, CSC	CH,DI,CSS		
Coastal western whiptail *Cnemidophorus tigris multiscutatus*	FSC	DI,CSS, CH, GBS	Observed in several widely scattered areas with coastal sage scrub and chaparral vegetation.	Few noted, believed to be relatively common
Two-striped garter snake[4] *Thamnophis hammondii*	FSC,*	P,CW	Three observed by Dames & Moore in 1992: two at Via Pond, one at Salt Creek.	Three recorded observations, believed to be relatively common
Great blue heron *Ardea herodias herodias*	* (rookery)	RC	Observed in the Santa Clara River corridor.	Few noted, believed to be relatively common
Great egret *Casmerodius albus*	* (rookery)	RC	Observed in the Santa Clara River corridor	Few noted, believed to be relatively common
Snowy egret *Egretta thula thula*	* (rookery)	RC	Observed in the Santa Clara River corridor	Few noted, believed to be relatively common
Black-crowned night heron *Nycticorax nycticorax hoactli*	* (rookery)	RC	Observed in the Santa Clara River corridor	Uncommon
White-tailed kite4 *Elanus leucurus*	CFP	CSS, OW/S,G, CW,RC	Individual observed (4) in grassland and riparian areas on-site; A nesting pair in woodland north of Santa Clara River near the confluence with Castaic Creek.	Uncommon
Northern harrier *Circus cyaneus*	CSC	G	Single northern harrier observed over grassland near Potrero Canyon Pond.	Uncommon

Table BIO-10 (cont.)
Sensitive Wildlife Species Observed or Detected on Newhall Ranch

Species	Status	Habitat	Location Observed	Noted Abundance
Cooper's hawk *Accipiter cooperii*	CSC	CW,G,RC	Single observation near Dead End Canyon and San Jose Flat (4); Observed in 1995 at Long Canyon where it meets Santa Clara River and Potrero Canyon.	Uncommon
Southwestern willow flycatcher[3] *Empidonax traillii extimus*	FE, CE,	RC	One individual observed along the Santa Clara River in 1993 between Castaic Creek and Ventura County line (3).	Rare
Vermilion flycatcher *Pyrocephalus rubinus flammeus*	CSC	RC	Single individual observed in 1993 along Santa Clara River (3).	Rare
California horned lark *Eremophila alpestris actia*	CSC	G	Observed in grasslands near Salt Creek, and in grasslands located outside of project site boundary, due south of Magic Mountain Park	Few noted, believed to be relatively common
Loggerhead shrike *Lanius ludovicianus*	CSC	CSS,CH,G, R,OP,RC	Dames & Moore considered this species "relatively common" at edges of grassland and scrub (4); Observed in Santa Susana Mountains, and Potrero and Salt Creek canyons during 1995.	Few noted, believed to be relatively common
Least Bell's vireo[3] *Vireo bellii pusillus*	FE, CE	RC	One individual observed in 1993 on the Santa Clara River near the Ventura County line (3); Other vireos observed in 1994 and 1995 along Castaic Creek north of the Ranch.	Uncommon
Yellow warbler *Dendroica petechia*	CSC (nesting)	RC	As many as eight individuals observed in 1993 along the Santa Clara River between Castaic Creek and the Ventura County line (3); Also observed in similar numbers in 1994 and 1995.	Uncommon
Yellow-breasted chat *Icteria virens auricollis*	CSC (nesting)	RC	Two individuals observed along the Santa Clara River between Castaic Creek and the Ventura County line in 1993 (3); Also observed in 1994 and 1995.	Uncommon
Summer tanager *Piranga rubra rubra*	CSC	RC	Single individual observed along the Santa Clara River in 1993 (3).	Rare
Southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	FSC, CSC	CSS,CH	Observed in several widely scattered areas of coastal sage scrub and chaparral vegetation on the Ranch.	Few noted, believed to be relatively common
Tricolored blackbird[4] *Agelaius tricolor*	FSC, CSC	G	"Flocks" reported (4) within grassland near mouth of Potrero Canyon.	Locally common
Mountain lion *Felis concolor*	CFP	OW/S, CH,DI	A paw print was observed just offsite in Via Pond area of the High Country.	Uncommon
San Diego desert woodrat *Neotoma lepida intermedia*	FSC, CSC	CSS,CH	Two trapped in hills immediately west of Magic Mountain Park.	Few noted, believed to be relatively common
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	FSC, CSC	DI	Observed at mouth of Potrero Canyon.	Few noted, believed to be common

Table BIO-10 (cont.)
Sensitive Wildlife Species Observed or Detected on Newhall Ranch

CH = Chaparral (includes chamise and mixed chaparral)
CW = Cottonwood-willow riparian forest
CSS = Coastal sage scrub
DI = Disturbed
G = Grassland
GBS = Great Basin scrub
OP = Ornamental planting
OW/S = Oak woodland/savanna (includes coast live oak woodland, valley oak woodland, valley oak savanna, and cottonwood/oak woodland)
P = Pond
R = Ruderal
RC = River corridor (includes woodland and scrubs of the Santa Clara River)
RS/AS = Riparian scrub/alluvial scrub
SCR = Santa Clara River, aquatic areas

1 Baskin and Haglund 1993
2 Baskin and Haglund 1992
3 Guthrie 1993
4 Dames & Moore 1993
5 Haglund 1992
6 Haglund and Baskin 1993

FE = Listed as endangered by the federal government
CE = Listed as endangered by the state of California
FSC = Federal species of concern
CSC = California Department of Fish and Game species of special concern
CFP = California fully protected species

* Taxa listed with an asterisk fall into one or more of the following:
Taxa considered endangered or rare under Section 15380(d) of CEQA guidelines
Taxa that are biologically rare, very restricted in distribution, or declining throughout their range
Population(s) in California that may be peripheral to the major portion of a taxon's range, but which are threatened with extirpation within California
Taxa closely associated with a habitat that is declining in California at an alarming rate

(a) Observed or Detected

Three federally listed species have been observed along the reach of the Santa Clara River within the project site. The three animal species are unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*), least Bell's vireo (*Vireo bellii pusillus*), and southwestern willow flycatcher (*Empidonax traillii extimus*). Wildlife species classified as federal species of concern that have been observed on the Newhall Ranch property include arroyo chub (*Gila orcutti*), Santa Ana sucker (*Catostomus santaanae*), western spadefoot toad (*Scaphiopus hammondii*), southwestern pond turtle (*Clemmys marmorata pallida*), coastal western whiptail (*Cnemidophorus tigris multiscutatus*), San Diego horned lizard (*Phrynosoma coronatum blainvillii*), California horned lizard (*Phrynosoma coronatum frontale*), two-striped garter snake (*Thamnophis hammondii*), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), tricolored blackbird (*Agelaius tricolor*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), and San Diego desert woodrat (*Neotoma lepida intermedia*). Other sensitive species observed or detected on the site are also discussed below.

Unarmored Threespine Stickleback -- Ecology: The unarmored threespine stickleback is listed as an endangered species by both the state of California and the federal government (reference **Table BIO-10**). This small freshwater fish is usually less than three inches in length and has three sharp spines on the back in front of the dorsal fin (Moyle 1976). It lacks lateral bony plates, which is a weak distinguishing character from another more common subspecies of threespine stickleback found in southern California (*Gasterosteus aculeatus microcephalus*), the latter having lateral plates on the anterior portion of the body. The unarmored threespine stickleback is also distinguished from the other subspecies by shorter, weaker spines and more rounded pectoral and caudal fins. Freshwater sticklebacks are typically olive to dark green above and on sides with an underside that is white to golden. Breeding males often turn red below and have blue along the sides.

The unarmored threespine stickleback is a quiet water fish occurring in weedy pools and backwaters or among emergent plants along the edges of streams where the water stays below 23-24 degrees centigrade. They prefer bottoms of sand or mud. Except during breeding, they tend to form loose schools. This stickleback feeds primarily on bottom organisms or organisms living on aquatic plants (Moyle 1976). They are visual feeders and thus are not found in turbid waters.

The small size and shallow-water habits of sticklebacks make them ideal prey for avian predators (e.g., herons). Larger fish species may also prey on sticklebacks when present.

Breeding usually occurs between April and July as daylight increases and waters begin to warm. The males assume their breeding colors and break away from the schools to set up breeding territories among the aquatic plants. A shallow pit is excavated and piled high with plant debris stuck together with a secretion from the kidney. A small tunnel is created in the plant mass in which the female enters the nest to lay her eggs. The male fertilizes the eggs, chases the female away, and guards the eggs and young. The young fry eventually form schools with other fry of similar size.

Past and Current Distribution: Historically, it is believed that the unarmored threespine stickleback occurred in the Santa Clara River, Los Angeles River, San Gabriel River, and Santa Ana River drainages (Girard 1854; Regan 1909; and Jordan and Hubbs 1925; as cited in Haglund 1989). The once abundant Los Angeles Basin populations appear to have been extirpated by the mid-1940s. The unarmored threespine stickleback is now restricted to the upper Santa Clara River. The USFWS listed the species as endangered in 1970 and critical habitat was proposed in 1980.

Three zones were proposed for critical habitat along the Santa Clara River drainage system: San Francisquito, Soledad Canyon, and Del Valle zones. The San Francisquito zone is located in a canyon bearing the same name for an 8.4-mile stretch of river from the Angeles National Forest boundary to Clearwater Canyon. This area is several miles north and east of the Newhall Ranch property. The Soledad Canyon zone is an 8.5-mile stretch of the Santa Clara River from the community of Lang, east to its confluence with Arrastre Canyon. This zone is also several miles upstream of the Newhall Ranch property. The Del Valle zone is located along a 5.6-mile stretch of the Santa Clara River from its confluence with San Martinez Grande Canyon east to I-5. A portion of this zone is situated on the Santa Clara River on Newhall Ranch property from San Martinez Grande Canyon to its confluence with Castaic Creek.

Survey Results in Critical Habitat Zones: Numerous surveys have been conducted in critical habitat zones to determine the presence or absence of this taxon. These surveys are described below.

Survey for the presence of the unarmored threespine stickleback was conducted on portions of the Santa Clara River within the areas of proposed critical habitat in 1989 by Haglund (1989). Both morphologic and genetic data were used to properly identify this subspecies of stickleback. The results of the study concluded that (1) a small stickleback population occurring in Castaic Creek between SR-126 and the confluence with the Santa Clara River (not on the Newhall Ranch site) may not be permanent since other surveys of the same area report that no sticklebacks were found in this area;

(2) the population of unarmored threespine stickleback in San Francisquito Creek is approximately 10 kilometers upstream of its confluence with the Santa Clara River; and (3) the downstream portion of the Santa Clara River from McBean Parkway through the proposed Del Valle critical habitat area has a population of the unarmored threespine stickleback in its upper reaches.

In May of 1992, five river crossings being maintained on and off the Newhall Ranch property were surveyed for the presence of the unarmored threespine stickleback (Baskin and Haglund 1992). The crossings included the Alfalfa, Humble, Salt Creek, Mayo, and Long Canyon crossing locations. Prior to maintenance work on these crossings, approximately 100 meters downstream and upstream of each crossing was seined and the fish caught identified and detained in holding tubs until the work in the river was complete. No unarmored threespine sticklebacks were found in the 200-meter corridor at any of the five crossings.

Two alternative pipeline crossings of the Santa Clara River on the Newhall Ranch property were surveyed for the presence of sensitive aquatic species on July 25, 1992 (Haglund 1992). A 300-foot-wide corridor of the river centered on each alternative crossing was examined. One potential crossing was located upstream of the confluence of Castaic Creek and the Santa Clara River and occurs within the Del Valle zone of proposed critical habitat for the stickleback. The other potential crossing is located at the Las Brisas bridge downstream of the aforementioned critical habitat area. No unarmored threespine sticklebacks were found at either the Castaic Creek or Las Brisas bridge crossing sites. However, it was noted that habitat for this species occurs at both sites; thus, the potential to support sticklebacks exists.

During February of 1993, a sand berm was constructed by Newhall Land and Farming at both Castaic Junction and Summer Crossing (these locations being on the Newhall Ranch site) in order to divert the Santa Clara River back into the channel it had occupied prior to the high flows of 1993 in accordance with permits approved by the CDFG (Baskin and Haglund 1993). Blocking nets and seines were used to control and remove fish from the area of activity. All fish captured during this operation were returned unharmed back to the river after construction activities were complete. A total of eight unarmored threespine sticklebacks were captured and later released at the Castaic Junction site. No specimens of this species were caught at the Summer Crossing site.

During May, June and July of 1995, surveys for the presence of the unarmored threespine stickleback and other sensitive aquatic vertebrates were conducted on portions of the Santa Clara River, including a river stretch on the Ranch (Haglund and Baskin 1995). The fish survey was conducted June 11, and was

accomplished by seining the river from the confluence of Castaic Creek upstream to the Bouquet Canyon Road bridge, at intervals of 100 paces. The results of this study concluded that the unarmored threespine stickleback is continuously distributed in the surveyed portion of the Santa Clara River, including the portion surveyed on the Ranch.

Least Bell's Vireo -- Ecology and Distribution: The least Bell's vireo is a small, olive-gray bird with pale buffy yellow sides, light underparts, an indistinct white eye-ring, and narrow-wing bars. Four subspecies of Bell's vireo exist in North America, but only least Bell's vireo occurs in coastal California. This subspecies breeds in California and northern Baja California, Mexico, and winters in southern Baja California, Mexico.

The least Bell's vireo arrives in southern California in late March to early April to begin breeding activities. The male birds tend to arrive several days before the female birds to set up breeding territories. Nesting territories range from 0.5 to 4.0 acres and are established in riparian habitat, usually in dense willow-dominated thickets. Detailed analyses of nesting habitat indicates that these vireos are found most frequently in riparian vegetation with significant tree cover in conjunction with a well-developed shrub understory. Common understory shrubs and young trees include narrow-leaved willow, mule fat, young arroyo willow, and young Goodding's black willow (*Salix gooddingii*).

Nest site selection is fairly consistent for vireos, with the majority of vireo nests being placed in either black willow, arroyo willow, or mule fat. Which of these plant species is utilized appears to depend upon which one is most abundant at a particular site. The average height of the nest above ground is approximately one meter (RECON 1990). The average clutch size is four eggs.

Least Bell's vireo populations have been expanding within its breeding range over the last five years. Observations of nesting vireos have increased not only along the major rivers where their populations were before, but nesting activities have also increased along some of the major tributaries of these rivers. In addition, least Bell's vireo have been recently (spring 1995) recorded from areas they were previously not known to use for breeding, including in the southern Santa Susana Mountain Range along a small tributary creek to the Arroyo Simi in Ventura County (Impact Sciences, in house files). On going recovery programs involving regulatory protection of riparian habitat, habitat creation and enhancement projects, and brown-headed cowbird trapping programs within major southern California drainages have resulted in a substantial increase in the region's least Bell's vireo population (USFWS, Least Bell's Vireo Working Group, personal communication, 1995).

Both the male and female vireos incubate and care for the young; incubation lasts around 14 days and young birds fledge 10 to 12 days after hatching. Pairs may construct additional nests subsequent to fledging young or abandonment of an unsuccessful nest. Although as many as four clutches can be laid in a season, it is probable that vireos do not produce more than two successful broods a year.

The least Bell's vireo has declined in numbers due to the loss of riparian habitat and increased cowbird parasitism. Riparian habitat has decreased dramatically in California over the past century. It has been estimated that in the Central Valley alone, the principal portion of the historic range of the species, more than 90 percent of the riparian woodland habitat that existed has been cleared for development (Katibah 1984). A similar story could be told about riparian woodlands in other parts of the least Bell's vireos' historic range. In 1980, the least Bell's vireo was listed as an endangered species by the state of California, and it was added to the federal Endangered Species List in 1986. Critical habitat for the species has been designated in the following 10 areas: portions of the Santa Ynez River in Santa Barbara County; portions of the Santa Clara River in Los Angeles and Ventura counties; portions of the Santa Ana River in Riverside and San Bernardino counties; and portions of Coyote Creek, Santa Margarita River, San Luis Rey River, San Diego River, Sweetwater River, Jamul-Dulzura Creeks, and Tijuana River in San Diego County. Only a few sightings have been made in recent times in the reach of the Santa Clara River subject to this report.

Nest parasitism by the brown-headed cowbird has also had a strong negative impact upon vireo populations. Cowbird populations in southern California have increased dramatically in close correspondence to agriculture and livestock activities. Because intense parasitism from cowbirds on vireos is a relatively new phenomenon, beginning in the early twentieth century, least Bell's vireos have not yet adapted physical or behavioral defenses to it. Parasitism intensity is directly related to the proximity of dairies and stables, where cowbird populations are higher, to the riparian habitat. The development of these agricultural activities adjacent to riparian habitat has increased to a level higher than before the start of the twentieth century.

Survey Results for the least Bell's Vireo: Rangewide surveys of least Bell's vireo populations within California were conducted in 1986 and 1987 as background for the Comprehensive Species Management Plan for the vireo (RECON 1990). In 1986, a total of 394 singing males, of which approximately 303 were known to be paired with a female bird, were observed on 32 drainages. In 1987, 433 males, of which 281 were known to be paired, were observed in 23 drainages. Seventy-two percent of all male vireos observed in 1986 occurred within San Diego County. This number increased to 85 percent in 1987.

Outside of San Diego County, the largest subpopulations of least Bell's vireo occurred in the Prado Basin on the Santa Ana River in Riverside and Orange counties (19 pairs in 1986 and 21 pairs in 1987) and the Gibraltar Reservoir area on the Santa Ynez River in Santa Barbara County (57 pairs in 1986 and 20 pairs in 1987). The Santa Clara River had approximately nine pairs in 1986 and only two male birds in 1987.

In 1988, a survey for least Bell's vireo was conducted on the portion of the Santa Clara River east of Castaic Creek to Bouquet Canyon Road, on Castaic Creek from the Santa Clara River to I-5, and on San Francisquito Creek one to two miles above the Santa Clara River (these locations are not on the Newhall Ranch property). Only one male least Bell's vireo was detected and this bird was a migrant passing through the area (Guthrie 1988). The same area was surveyed for the presence of least Bell's vireo in 1989 and no vireos were observed in the study area (Guthrie 1989). Vireos were observed near the town of Cavin, approximately three miles downstream of Torrey Road outside of the Newhall Ranch property.

Surveys conducted in a slightly larger area than above were conducted in 1990. One pair of least Bell's vireo was observed in young willow habitat near the intersection of SR-126 and I-5 (Guthrie 1990). This observation was made in the same location that vireos had been observed in 1986 (RECON 1990). The USFWS, in response to an oil spill on the Santa Clara River on the Newhall Ranch property, conducted a survey for least Bell's vireo during the spring of 1991. A single male bird was observed during this survey.

A small subpopulation of least Bell's vireo has resided on the Santa Clara River near the town of Piru in Ventura County since at least 1979, when 12 singing males were recorded from this area. This group of birds decreased to four singing males in both 1986 and 1992 (Guthrie 1992). Other subpopulations of least Bell's vireo on the Santa Clara River were observed in both 1991 and 1992 in the following locations: three locations between SR 150 and U.S. 101 (in between Santa Paula and Ventura); near the town of Fillmore (one location); near the town of Piru (one location); and singing males only near both Castaic Junction and McBean Parkway (Guthrie 1992).

A survey of this reach of the Santa Clara River was conducted in 1993 by Dan Guthrie (Guthrie 1993). Three singing males and one pair of vireos were observed near the county line between Los Angeles and Ventura counties to the west of the Turkey Ranch area.

Surveys for the least Bell's vireo along the Santa Clara River from Castaic Creek to near Las Brisas bridge were conducted in 1994 (Guthrie 1994). The surveys were conducted according to the USFWS survey protocol. Riparian habitat along the Santa Clara River was covered on foot and bird species were identified with the aid of binoculars and by call. Singing least Bell's vireos were heard and observed near the county line between Los Angeles and Ventura counties. A probable maximum of six singing males of which four had mates were observed at this location.

Surveys for the least Bell's vireo along the Santa Clara River from Castaic Creek into Ventura County were conducted in 1995 by Guthrie (1995). The surveys were conducted according to the USFWS survey protocol. Riparian habitat along the Santa Clara River was covered on foot and bird species were identified with the aid of binoculars and by call.

Three singing birds were observed during the May 1995 survey, one near the Ventura/Los Angeles County line and the other further to the west of the county line. The singing least Bell's vireo observed near the county line was also seen on subsequent visits made in June and July 1995. It was concluded that at least one, and as many as three, breeding pairs were present on this portion of the Santa Clara River. Only one breeding pair would have crossed the county line into Los Angeles County with their territory.

Southwestern Willow Flycatcher – Ecology and Distribution: The southwestern willow flycatcher was listed as endangered in February 1995 by the USFWS (50 CFR Part 17; Vol. 60, No. 38). The bird is a small (approximately 15 centimeters), grayish-green backed species that has a whitish throat, light-olive gray breast, pale yellowish belly, and two wing bars. It is one of four subspecies of willow flycatcher most commonly recognized in North America. This willow flycatcher is migratory and a summer resident in the North American southwest. The breeding range of this species includes southern California, Arizona, New Mexico, extreme southern portions of Nevada and Utah, and western Texas. It likely winters in Mexico, Central America, and northern South America.

The southwestern willow flycatcher occurs in riparian habitats along rivers, streams, or other wetlands where stands of willows, mule fat, arrow weed, tamarisk, or other riparian plants are present, often with an overstory of cottonwood. It is an insectivorous bird that nests in dense stands of trees and shrubs approximately four to seven meters above the ground near surface water. The nest is a small cup of plant material about 4.5 centimeters in diameter and 3.8 centimeters deep.

Southwestern willow flycatchers arrive in the southwest United States to begin setting up breeding territories late in the spring (mid-May). It lays eggs during late May and early June. The young are fledged in early July. Nesting takes around 28 days. Three to four eggs are laid which are incubated by the female bird in about 12 days. The young are fledged approximately 13 days after hatching. Only one brood is produced per year.

The decline in the populations of southwestern willow flycatcher has resulted from the loss or degradation of riparian habitats throughout the range of the species. Habitat loss has resulted from many activities including urban and agricultural development, water diversion and impoundment, channelization, livestock grazing, and hydrological changes resulting from these and other land use changes. Of these factors, overuse of riparian areas by livestock is a major factor in the loss and degradation of habitat. Cattle affect riparian communities through negative effects on plant community structure, decreases in plant species composition, decreases in relative abundance of plant species, reductions in plant density, and reductions in plant diversity.

The invasion of riparian areas by tamarisk also alters the community structure and species composition. Cattle grazing can increase tamarisk invasion by eliminating the palatable broadleaf plants like willow and cottonwood saplings while allowing the unpalatable tamarisk to increase in density. Vegetation clearing and other disturbances of riparian areas also contribute to the spread of tamarisk. Other factors affecting the abundance of southwestern willow flycatcher include the loss of wintering grounds to tropical deforestation and increases in brood parasitism by the brown-headed cowbird. Decreases in the amount of wintering habitat reduce populations by decreasing survivorship of adult birds which can be part of the next breeding season. Parasitism by brown-headed cowbirds has deleterious effects on the number of fledglings produced in a given breeding season.

Survey Results for the Willow Flycatcher: Bird surveys conducted along the Santa Clara River on Newhall Ranch and adjacent lands between 1988 and 1995 have revealed the presence of the southwestern willow flycatcher in the area. A single bird was observed between Castaic Creek and I-5 in 1988 (Guthrie 1988). During surveys conducted in 1990, single individuals of southwestern willow flycatcher were observed at each of the following locations: between Castaic Creek and I-5; between I-5 and McBean Parkway; and along Castaic Creek between I-5 and SR-126 (Guthrie 1990, 1994).

In 1993, a bird survey was conducted along the Santa Clara River from Castaic Creek to the western boundary of the Newhall Ranch land in Ventura County. One individual southwestern willow flycatcher was observed between Castaic Creek and the Ventura County line in the riparian habitat (Guthrie 1993). This bird was considered to be migrating through the area.

In 1994, bird surveys were conducted along the Santa Clara River from Castaic Creek to near Las Brisas bridge (Guthrie 1994). Riparian habitat along the Santa Clara River was covered on foot and bird species were identified with the aid of binoculars and by call. One individual southwestern willow flycatcher was observed between Castaic Creek and the Ventura County line in the riparian habitat (Guthrie 1994). This bird was considered to be migrating through the area. No southwestern willow flycatchers were observed along this portion of the Santa Clara River during the intensive riparian bird surveys conducted in 1995 (Guthrie 1995). It appears that although habitat suitable for breeding occurs along this portion of the Santa Clara River, southwestern willow flycatcher populations have not expanded into this portion of their breeding range.

Arroyo Chub -- The arroyo chub is a federal species of concern and a California species of special concern. It is not native to the Santa Clara River drainage. Habitat includes sand- and mud-bottomed flowing pools and runs of headwaters, creeks, and small to medium rivers. It occasionally can be found in intermittent streams (Page and Burr 1991) and grows to 16 inches in length. Arroyo chub were observed in low to moderate numbers in the Santa Clara River on the project site (Haglund and Baskin 1993). However, during the sensitive aquatic species surveys conducted in the summer of 1995 (Haglund and Baskin 1995), arroyo chub were continuously distributed throughout surveyed portions of the Santa Clara River, including on the Ranch. Arroyo chubs were the most abundant fish recorded during the surveys, and in many of the survey areas they were categorized as abundant.

Santa Ana Sucker -- The Santa Ana sucker is a federal species of concern and a California species of special concern. It occurs only in the Santa Clara, Los Angeles, San Gabriel, and Santa Ana River systems. It is believed that the population in the Santa Clara River is the result of the species being introduced (Moyle 1976). This sucker species prefers clear, cool, rocky, and gravely streams where it feeds on algae, diatoms, detritus, and small insect larvae. Spawning takes place from early April to early July. One individual of Santa Ana sucker was observed at both the Alfalfa Crossing and Humble Crossing during May of 1992 (Baskin and Haglund 1992). However, during the sensitive aquatic species surveys conducted in the summer of 1995 (Haglund and Baskin 1995), Santa Ana sucker were not located in the portion of the Santa Clara River between Old Road bridge and the confluence of Castaic Creek. This includes the surveyed portion of the river on the Ranch. This study concluded that this fish has a relatively patchy distribution, and the association with gravel and cobble substrate apparently is a limiting factor in their distribution. It is reasonable to assume that this species can be found along the Santa Clara River in low numbers.

Western Spadefoot Toad – The western spadefoot toad is a federal species of concern and a California species of special concern. This species range covers the central portion of northern California, the Great Valley, and coast ranges from San Francisco to Baja California (Stebbins 1985). Local habitat includes washes, flood plains, and alkali flats. It prefers shortgrass plains and areas of open vegetation (chaparral, pine-oak woodland) with sandy or gravelly soil (Stebbins 1985). Where soil conditions are favorable, they can be abundant.

In southern California this species is most commonly found in shallow, temporary pools after winter and spring rains (Sloan 1964). This vernal pool habitat type has been drastically reduced in recent years, and spadefoot toad sightings have been reduced concurrently. The western spadefoot toad is a nocturnal species. It can be found by checking for tadpoles and small masses of eggs attached to rocks or submerged vegetation in vernal pools (Behler and King 1979). On the Newhall Ranch property, tadpoles and toadlets of this species were observed in and near Via Pond and a pond in Middle Potrero Canyon (Dames & Moore 1993; **Appendix E**). One adult western spadefoot toad was observed in 1995 by RECON in Salt Creek Canyon. During the sensitive aquatic species surveys conducted in the summer of 1995 (Haglund and Baskin 1995), western spadefoot toads were not located in the portion of the Santa Clara River surveyed, including the portion of the river on the Ranch. Based on the above, it appears that this species occurs in low numbers on restricted portions of the site.

Southwestern Pond Turtle – The southwestern pond turtle is a federal species of concern and a California species of special concern. It occurs uncommonly in, and west of, the coastal ranges, from San Francisco Bay to Baja California, and also in the Mojave River. Habitat typically consists of ponds, small lakes, reservoirs, and slow-moving streams, where it may be seen basking on logs or mud banks. It has been reported in brackish and sea water, and is frequently associated with areas having abundant aquatic vegetation. One juvenile southwestern pond turtle was observed near Mayo Crossing on the Newhall Ranch property in May of 1992 (Baskin and Haglund 1992). Turtle trapping efforts were undertaken during the 1995 sensitive aquatic species surveys conducted on portions of the Santa Clara River, including a river stretch on the Ranch (Haglund and Baskin 1995). These trapping surveys were conducted between the confluence of Castaic Creek upstream to Old Road bridge during May 15 through 19. The results of this study concluded that this surveyed portion of the Santa Clara River, including the portion surveyed on the Ranch, supports a population of southwestern pond turtles. It is reasonable to predict that the entire length of the Santa Clara River within the Newhall Ranch property may contain southwestern pond turtles, as well as some of the moist canyons leading away from the river.

Coastal Western Whiptail – The coastal western whiptail is a federal species of concern. The coastal western whiptail occupies the California coastal region from Ventura south to western Baja California, Mexico. It utilizes the open areas among otherwise moderate to dense vegetation. These open areas

allow for quick mobility and active foraging, yet provide protection from many predators. The species also requires loose soil for burrowing. Open coastal sage scrub and mixed chaparral provide suitable habitat. Adult whiptails usually become inactive by early fall, but juveniles remain active into late fall or early winter (Zeiner et al. 1988). This species was observed on-site during the 1995 field investigations conducted by RECON at Airport Mesa, Lion Canyon, Upper Potrero Canyon, and in the High Country of the Santa Susana Mountains. Coastal whiptail was also observed in a variety of locations on the Newhall Ranch property in 1993, most often within areas of coastal sage scrub (Dames & Moore 1993; **Appendix E**).

San Diego Horned Lizard -- The San Diego horned lizard is a federal species of concern and a California species of special concern. This taxon ranges from coastal southern California to the desert foothills, and into Baja California. It is often associated with coastal sage scrub, especially areas of level to gently sloping ground with well-drained, loose or sandy soil. This animal avoids dense vegetation, preferring 20 to 40 percent bare ground coverage.

Populations along the coast and inland have been severely reduced by loss of habitat; populations in the coast mountain ranges seem stable. Collecting pressure (for pets and for the curio trade) has been especially great for this species. Where it can be found, the San Diego horned lizard can be locally abundant, with densities near 20 adults per acre. They are largely dependent upon ant colonies for the majority of their prey. Adults are active from late March to late August; young are active from August to November or December.

Geographically, the Newhall Ranch site is situated in a zone of overlap between the San Diego horned lizard and the California horned lizard (see below), also a Category 2 candidate species. The California horned lizard ranges from the San Francisco Bay region to Los Angeles. The Newhall Ranch property is more likely within the range of the California horned lizard. Two records for San Diego horned lizard in the vicinity of the project area occur in the CNDDB; one in Soledad Canyon to the west, and the other in the Santa Susana Mountains. Four horned lizards were observed or detected (by scat) on the project site during the 1995 field investigations conducted by RECON. The three horned lizards that were observed directly during this survey were determined to be San Diego horned lizards. However, both subspecies have been reported to occur on the property. Two of the horned lizards were observed in the High Country of the Santa Susana Mountains while the third specimen was observed in Long Canyon.

California Horned Lizard -- The California horned lizard is a federal species of concern and a California species of special concern. The California horned lizard ranges from the San Francisco Bay region to Los Angeles. It forages on the ground in open areas between shrubs and often near ant colonies (Zeiner et al. 1988). This species has been observed on-site in a canyon bottom near Grape Vine Mesa on the Newhall Ranch site (Dames & Moore 1993; **Appendix E**). This taxon was not directly observed by RECON during the 1995 surveys.

Two-striped Garter Snake -- The two-striped garter snake is a federal species of concern and a California special animal. It occurs from Monterey County south to Rio Rosario in Baja California. Highly aquatic, this species is most commonly found in or near permanent water (Stebbins 1985). It can occasionally be found in small and intermittent streams with rocky beds. Tree frogs are the primary prey item of this species. This species was observed in 1993 at Via Pond and within Salt Creek in Rawhide Canyon (Dames & Moore 1993; **Appendix E**). It has a high potential to occur near freshwater marsh and riparian habitats throughout the Ranch.

Snake trapping efforts were undertaken during the 1995 sensitive aquatic species surveys conducted on portions of the Santa Clara River, including a river stretch on the Ranch (Haglund and Baskin 1995). These trapping surveys were conducted between the confluence of Castaic Creek upstream to Old Road bridge during May 15 through 19. However, no two-striped garter snakes were captured during this effort.

Southern California Rufous-crowned Sparrow -- This bird is a federal species of concern and a California species of special concern. It prefers coastal sage scrub, grassland, and open pine-oak woodland habitats. Southern California rufous-crowned sparrows nest on the ground. Habitat loss is the major threat to this species. This taxon was commonly observed in the coastal sage scrub and chaparral habitats on the Newhall Ranch site, including observations made at Salt Creek Canyon, Via Canyon, Airport Mesa, areas to the south of Six Flags Magic Mountain, Chiquito Canyon, and Off Haul Canyon.

Tricolored Blackbird -- The tricolored blackbird is a federal species of concern and a California species of special concern. These birds are found in coastal California and Oregon, congregating in agricultural and disturbed areas outside of the breeding season. They breed in dense colonies in wet meadows dominated by cattails, willows, mule fat, and tamarisk, and can be locally common. Declines in

tricolored blackbird populations are attributable to the elimination of wetlands and freshwater marsh habitats. A flock of about 20 tricolored blackbirds were observed in Middle Potrero Canyon and a flock of 50 birds were seen on the Newhall Ranch property north of Mayo Crossing (Dames & Moore 1993; **Appendix E**). This species was not seen by RECON during the 1995 surveys, but is likely to be using the site based on past observations and the presence of suitable habitat.

San Diego Black-tailed Jackrabbit -- The San Diego black-tailed jackrabbit is a federal species of concern and a California species of special concern. This rabbit occurs in open grassland and areas of sparse shrublands. Loss of habitat is the major threat to this taxon. San Diego black-tailed jackrabbits were observed during the 1995 RECON field surveys in Upper Potrero Canyon, and the taxon is assumed to be common on the site due to the presence of extensive areas of suitable habitat.

San Diego Desert Woodrat -- The San Diego desert woodrat is a federal species of concern and a California species of special concern. Its range extends through coastal areas from San Luis Obispo well into Baja California, inland to the San Bernardino Mountains and Julian (Hall 1981). There is a discontinuous distribution in the area of Porterville, California. The middens of this species are usually easy to observe when the species is present. A trapping program conducted by Dames & Moore (1993; **Appendix E**) found this woodrat at three locations on the Newhall Ranch property: Lion Canyon, Bee Flat, and Salt Creek Canyon. Two individuals of this species were trapped in coastal sage scrub habitat in the area to the immediate west of Six Flags Magic Mountain by RECON in 1995.

White-tailed Kite -- The white-tailed kite is a California fully protected species. It ranges over coastal California eastward to parts of the Caribbean gulf coast. Locally, it nests in riparian woodlands, particularly those comprised of live oaks and western sycamores, and forages over open areas and grasslands where they feed primarily on small rodents. Loss of nesting and foraging habitats to agriculture and urbanization have reduced population numbers. This species was observed flying overhead between San Jose Flat and Dead End Canyon (Dames & Moore 1993; **Appendix E**).

Northern Harrier -- The northern harrier is a California species of special concern. It is distributed throughout North America (Robbins et al. 1983), in prairie, slough, wet meadow, and marsh habitats (Ehrlich et al. 1988). Like an owl, the harrier uses its round, sound-reflecting facial ruff to locate prey by sound. It can be seen flying within seven feet of the ground as it hunts over grassland, agricultural fields, and coastal and freshwater marshes (Ehrlich et al. 1988). Harriers build flimsy nests on the ground or in thick low-growing vegetation. As with many species, urbanization and agricultural development have led to population declines. A single northern harrier was observed in Middle Potrero Canyon during the 1995 RECON field surveys.

Cooper's Hawk -- The Cooper's hawk is a California species of special concern. It is a common migrant and rare summer resident in southern California. It breeds in oak woodland habitats and southern cottonwood-willow riparian woodland. Food items include small mammals, reptiles, and amphibians. Human disturbance, urban, and agricultural development are thought to be leading to loss of the hawk's riparian woodland breeding habitat. One occurrence in the vicinity of the project site on the Santa Clara River has been reported to the CNDDB. One Cooper's hawk was observed near San Jose Flat and Dead End Canyon that was apparently nesting along the Santa Clara River (Dames & Moore 1993, **Appendix E**). During the 1995 RECON field investigations, individuals of this species were observed in Long, Lion, and Chiquito canyons and in the high country of the Santa Susana Mountains.

Vermilion Flycatcher -- The vermilion flycatcher is a California species of special concern. Common near streams in the southwest U.S., this species is rarely observed in riparian areas of southern California. Guthrie (1993) observed one individual along the Santa Clara River. Due to its rarity over it's geographic range, this species is assumed to be rare on-site.

Horned Lark -- The horned lark is a California species of special concern. It occurs in large fields, grasslands, and other open areas. The horned lark builds its nest on the ground. Loss of habitat is the major threat to the species. This species was observed on the site during 1995 field investigation conducted by RECON in grassland habitat in Salt Creek Canyon and to the south of Six Flags Magic Mountain. Given that large amounts of suitable habitat are present on-site, horned larks are assumed to be common on the site.

Loggerhead Shrike -- The loggerhead shrike is a California species of special concern. It ranges over most of the continental U.S. and Mexico and is a resident species in southern California. It inhabits grasslands, agriculture, chaparral, and desert scrub; it is absent only from the mountainous zones. Population declines due to urbanization have been noted. Loggerhead shrikes feed on small reptiles and insects which they often impale on sticks or thorns before eating. This species was observed on the property in Potrero Canyon and near Bee Flat (Dames & Moore 1993; **Appendix E**). During the 1995 field surveys conducted by RECON, this species was commonly observed in Potrero and Salt Creek canyons and in the Santa Susana Mountain high country.

Yellow Warbler -- The yellow warbler is a California species of special concern found over much of the North American continent. They require riparian woodland for breeding, but utilize a wide variety of trees during migration. In addition to loss of riparian habitat, this bird has experienced declines due to brood parasitism by brown-headed cowbirds. In 1995 Guthrie observed up to twenty pairs of yellow warbler nesting in riparian habitat along the Santa Clara River (Guthrie 1995).

Yellow-breasted Chat – The yellow-breasted chat is a California species of special concern. It can be found throughout most of the continental U.S. and Mexico. It is present in southern California during the spring and summer. Dense riparian woodlands in the coastal lowlands are its only breeding sites. Destruction of riparian woodlands by human activities and development have caused population declines. It is possible that cowbird parasitism may also have contributed to the decline of the species. In 1995 Guthrie observed approximately 20 pairs of this species nesting in riparian habitat along the Santa Clara River (Guthrie 1995).

Summer Tanager – The summer tanager is a California species of special concern. Tanagers typically use and nest in riparian woodlands containing willows and cottonwoods. They migrate to winter grounds south of the border in Mexico and are summer residents in the southern half of the United States. One individual was observed during a survey of the Santa Clara River conducted in 1993 (Guthrie 1993). This species is assumed to be uncommon in the area.

Mountain Lion – The mountain lion is a California fully protected species. The species ranges through most of western North America. They prefer rocky, rugged terrain with dense cover, but are adaptable to various habitat types. The mountain lion has a home range of from 15-35 square miles (Russell 1978). It roams widely, except when cubs are small. Mountain lions can have litters during any month. Their primary food source is deer. Tracks of a mountain lion were observed on the Newhall Ranch property in oak woodland and coastal sage scrub habitat in a small, unnamed drainage west of Lion Canyon (Dames & Moore 1993; **Appendix E**). During the 1995 field investigations conducted by RECON, mountain lion tracks also were observed in the vicinity of Via Pond in the High Country of the Santa Susana Mountains.

(b) Butterflies

Eight sensitive butterfly species which are considered to be declining in Los Angeles County and elsewhere due to loss of habitat from land development were observed on the Newhall Ranch site. These species are listed in **Table BIO-11 (Sensitive Butterfly Species Observed (*) or with the Potential for Occurrence at Newhall Ranch)**. Each of these sensitive species is discussed individually below. Sensitivity designations for butterflies are based on designations by Mattoni (1990).

Becker's White (*Pieris chloridice beckeri*) – This taxon is found throughout the desert regions and in cismontane southern California from San Diego county into Santa Barbara and San Luis Obispo counties. Becker's white goes through multiple life cycles year round. It occurs in cismontane areas with

Table BIO-11
Sensitive Butterfly Species Observed (*) or with the Potential for Occurrence at Newhall Ranch

Scientific Name	Common Name	Food Plant / Habitat / Nectar Plant	Flight Period[1]	Probability of Occurrence
Papilio indra peragamus	Edward's swallowtail	*Tauschia, Lomatium* (over 2,000 feet)	S (March-June)	Low
Pieris chloridice beckeri	Becker's white*	Bladderpod	M (February-October)	Observed
Pieris sisymbrii sisybrii	California white*	Wild mustards	S (February-May)	Observed
Colias alexandra harfordii	Harford's sulfur*	*Astragalus*	D (March-September)	Observed
Argynnis callippe comstocki	Comstock's fritillary*	Native violets	S (May-June)	Observed
Melitaea gabbii gabbii	Gabb's checkerspot*	Perennial native asters	S (March-April)	Observed
Melitaea leanira wrightii	Wright's leanira checkerspot	Indian paintbrush	S (March-May)	Low
Liminitis lorquini lorquini	Lorquin's admiral*	Willows	D (April-September)	Observed
Satyrum sylvnum desertorum	Southern sylvan hairstreak	Willow/riparian	S (May-July)	Low
Lycaena arota nubila	Cloudy copper*	Wild gooseberry	S (May-July)	Observed
Lycaena gorgon	Gorgon copper*	*Eriogonum elongatum* (only found near)	S (May-July)	Observed
Lycaena helloides	Purplish copper	Docks, *Polygonum*	M (April- October)	Low
Glaucopsyche piasus sagittigera	Coastal arrowhead blue	*Lupinus excubitus*	S (March-May)	Low
Copaedes aurantica	Hewitson's skipper	Grasses	M (April-September)	Low
Hesperia comma leussleri	Leussler's skipper	Grasses	S (May-August)	Low
Hesperia colombia	Columbia skipper	Grasses	D (Mar-May, Aug-Oct)	Low
Pholisora catullus	Common Sootywing	Pigweeds, amaranths	D (April-September)	Very Low (believed extirpated)

[1]*Number of broods per flight period:*
S = single
D = double
M = multiple

chaparral. The preferred food plant is bladderpod (*Isomeris arborea*), but it will use mustard (*Brassica* sp.), all of which occurs on the site. Becker's white butterflies were observed by RECON during their 1995 field investigations on the Newhall Ranch property at Rawhide Canyon, on the Santa Clara River at the mouth of Middle Canyon, and in the area to the south of Six Flags Magic Mountain.

California White (*Pieris sisymbrii sisymbrii*) -- This butterfly is uncommon in the Coast Range hills, but occurs in mountains up to 9,000 feet elevation and in the Mojave Desert and dry coastal hills of southern California. In Los Angeles County, this taxon typically occurs in localized populations in areas of chaparral habitat. It has a single brood with flight times from February to May. The food plants for this taxon are in the mustards (*Brassica* spp.). California white butterflies were found in low numbers in Upper Salt Creek Canyon near the mouth of Rawhide Canyon by RECON during their 1995 field investigations.

Harford's Sulfur (*Colias alexandra harfordii*) -- This butterfly occurs in coastal ranges and valleys and the Transverse Ranges as far north as Santa Barbara and Kern counties. Flight periods are in two broods; March through May, and June through August. The adults are attracted to blossoms of mint and thistle on dry hillsides with coastal sage or chaparral habitat. The larval food plant is species within the genus *Astragalus*. This species is fairly widespread, but is typically found only in undisturbed areas. Harford's sulfur butterflies were observed by RECON during their 1995 field investigations in Salt Creek Canyon near the confluence with Grave and Rawhide canyons, and in Upper Potrero Canyon.

Comstock's Fritillary (*Argynnis callippe comstocki*) -- This fritillary occurs in the Coast Ranges from Monterey County, south to San Diego County. It can be found in chaparral and oak woodland/savanna habitats where its food plant is native violets such as *Viola pedunculata*. In Los Angeles County, Comstock's fritillary is found in localized populations. A single brood is produced with flight times during May and June. This taxon was observed by RECON during their 1995 field investigations in low to moderate numbers on the Newhall Ranch property in oak woodland/savanna habitats in the upper elevations of the Santa Susana Mountains.

Gabb's Checkerspot (*Melitaea gabbii gabbii*) -- This butterfly occurs in the foothills and canyons of the coastal mountains of central and southern California, from San Luis Obispo to Baja California, Mexico. Localized colonies of this taxon occur in chaparral or coastal sage scrub habitat in Los Angeles County. A single brood is produced with flight times during March through June. The food plant for this taxon

includes several genera of native plants in the sunflower family such as *Lessingia* (= *Corethogyne*), *Heterotheca*, and *Isocoma* (= *Haplopappus*). Gabb's checkerspot was observed in moderate numbers on Newhall Ranch by RECON during their 1995 field investigations at the following locations: upper Lion Canyon, Via Canyon, Rawhide Canyon, and near Grape Vine Mesa.

Lorquin's Admiral (*Liminitis lorquini lorquini*) -- This butterfly frequents moist areas along water courses of woodlands and river bottomlands. It prefers riparian habitat that has a good cover of willows (*Salix*), its main food plant. Flight times for this taxon are from April through September since it produces a double brood. In Los Angeles County, Lorquin's admiral is found in localized colonies within a restricted habitat type (riparian habitat). In 1995, RECON observed this taxon in low numbers on the Newhall Ranch property along the Santa Clara River near the mouth of Lion Canyon and in Rawhide Canyon.

Cloudy Copper (*Lycaena arota nubila*) -- The cloudy copper butterfly is local to the Santa Monica Mountains to Mount Wilson of the San Gabriel Mountains of Los Angeles County. It prefers chaparral and oak woodland/savanna habitats with wild gooseberry (*Ribes*), its main food plant. Flight times for this taxon occur during May through July with only a single brood produced. It typically occurs in localized colonies within its range. Cloudy copper butterflies were observed by RECON during their 1995 field investigations in low numbers in oak woodland habitat in Upper Potrero Canyon where abundant wild gooseberry plants were found.

Gorgon Copper (*Lycaena gorgon*) -- This copper butterfly species occurs over cismontane southern California from Kern to Orange counties. Localized colonies can be found in chaparral habitat of canyon areas with abundant *Eriogonum elongatum*, the food plant. A single brood is produced with flight times occurring during May and June. This species was observed by RECON during their 1995 field investigations in low numbers in the area to the south of Six Flags Magic Mountain on the Newhall Ranch property.

(c) Animals Not Observed But Those That Have Potential For Occurrence

Sensitive wildlife species that were not observed but have a reasonable potential for occurrence on the Newhall Ranch property are presented in **Table BIO-12 (Sensitive Wildlife Species with the Potential for Occurrence on the Ranch Property)**. These species were considered as possibly occurring on the site because of the geographical location of the property and extent of the range of the particular species, and due to the presence of habitat types that are known to support these species.

Table BIO - 12
Sensitive Wildlife Species with the Potential for Occurrence on the Ranch Property

Species	Status	Location of Potential Occurrence
Arroyo toad *Bufo microscaphus californicus*	FE, CSC	Moderate potential for this species along Santa Clara River and Castaic Creek.
California red-legged frog *Rana aurora draytonii*	FT, CSC	Low potential for this species around ponds.
Silvery legless lizard *Anniella pulchra pulchra*	FSC, CSC	Probable in areas of loose soil within understory of coastal scrub, chaparral, and open riparian habitats on the Ranch.
Coastal rosy boa *Lichanura trivirgata rosafusca*	FSC	Possible in sandy and rocky areas of grasslands, coastal scrub, and chaparral habitats on the Ranch.
San Bernardino ringneck snake *Diadophis punctatus modestus*	FSC	Possible in sandy and rocky areas of grasslands, coastal scrub, and chaparral habitats on the Ranch.
Coast patch-nosed snake *Salvadora hexalepis virgultea*	FSC, CSC	Possible in sandy and rocky areas of grasslands, coastal scrub, and chaparral habitats on the Ranch.
Least bittern *Ixobrychus exilis*	FSC, CSC	Possible in riparian vegetation and aquatic habitat along the Santa Clara River.
Fulvous whistling-duck *Dendrocygna bicolor*	FSC	Possible in riparian vegetation and aquatic habitat along the Santa Clara River.
California condor *Gymnogyps californianus*	FE, CE	Possibly forages over the more open areas of the Ranch.
Sharp-shinned hawk *Accipiter striatus*	CSC	Possibly uses the riparian woodlands of the Santa Clara River.
Swainson's hawk *Buteo swainsoni*	CT	Possibly forages over the more open areas of the Ranch.
Ferruginous hawk *Buteo regalis*	FSC, CSC	Possibly forages over the more open areas of the Ranch.
Golden eagle *Aquila chrysaetos*	CSC, CFP	Possibly uses grasslands, open chaparral and scrubs, and the riparian areas of the Ranch.
Merlin *Falco columbarius*	CSC	Possibly forages over the more open areas of the Ranch.
Prairie falcon *Falco mexicanus*	CSC	Possibly uses grasslands and agricultural fields.
American peregrine falcon *Falco peregrinus anatum*	FE, CE	Possibly forages over the more open areas of the Ranch.
Mountain plover *Charadrius montanus*	FC, CSC	Possibly forages on the more open areas of the Ranch.
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	CE	Possible in riparian woodlands of the Santa Clara River.
Western burrowing owl *Athene cunicularia hypugea*	FSC, CSC	Possible in grasslands and agricultural areas.
Long-eared owl *Asio otus*	CSC	Possibly forages over the more open areas of the Ranch.
Short-eared owl *Asio flammeus*	CSC	Possibly forages over the more open areas of the Ranch.
Coastal California gnatcatcher *Polioptila californica californica*	FT, CSC	Historically found in coastal sage scrub habitat in Los Angeles County, but now believed to be extirpated in this area. Low potential for occurrence in sage scrub habitat on the Ranch.
Bell's sage sparrow *Amphispiza belli belli*	FSC, CSC	Possible in coastal sage scrub and chaparral habitats on the Ranch.
Fringed myotis *Myotis thysanodes*	FSC	Possibly forages over river.
Yuma myotis *Myotis yumanensis*	FSC	Possibly forages over river.
Pale Townsend's big-eared bat *Plecotus townsendii pallescens*	FSC, CSC	Possible in caves or abandoned buildings.
Greater western-mastiff bat *Eumops perotis californicus*	FSC, CSC	Possible in rocky areas with crevices on hills and in the Santa Susana Mountains.
Spotted bat *Euderma maculata*	FSC, CSC	Possible in rocky areas with crevices on hills and in the Santa Susana Mountains.
Pallid bat *Antrozous pallidus*	CSC	Possibly forages over river, possibly roosts in High Country.

Table BIO - 12 continued
Sensitive Wildlife Species with the Potential for Occurrence on the Ranch Property

Species	Status	Location of Potential Occurrence
Los Angeles little pocket mouse *Perognathus longimembris brevinasus*	FSC, CSC	Low potential for occurrence in coastal scrub on the Ranch.
Southern grasshopper mouse *Onychomys torridus ramona*	FSC	Possible in grassland areas.
American badger *Taxidea taxus*	CSC	Possible in grassland areas.

FT: Listed as a threatened species by the USFWS.
FC: Federal Candidate species
Federal Species of Concern: These species represent the pool of species of concern from which future candidates may be chosen.
CE: A State of California endangered species as listed by the California Department of Fish and Game; Data indicate the species is in serious danger of becoming extinct throughout all or a significant portion of its range.
CT: A State of California threatened species as listed by the California Department of Fish and Game; Data indicate the species may become endangered in the foreseeable future.
CFP: A wildlife species that is Fully Protected by law under the California Fish and Game Code.
CSC: A State of California Species of Special Concern; those species that may become listed as rare, threatened, endangered, or fully protected in the near future.

Arroyo Toad -- Ecology and Distribution: The arroyo toad (*Bufo microscaphus californicus*) was listed as an endangered species by the USFWS on January 17, 1995, and is a California species of special concern. This species is restricted to the coastal slopes of southern California and northern Baja California, Mexico, except for one small, isolated population in the Mojave River. Southern California populations are known to occur on the Sisquoc River, Santa Ynez River, and Mono and Indian creeks in Santa Barbara County; Sespe Creek, lower Piru Creek, and Agua Blanca Creek in Ventura County; upper Piru Creek and Big Tujunga Canyon in Los Angeles County; and additional drainages in San Bernardino and San Diego counties (Sweet 1992; Federal Register 1993a). The arroyo toad averages 5 to 8 cm in length, and has a greenish-gray or tan coloration. It is restricted to rivers with shallow, gravelly pools adjacent to sandy terraces. Eggs are deposited in shallow pools with sand or pea gravel substrate overlain with flocculent silt. These pools have minimal current and little or no emergent vegetation. Juveniles and adults forage for insects on sandy terraces with nearly complete coverage of cottonwoods, oaks, and willows (Federal Register 1994). Adults are nocturnal except during the breeding season (March-July).

Because of historical and present agricultural activities along the Santa Clara River (e.g., crop production and grazing), most of the habitat characteristics used by this species have been lost south of the river in Ventura County (USFWS 1993a, 1994a). In Los Angeles County, high terraces vegetated with cottonwoods and willows remain along portions of the Santa Clara River providing habitat for adult toads.

Field Investigation: Recent surveys in the region have been conducted on Sespe Creek and Piru Creek in 1991 (Sweet 1992). The Sespe Creek population of arroyo toads is the largest known within the current range. This creek is located west of the property and enters the Santa Clara River near Fillmore. The Piru Creek population is confined to two areas: from the vicinity of Blue Point Campground upstream to Piru Gorge, and between the headwaters of Pyramid Lake and Bear Gulch upstream from the former. Construction and operation of Santa Felicia Dam and Pyramid Lake has resulted in the survival of arroyo toads only above the headwaters of each impoundment. Piru Creek enters the Santa Clara River several miles west of the western boundary of the Newhall Ranch near the town of Piru.

Supplemental surveys to detect the presence of arroyo toad on the Newhall Ranch property were conducted by RECON on March 16 and 17, 1994. Habitat that appears appropriate for the arroyo toad occurs at several locations along the Santa Clara River corridor, but not along any of the smaller drainages within the upland portions of site.

Surveys were again conducted on the Newhall Ranch by RECON in mid-April 1995. No calls of arroyo toads were heard during nighttime surveys of potential breeding pools. However, young toads were located at the mouth of Lion Canyon on the Santa Clara River during the June general wildlife survey that appeared to be arroyo toads. Positive identification of these toads was made a few weeks later (July 12 and 13), and it was determined that the young toads in this area were actually California toads (i.e., the local subspecies of western toads). These areas on the Newhall Ranch were checked for toads again in early August (1, 2, and 3, 1995), but only tree frogs were observed. No arroyo toads were recorded during the sensitive aquatic species surveys conducted by Haglund and Baskin (1995). Based on the field investigations, the potential for arroyo toads to occur along the Santa Clara River and Castaic Creek is moderate given the presence of suitable habitat in these areas for breeding. However, the low population number for this species and the restricted nature of known populations suggest that if it were to occur on the site it would occur in extremely low numbers.

California Red-legged Frog -- Effective June 24, 1996, the California red-legged frog (*Rana aurora draytonii*) is a federal listed threatened species. It is also a California species of special concern. This frog formerly occurred from Humboldt County southward to Baja California Norte, including the Sierra Nevada Mountains up to 8,000 feet. It has now been extirpated from the entire Central Valley region and the foothills of the Sierra Nevada. Only five known populations remain south of the Tehachapi Mountains, compared to over 80 historical locality records in southern California (USFWS 1993c; 1996b).

Hayes and Jennings (1988) describe the preferred habitat of this species as intermittent cold water streams, especially those with dense cover of cattails, rushes, and willows providing shade over a large portion of the water's surface. Water of at least 0.7 meter depth must be available.

The red-legged frog was the original source of frog legs during the late 1800s and early 1900s, and this was the initial cause of the red-legged frog's decline. Commercial harvests of 50,000-125,000 frogs per year were recorded between 1880 and 1900 (Jennings 1988). Further declines of the species throughout its range can be attributed to disturbance of riverbed substrates, disturbances to emergent and shoreline vegetation, competition from bullfrogs, and predation by introduced fishes.

Habitat for the red-legged frog along the portion of the Santa Clara River on the Newhall Ranch property is scarce due to the hydro-geomorphological characteristics of the river. The vegetation in the active channel, where low flows are present, is periodically scoured by floods. This reduces the necessary cover around pools needed by the frog. A few small freshwater marsh areas on the flood plain may serve as potential habitat for the species, but these are likely affected by cattle grazing.

Supplemental surveys to detect the presence of red-legged frog were conducted by RECON on March 16 and 17, 1994. Habitat appropriate for the red-legged frog did not appear to be present within any of the proposed development areas. It is unlikely that habitat for this species occurs on other portions of the property based on the reconnaissance of other areas of the site in 1994. The 1995 surveys of the Newhall Ranch conducted by RECON were more thorough and covered more drainages and support the previous preliminary conclusion that there is no suitable habitat for this species on the Newhall Ranch site. In addition, no California red-legged frogs were recorded during the sensitive aquatic species surveys conducted by Haglund and Baskin (1995).

California Condor -- The California condor (*Gymnogyps californianus*) is a state and federal listed endangered species. Most of the remaining California condor individuals are currently in captivity. Since the early 1990's, California condors have been released back into the wild with mixed success. Of the eight birds initially released, one died after ingesting antifreeze, while three others hit power lines. Subsequent birds which have been released have primarily used the Fillmore area, with observations ranging west-northwest to Castaic Lake. Several of these birds have ranged as far north as the town of Taft in the southern San Joaquin Valley. Should the eventual reintroduction of a California condor population into the wild be successful, it will most likely be several years before their "new" ranges are established and documented. However, this population could potentially forage over the Newhall Ranch area.

Swainson's Hawk -- The Swainson's hawk (*Buteo swainsoni*) is a state-listed threatened species which generally occurs in the interior valleys of the region (Garrett and Dunn 1981). This hawk requires large, open grasslands for foraging, and typically nests within one mile of riparian habitats using oaks, cottonwoods and western sycamores for nesting trees. Swainson's hawks were once abundant throughout lowland California. However, this hawk's breeding range is now restricted to portions of the Central Valley, Mojave Desert, and Great Basin regions of the state (Bloom 1980). Although the site and vicinity exhibit suitable foraging habitat for this species, Swainson's hawk is not expected to nest on the site or occur on the site regularly due to the site's geographic location.

American Peregrine Falcon -- The American peregrine falcon (*Falco peregrinus anatum*) is a federal- and state- listed endangered species which occurs in a variety of areas in southern California. Peregrine falcons occur most frequently along the coast and over other large bodies of water where they prey upon foraging shorebirds. In the arid interior areas, this bird is a rare transient that forages over large areas (Garrett and Dunn 1981). Habitat on the site could be used by this species for foraging, but peregrine falcons are not expected to nest on or regularly use the project site.

Coastal California Gnatcatcher -- The coastal California gnatcatcher (*Polioptila californica californica*) is listed as federally threatened and is also a California species of special concern. The coastal California gnatcatcher is a small gray bird with a black tail, which it flicks erratically as it perches, and it has a very distinctive mew-like call. During the breeding season, male gnatcatchers develop a black cap that distinguishes them from the females. This resident species occurs below the 2,000-foot elevation level in the coastal slopes of southern California from the Los Angeles basin south to Baja California, Mexico (Atwood 1980). Peak nesting activity occurs during late March to early April.

The coastal California gnatcatcher is a resident species strongly associated with coastal sage scrub vegetation. Not all types of coastal sage scrub are used or preferred by the species. The birds seem to be most abundant in areas dominated by California sagebrush (RECON 1987; ERCE 1990), with other important plant species observed during studies being California buckwheat, laurel sumac, and lemonadeberry; however, not all of these species occur in all vegetative communities where the coastal California gnatcatcher is found. During other parts of the year, especially during dispersal of young birds after fledging and during the hot summer months, gnatcatchers may be found in other areas besides coastal sage scrub, such as chaparral or riparian habitats.

The Newhall Ranch property encompassed in this study contains a large acreage of coastal sage scrub classified by CDFG as Venturan coastal sage scrub (Holland 1986). Although this sage scrub habitat is within the historic range of the species, significant populations of this species have all been

extirpated from Los Angeles County (USFWS 1993b) and the Ranch property is outside of its known current distribution. In 1995, a coastal California gnatcatcher was recorded from the Moorpark area in Ventura County. In 1996, there have been two pairs of gnatcatchers recorded in this same area, and a nest has been recently discovered (Greaves, personal communication, 1996). In addition, there have been reports of these birds from the Bonnelli Regional Park and west of Cal Poly State University, Pomona campus areas in eastern Los Angeles County. It is not known whether the current breeding range will expand into the Santa Susana Mountains. Several of the RECON personnel conducting the 1995 field surveys on the Newhall Ranch have permits from the USFWS to survey for this species and are qualified to recognize the bird. No individuals of this species were sighted or heard on the property. Based on these observations and the current geographic range of this bird, the likelihood of occurrence of the coastal California gnatcatcher on the Newhall Ranch is low.

Western Yellow-billed Cuckoo – The western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is a California endangered species. A 1977 survey located this species in the Sacramento Valley, Kern River, Owens Valley, Amargosa River, Lower Colorado River, and Santa Ana River. It is restricted to dense riparian woodland during breeding. Loss of habitat has caused population declines in the species. The NDDB has a record of this species only three to four miles to the west of the Newhall Ranch property on the Santa Clara River from 1979. Based on the lack of observation of this species in the local area and current geographic range of the bird, the likelihood of occurrence on the Newhall Ranch site is low.

Mountain Plover – In winter, flocks of the mountain plover (*Charadrius montanus*), a federal Candidate species and California species of special concern, regularly occupy the Carrizo Plain, the western San Joaquin Valley, the Imperial Valley, and the Antelope Valley. Elsewhere in the interior, this species is a rare fall transient and requires large open areas as habitat (Garrett and Dunn 1981). Habitat on the Newhall Ranch could be used by this species for foraging. Should mountain plovers occur on the site they would likely occur infrequently.

Silvery Legless Lizard -- The silvery legless lizard (*Anniella pulchra pulchra* {=*A. nigra argentea*}) is a federal species of concern and a California species of special concern. This subspecies has a spotty distribution from near Antioch (Contra Costa County) south into Baja California; primarily west of and including the Coast Ranges, San Bernardino and San Gabriel mountains, and Laguna Mountains. It occupies herbaceous layers with loose soil in coastal sage scrub, chaparral, and open riparian habitats. Sand of washes and beach dunes are preferred for burrowing, and logs and leaf litter are used for cover and feeding. Bush lupine (*Lupinus longifolius*) is a good indicator of appropriate habitat in sandy substrates. However, the presence of this plant is not a reliable indicator of the occurrence of the legless lizard in other habitat types. Primarily nocturnal and fossorial, the silvery legless lizard is

susceptible to drying and must be in or near moist soil. The use of pesticides on agricultural fields in the state has been known to adversely affect some populations of this lizard. Due to the presence of extensive areas of coastal sage scrub, chaparral and open riparian habitats (i.e., all suitable habitat for this animal) on the Newhall Ranch, the potential for this taxon to occur on-site is considered high (probable).

Coastal Rosy Boa -- The coastal rosy boa (*Lichanura trivirgata rosafusca*) is the subspecies of this federal species of concern which is known to occur in the Newhall Ranch region. This secretive snake typically occurs in rocky, dry habitats including coastal sage scrub and open chaparral on canyon slopes. This snake is rarely encountered in the wild. Rosy boas have a moderate potential for occurrence on the site.

San Bernardino Ringneck Snake -- The San Bernardino ringneck snake (*Diadophis punctatus modestus*) is a federal species of concern that typically occurs in moist situations in oak woodlands, but also is present in riparian habitats in lower elevations. Ringneck snakes are relatively widespread, but are secretive, spending most of the time hidden in leaf litter. The Newhall Ranch area may be an area of intergradation between two subspecies of ringneck snake. As such, ringneck snakes on the Newhall Ranch site (if present) may not be best assigned to this sensitive taxon.

Coast Patch-nosed Snake – The coast patch-nosed snake (*Salvadora hexalepis virgultea*) is a federal species of concern, and a California species of special concern. The coast patch-nosed snake ranges from the Carrizo Plain (San Luis Obispo County) south to Baja California. It inhabits grasslands, chaparral, coastal sage scrub, and sandy and rocky areas on the lower slopes of mountains. The patched-nosed snake has a single, white, vertebral stripe, and a conspicuously upturned rostral scale. It is a very active, diurnal snake. Again, due to the presence of extensive areas of coastal sage scrub, chaparral and open riparian habitats (i.e., all suitable habitat for this animal) on the Newhall Ranch, the potential for this taxon to occur on-site is considered high.

Least Bittern -- The least bittern (*Ixobrychus exilis*) is a federal species of concern and California species of special concern which typically occurs in dense brush and wetland vegetation, and less commonly occurs in adjacent upland areas. Least bitterns were not observed on or near the site during the intensive riparian bird field surveys. However, suitable wetland habitat exists along the Santa Clara River. This species has a moderate potential for occurrence on the site.

Fulvous Whistling-duck -- The fulvous whistling-duck (*Dendrocygna bicolor*) is a federal species of concern which typically winters in areas from Los Angeles County north. Fulvous whistling-ducks generally occur on ponds, streams, ditches, and other small bodies of water which are heavily bordered by tall vegetation. This type of habitat occurs on the site, especially in association with the Santa Clara River. Although no fulvous whistling-ducks were observed during the intensive riparian bird field surveys, this duck could occur as an uncommon seasonal migrant.

Ferruginous Hawk -- The ferruginous hawk (*Buteo regalis*) is a federal species of concern and California species of special concern which is principally a winter visitor in interior valleys. Ferruginous hawks favor grasslands and agricultural regions, and important wintering locations include Fish Lake Valley (Mono County), Owens Valley (Inyo County), the Carrizo Plain (San Luis Obispo County), Antelope Valley and other similar locations. The nearest wintering location of importance is the Santa Maria River Plain in Santa Barbara County (Garrett and Dunn 1981). Although the Newhall Ranch site and vicinity exhibit suitable foraging habitat for this species, it is not expected to nest or regularly occur on the site due to the site's geographic location.

Western Burrowing Owl -- The western burrowing owl (*Athene cunicularia hypugea*) is a federal species of concern and a California species of special concern. Burrowing owls range across most of western North America. In coastal southern California, they are found in grasslands, agricultural areas, and coastal dunes. It is believed that burrowing owls may occur wherever there are ground squirrel colonies as the owls use squirrel burrows throughout the year. These animals pair-bond for more than one year (Ehrlich et al. 1988), and exhibit high site fidelity, reusing the same burrow year after year (Rich 1984, Feeney 1992). The female remains inside the burrow during most of the egg laying and incubation period, and is fed by the male throughout brooding. When disturbed within their burrows, burrowing owls mimic the sound of a rattlesnake rattling (Ehrlich et al. 1988). Specific survey protocol and mitigation guidelines have been formulated for this species, but they are considered preliminary (California Burrowing Owl Consortium 1993).

Urbanization has greatly restricted the extent of suitable habitat for this species. Poisoning programs to control squirrels and prairie dogs have also contributed to the species decline (Ehrlich et al. 1988). A recorded occurrence for this species in the CNDDB from the Simi Valley is dated 1990. This species has a moderate potential for occurrence on the site given suitable habitat present in grassland, savanna, open sage scrub, and agricultural fields. However, this bird was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site.

Bell's Sage Sparrow -- This bird is a federal species of concern and a California species of special concern. The Bell's sage sparrow (*Amphispiza belli belli*) has a spotty distribution; breeding range is along the coastal slopes from Trinity County south into northwestern Baja California. Locally, it can be found in chaparral habitats, especially chamise chaparral. This race is essentially sedentary. Male sage sparrows show high site tenacity to breeding territory, even when the habitat is altered dramatically (Ehrlich et al. 1988). They feed primarily on spiders, insects, and seeds while breeding, and seeds during the winter (Zeiner et al. 1990).

The development of coastal and foothill zones in southern California has reduced Bell's sage sparrow populations. This species has a moderate potential to occur on the Newhall Ranch site due to the presence of coastal sage scrub and chaparral habitats and the known geographic range of the species. This bird was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site.

Fringed Myotis -- The fringed myotis (*Myotis thysanodes*) is a small bat that is considered a federal species of concern. This species typically occurs in oak woodland, pinyon woodland, juniper woodland, and desert scrub habitats. Because it is relatively uncommon in the region, it is considered to have a low potential for occurrence at the Newhall Ranch site.

Yuma Myotis -- The Yuma myotis (*Myotis yumanensis*) is a small bat that is considered a federal species of concern. This species typically roosts and forages in the vicinity of water. This relatively common bat often roosts under bridges. It is considered to have a moderate potential for occurrence on the Newhall Ranch site, where it may forage over the Santa Clara River.

Spotted Bat -- The spotted bat (*Euderma maculatum*) is a federal species of concern, and a California Species of Special Concern. This is a medium-sized bat with long, transparent ears and three large white spots on a blackish back. The spotted bat ranges from Western British Columbia to Mexico. It inhabits high cliffs, arid deserts and open pine forests in rough rocky terrain. Females appear to favor Ponderosa Pine Forest during the reproductive season (Findley and Jones 1965, as quoted in State of California 1992). This species emerges very late in the evening to feed (Brown-Berry 1992). This species is considered to have a low potential to occur on the site due to the paucity of appropriate habitat factors.

Pale Townsend's Big-eared Bat -- The pale Townsend's big-eared bat (*Plecotus townsendii pallescens*) is a federal species of concern and a California species of special concern. The range of the pale Townsend's big-eared bat includes most of California except the humid coastal regions of the northern and central coasts. This species roosts in mines, caves, and old buildings, and occupies a wide variety of

habitats including coastal conifer and broad-leaf forests, high elevation forests and meadows, oak woodlands, arid grasslands, and deserts. Habitat must include roosting, maternity and hibernation sites away from human disturbance. A single visit by humans can cause the bats to abandon a roost (Brown-Berry 1992). Due to the presence of suitable habitat on the Newhall Ranch and the geographic range of the animal, this species is considered to have a moderate potential to occur on the site.

Greater Western Mastiff-bat -- The greater western mastiff bat (*Eumops perotis californicus*) is a federal species of concern, and is a California Species of Special Concern. This species is the largest bat in southern California with a two-foot wingspan. It ranges from central California to central Mexico. Habitat includes open shrub/grassland and cultivated fields, as well as chaparral and chaparral/oak interfaces. The species prefers rugged, rocky areas within the above habitat types with suitable crevices and exfoliated rock surfaces for day-roosts. They also roost in buildings. Roosts are at least 15 feet above ground due to this large bat's requirement of a vertical drop of several feet during take-off (Brown-Berry 1992). A component of the echolocation call is audible to the human ear. Urbanization and cultivation of historic foraging areas are likely major factors in this species decline. Due to the presence of suitable habitat on the Newhall Ranch and the geographic range of the animal, this species is considered to have a moderate potential of occurrence on the site.

Los Angeles Little Pocket Mouse – The Los Angeles little pocket mouse (*Perognathus longimembris brevinasus*) is a federal species of concern, and is a California species of special concern. The emergency rule for the pacific pocket mouse (*Perognathus longimembris pacificus*) (USFWS 1994b) mentions several differences between these two subspecies. The *Perognathus longimembris* species group may be in need of taxonomic revision; there is speculation that *Perognathus longimembris brevinasus* may be co-specific with *Perognathus longimembris pacificus* (State of California 1986). Los Angeles little pocket mouse occupies lower elevation grasslands and coastal sage associations; areas of relatively open ground with soils composed of fine sands. It is known from the Los Angeles Basin: from Burbank and San Fernando to San Bernardino and south to Aguanga. Urbanization and cultivation of lands has caused the loss of the majority of this species' historic range.

This small mammal was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. The occurrence of this subspecies in a given project area can only be determined by an extensive small mammal trapping study. Trapping conducted by RECON during the 1995 surveys did not capture any individuals of this species. Based on the results of this trapping program and other observations conducted on-site, the likelihood of this species to occur on the Newhall Ranch property is considered low.

Southern Grasshopper Mouse -- The southern grasshopper mouse (*Onychomys torridus ramona*) is a federal species of concern and a California species of concern that typically occurs in relatively open areas with a well-developed herbaceous cover. Two subspecies comprise grasshopper mice in the general Newhall Ranch region. This small mammal was not observed on the Newhall Ranch property during the 1995 RECON field investigation and was not observed during any previous field surveys conducted on the site. The occurrence of this subspecies in a given project area can only be determined by an extensive small mammal trapping study. Trapping conducted by RECON during the 1995 surveys did not capture any individuals of this species. Based on the results of this trapping program and other observations conducted on-site, the likelihood of this species to occur on the Newhall Ranch property is considered low.

Sharp-shinned Hawk -- The sharp-shinned hawk (*Accipiter striatus*) is a California species of special concern. It inhabits most of North America, in woodlands, parks, and residential areas. Breeding takes place in mountainous coniferous/deciduous forests, with nests usually within 90 meters of water (Zeiner et al. 1990). The proportion of birds in the sharp-shinned hawk's diet is the greatest of any of the hawks: they only rarely take small mammals, reptiles, etc. (Ehrlich et al. 1988). Breeding occurs April through August. Due to the presence of extensive areas of coastal sage scrub, chaparral, oak woodland, and open riparian habitats (i.e., all suitable habitat for this animal) on the Newhall Ranch, the potential for this taxon to occur on-site is considered moderate.

Golden Eagle -- The golden eagle (*Aquila chrysaetos*) is a California fully protected species. It is found throughout the U.S., Canada, and much of Mexico. Golden eagles forage over large areas of grassland, broken chaparral, or coastal sage scrub where they prey upon rabbits and ground squirrels, and carrion when mammal prey is scarce (Ehrlich et al. 1988). The nesting population is concentrated in the foothill zone and coastal lowlands in southern California.

Several territories in local coastal lowlands have been eliminated by urbanization, agricultural development, and human disturbance. Formerly destroyed by sheep ranchers due to belief that the eagle was responsible for livestock depredation, this eagle is also subject to powerline electrocution, poisoning programs intended for coyotes, etc. (Ehrlich et al. 1988). Although relatively uncommon, the golden eagle has a moderate potential to occur on-site due to the presence of extensive areas of coastal sage scrub, chaparral and open riparian habitats (i.e., all suitable habitat for this bird).

Merlin – The merlin (*Falco columbarius*) is a California species of special concern that is principally a fall transient and winter visitor in interior valleys (Garrett and Dunn 1981). All habitat types on the site could be used by this species. However, no merlins were observed on the project site during the field investigations. Due to the relative rarity of this species in the geographic area, the merlin has a low potential for occurrence on the Newhall Ranch.

Prairie Falcon – The prairie falcon (*Falco mexicanus*), a California species of special concern, ranges over the western U.S. and Mexico. They nest in cliffs or rocky outcroppings always facing open habitat (Ehrlich et al. 1988) for foraging. Open, desert scrub and grasslands are preferred for foraging, and agricultural areas may be utilized in winter months. This species has a weak nest site tenacity. Due to the rarity of this species in the geographic area, this species has a low potential for occurrence on the Newhall Ranch.

Long-eared Owl – The long-eared owl (*Asio otus*), a California species of special concern, is a rare transient and winter visitor in the coastal region, and is more common but highly localized in the desert region. It formerly bred in dense willow thickets in the coastal area (Garrett and Dunn 1981). This bird was considered abundant in the late 1800's in the oaks and willows of the Santa Clara River Valley. It may occur as a rare visitor to the project site, but is not expected to nest. None was observed during the field surveys conducted at the project site.

Short-eared Owl – The short-eared owl (*Asio flammeus*), a California species of special concern, winters in coastal estuaries and to a lesser extent in agricultural fields and grasslands (Garrett and Dunn 1981). The principal habitat of this species is coastal estuaries, which are not found on the Newhall Ranch site. However, some use of the site is possible in that suitable foraging habitat is present in the old agricultural fields. No short eared owls were observed on the project site during the field surveys. This species is considered to have a low potential of occurrence.

Pallid Bat -- The pallid bat (*Antrozous pallidus*) is a California species of special concern which generally inhabits open, lowland areas below 2,000 feet elevation. This medium-sized bat has broad wings, large ears, and is buff colored. These bats commonly roost in rock crevices, caves, and beneath rock slabs. Pallid bats emerge late, and take large-sized prey including ground dwelling insects. These bats likely occur on the Newhall Ranch site.

American Badger -- The American badger (*Taxidea taxus*), a California species of special concern, requires extensive open space areas and loose sandy soils. In the Santa Clarita Valley, badgers are noted most commonly in the adjacent foothills and open plains. Reports of this species are known from the project region (including just east of I-5 in oak woodland). However, no sign of this species was recorded from the Newhall Ranch site during the field surveys. This species is considered to have a moderate potential for occurrence on the site.

Edward's Swallowtail (*Papilio indra pergamus*) -- This species occurs in the central mountain ranges of Los Angeles, San Bernardino, Riverside, and San Diego counties. In Los Angeles County, Edward's swallowtail has been found in the San Gabriel and Santa Ana mountains above 2,000-feet. Here they occur in localized colonies in chaparral habitat. The food plants for the species are plants in the genera *Tauschia* and *Lomatium*. Flight times occur from March through June and a single brood is produced. Due to the lack of the preferred host plant, the potential for occurrence of this species on the site is considered low.

Wright's Leanira Checkerspot (*Melitaea leanira wrightii*) -- This species is found in canyons of Los Angeles, Orange, and western San Bernardino counties. In Los Angeles County, it is restricted to the San Gabriel Mountains to localized colonies in chaparral or oak woodland/savanna habitats. A single brood is produced. Flight times occur March through May. Due to the known geographic range of the species, the potential for occurrence of this species on the Newhall Ranch property is considered low.

Southern Sylvan Hairstreak (*Satyrium sylvinum desertorum*) -- This butterfly species occurs on the eastern slope of the Tehachapi Mountains north through Kern, Inyo, and Mono counties. It is restricted to riparian habitats that contain willows, its main food plant. Loss of riparian habitat on the desert sides of the mountains is the main cause for its rarity. Flight periods range from May through July and one brood is produced. Due to the known geographic range of the species, the potential for occurrence of this species on the site is considered to be low.

Purplish Copper (*Lycaena helloides*) -- Purplish copper occurs throughout the western two-thirds of the United States and is found in lowlands and middle elevations of cismontane southern California. Many of the seasonally wet lowland areas in Los Angeles, Orange, Riverside, and San Diego counties have been lost to land development. The food plant for this species include plants in the genera *Rumex* and *Polygonum*. It produces multiple broods during flight periods between April and October. Purplish copper is believed to have been extirpated from Los Angeles County due to habitat loss, therefore, it is not likely to occur on the Newhall Ranch property.

Coastal Arrowhead Blue (*Glaucopsyche piasus sagittigera*) -- Once common in the coastal lowland valley regions of Los Angeles County, coastal arrowhead blue is now restricted to the San Gabriel Mountains. Loss of habitat due to development of the Los Angeles area is the main reason for its restricted distribution. The species prefers habitats of coastal sage scrub and chaparral that have the food plant *Lupinus excubitus*. Flight times occur March through May and a single brood is produced. Due to the known geographic range of the species, the potential for occurrence of this species on the site is considered low.

Hewitson's Skipper (*Copaedes aurantica*) -- This butterfly occurs in the canyons and washes of the Colorado and Mojave deserts and adjacent chaparral areas from the Panamint Mountains, Inyo County, south to the Laguna Mountains, San Diego County. In Los Angeles County, the species has been found in localized colonies in coastal sage scrub, oak woodland/savanna, and grassland habitats in the San Gabriel and Santa Ana mountains. The flight period occurs from April to September during which time it produces multiple broods. Due to the known geographic range of the species, the potential for occurrence of this species on the Newhall Ranch property is considered low.

Leussler's Skipper (*Hesperia comma leussleri*) -- This skipper butterfly occurs in the Transverse and Peninsular ranges of southern California, south to Baja California, Mexico. Various grasses make up its food plants. In Los Angeles County, this species ranges through all of the surrounding mountains in oak woodlands/savannas in localized colonies. A single brood is produced during the flight time of May through August. Due to the known geographic range of the species and the presence of suitable habitat on-site, the likelihood of this species occurring on-site is considered moderate.

Columbia Skipper (*Hesperia colombia*) -- The Columbia skipper occurs along the Coastal Ranges from southern Oregon to San Diego County in southern California. In Los Angeles County, the species is known from the Santa Susana and San Gabriel mountains in localized colonies where coastal sage scrub and chaparral habitats occur. The main food plant is grasses. A double brood is produced, one during the flight time of March through May, and the other during August through October. Due to the known geographic range of the species and the presence of suitable habitat on-site, the likelihood of this species occurring on-site is considered high.

Common Sootywing (*Pholisora catullus*) -- This is a species which is widely distributed in northern California, but is uncommon in southern California where it is found only where the mountains meet the desert, as at Little Rock, Los Angeles County, and Jacumba, San Diego County. This species is now believed to be extirpated in Los Angeles County. It occurs in habitats of coastal sage scrub and

chaparral in localized colonies. Flight times are from April to September during which a double brood is produced. Food plants for this species include pigweeds and amaranths. Due to the known geographic range of the species, the potential for this species to occur on the Newhall Ranch property is considered low.

(3) Sensitive Habitats

Habitats have been designated as sensitive by the state of California as part of the California Department of Fish and Game Natural Diversity Data Base. A listing of sensitivity designation and the rationale for these designations is provided in **Table BIO-13 (California Department of Fish and Game Natural Community Priority Rankings)**. Several of designated sensitive habitat types were observed on the proposed Newhall Ranch site. This discussion is intended to define and describe the sensitive habitat types that occur on the Newhall Ranch.

(a) California Department of Fish and Game Designated Sensitive Habitats

Most of the vegetation communities present on the site are not formally identified as being sensitive in the California Natural Diversity Data Base. However, Venturan coastal sage scrub, valley oak woodland/savanna, elderberry scrub, mainland cherry forest, southern willow scrub, southern cottonwood-willow riparian forest and valley freshwater marsh and ponds have been designated by the CDFG as being of threatened status. A discussion of these sensitive habitat types is provided below.

Table BIO-13
California Department of Fish and Game
Natural Community Priority Rankings

Community Priority Rankings
Within the CDFG's Natural Diversity Data Base, rankings are provided for priority of preservation for terrestrial plant communities which are considered sensitive. Rankings are divided into four categories.

Rank	Threat
• Less than six element occurrences (EOs), or less than 1,000 individuals, or less than 2,000 acres:	
S1.1	Very threatened (the majority of occurrences are threatened, or the majority of individuals are in occurrences which are threatened).
S1.2	Threatened (the element has some but not the majority of occurrences threatened and/or has occurrences that will soon be threatened).
S1.3	No threats known (no obvious or predictable threats exist).

Table BIO-13 continued
California Department of Fish and Game
Natural Community Priority Rankings

- Six to twenty EOs, or 1,000 to 3,000 individuals, or 2,000 to 10,000 acres:

S2.1	Very threatened.
S2.2	Threatened.
S2.3	No threats known.

- Twenty-one to 100 EOs, or 3,000 to 10,000 individuals, or 10,000 to 50,000 acres:

S3.1	Very threatened.
S3.2	Threatened.
S3.3	No threats known.

- Greater than 100 EOs, or greater than 10,000 individuals, or greater than 50,000 acres:

S4	Apparently secure; clearly lower than an S3 but reasons exist to be concerned, for example, there is some threat or narrow habitat (such as the Sierra Nevada).
S5	Demonstrably secure to ineradicable.

Coastal Sage Scrub -- Coastal sage scrub vegetation is considered sensitive by the CDFG, and is the current focus of the state's Natural Community Conservation Planning (NCCP) process. The CDFG has assigned Venturan coastal sage scrub vegetation a status of S3.1 (i.e., very threatened status in habitats that are relatively common, twenty to 100 element occurrences (EOs)). The NCCP effort is currently being conducted through a series of 12 subregional planning units, which were intended to encompass both large acreage and smaller parcels of coastal sage scrub as well as areas which could serve as corridors for interconnection of large blocks of habitat in support of viable preserve systems. The Newhall Ranch area is not located within one of these units. The NCCP process recognizes that a variety of species are characteristic of coastal sage scrub habitat, yet no single wildlife species may be a reliable indicator of the condition of this habitat throughout southern California. Many species only occur in certain subtypes of coastal sage scrub, while other characteristic coastal sage species may also be relatively widely distributed in open chaparral vegetation. The NCCP process further recognizes a suite of species as deserving special consideration for planning purposes, including the San Diego horned lizard. The NCCP process acknowledges that areas within the subregional planning units are not the only areas of coastal sage scrub and associated habitats which have potential conservation value or are useful for planning purposes, and envisions the entire non-urbanized portion of Los Angeles County eventually being incorporated into subregional coastal sage scrub NCCPs. This vegetation type occurs on about 5,183 acres (about 43 percent of the total) of this habitat on the Ranch site. A large majority of the coastal sage scrub vegetation subject to disturbance was assigned to the two lowest Habitat Value ranks.

Valley Oak Woodland/Savanna -- Valley oak woodland/savanna has been greatly reduced throughout its range and provides valuable habitat for many special wildlife species. In response to this condition, the CDFG has assigned this vegetation type a status of S2.1 (i.e., very threatened status in habitats that are not common, six to 20 EOs). Currently, 421 acres (3.5 percent of the total Newhall Ranch land area) of this habitat occurs on the Newhall Ranch site. The majority of this habitat type is located in the upland portions of the site.

Elderberry Scrub -- Elderberry scrub is not a common vegetation type and has been greatly reduced throughout its range, particularly in southern California. In response to this condition, the CDFG has assigned this vegetation type a status of S2.1 (i.e., very threatened status in habitats that are not common, six to twenty EOs). Currently, 24 acres (0.2 percent of the total area of the Newhall Ranch) of this habitat occur on the project site.

Mainland Cherry Forest -- Similar to elderberry scrub, mainland cherry forest is a rare vegetation type and has been greatly reduced throughout its range, particularly in southern California. In response to this condition, the CDFG has assigned this vegetation type a status of S1.1 (i.e., a very threatened designation that is assigned to habitat types that are of very limited distribution). Currently, 18 acres (0.15 percent of the total area of the Newhall Ranch) of this habitat occur on the project site. Mainland cherry forest vegetation is generally located in the uplands in association with coast live oak woodlands.

Southern Willow Scrub -- Like many willow dominated riparian habitats in California, southern willow scrub has been greatly reduced throughout its range and provides valuable habitat for many special wildlife species, particularly songbirds. In response to this condition, the CDFG has assigned this vegetation type a status of S2.1 (i.e., very threatened status in habitats that are not common, six to twenty EOs). Currently, 96 acres (0.8 percent of the total area of the Newhall Ranch) of this habitat occur on the project site. Southern willow scrub is generally located in the Santa Clara River drainage.

Southern Cottonwood-willow Riparian Forest/Southern Willow Riparian Woodland -- Like most riparian habitats in California, southern cottonwood-willow riparian forest/southern willow riparian woodland has been greatly reduced throughout its range and provides valuable habitat for many special wildlife species. In response to this condition, the CDFG has assigned these vegetation types a status of S3.2 (i.e., threatened status in habitats that are relatively common, 20 to 100 EOs). Currently, 219 acres (approximately 1.8 percent of the total area of the Newhall Ranch) of this habitat occur on the project site. Southern cottonwood-willow riparian forest/southern willow riparian woodland is generally located in the Santa Clara River drainage.

Valley Freshwater Marsh and Ponds -- Like many wetland habitats in southern California, valley freshwater marsh and ponds habitat has been greatly reduced throughout its range. This habitat provides a water source in arid areas and, as such, is valuable habitat for many special wildlife species. In response to this condition, the CDFG has assigned this vegetation type a status of S2.1 (i.e., very threatened status in habitats that are not common, six to 20 EOs). Currently, 5 acres (less than 0.1 percent of the total area of the Newhall Ranch) of this habitat occur on the project site.

(b) Streambeds, Drainages, and Wetlands

Wetlands are a subset of special aquatic sites that support hydrophytic (water loving) vegetation, have hydric (wet) soils, and possess wetland hydrology (frequent flooding or prolonged ponding). Like riparian habitats, wetland areas have been impacted significantly over the last century due to urban development, agriculture, flood control projects, and changes in the hydrologic characteristics of watersheds. Wetlands support an array of plant species tolerant of prolonged soil saturation and a diverse assemblage of wildlife species. Wetlands are also important for many migratory birds. Due to the sensitivity of this habitat type, land use changes involving wetlands are regulated by the U.S. Army Corps of Engineers (ACOE) and CDFG. Wetlands present on the Newhall Ranch property include valley freshwater marsh, ponds, mesic meadows, and portions of the riparian areas of the Santa Clara River and tributary drainages.

Jurisdictional wetlands and waters of the U.S. (including aquatic habitat) include those wetlands features subject to jurisdiction of the ACOE under Section 404 of the federal Clean Water Act. "Waters of the U.S." are broadly defined in the Code of Federal Regulations (33 CFR 328.3(a)) to include navigable rivers and intermittent streams which are tributary to these watercourses, as well as wetlands, either associated with watercourses or isolated (ACOE 1986). By definition, all aquatic habitat present on the Ranch is contained within the waters of the U.S. or wetlands categories.

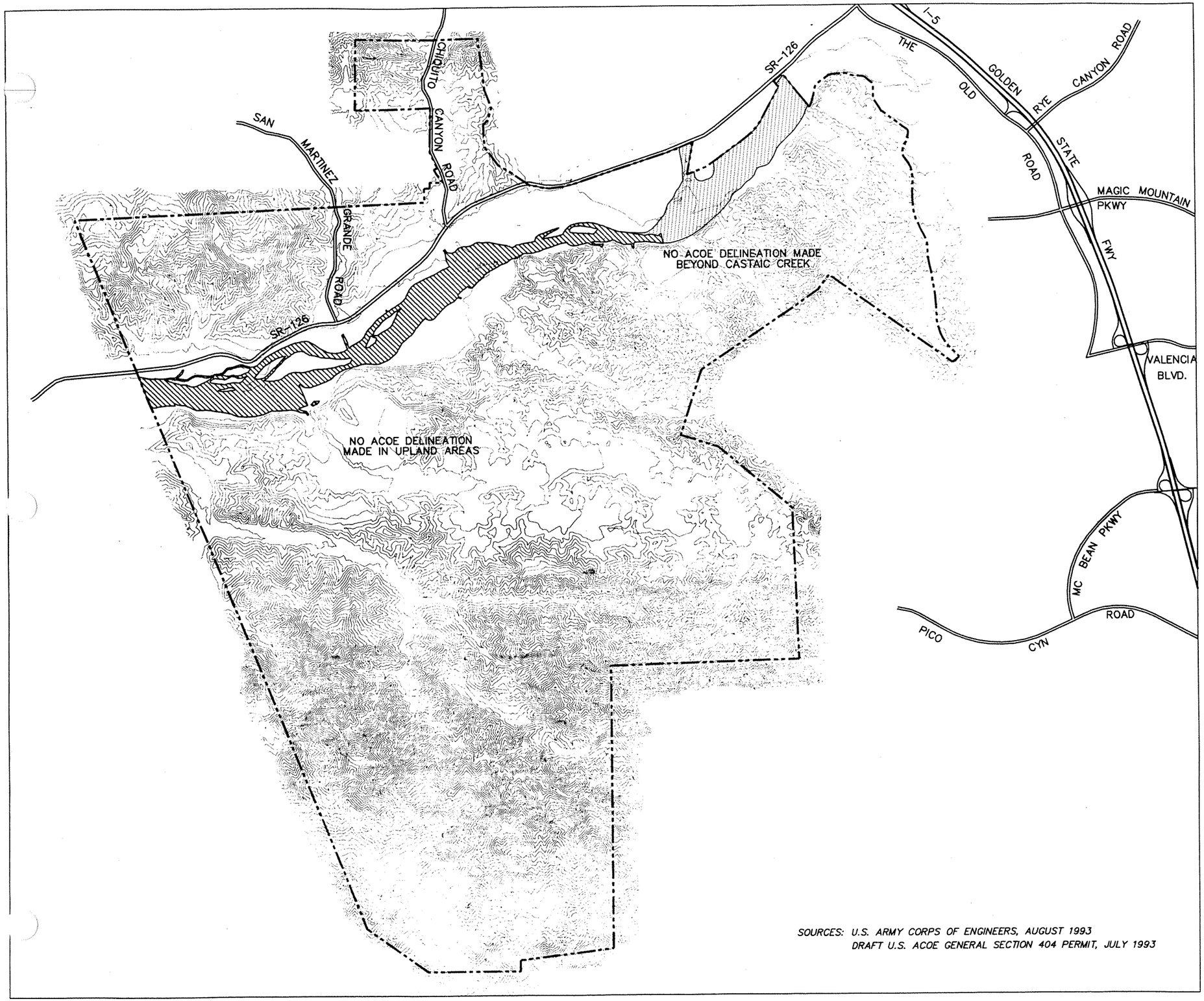
The following section discusses areas of the Newhall Ranch property subject to jurisdiction by resource agencies because of the particular biological resources present. Specifically, those areas of the Newhall Ranch that are determined to be jurisdictional waters (including adjacent wetlands) would come under the regulatory authority of the ACOE per Section 404 of the Clean Water Act. In addition, streambeds and other drainages that occur on the Newhall Ranch are subject to regulation by the CDFG under Sections 1600-1603 of the California Fish and Game Code.

The ACOE regulates the deposition of fill into waters of the U.S. including adjacent wetlands. These jurisdictional waters are defined by either the extent of the ordinary high water mark (waters of the U.S.) or by the extent of the area that meets the ACOE definition of a wetland. Fill material placed into jurisdictional waters can be permitted only under the issuance of either a nationwide permit (fill = 1 to 10 acres) or an individual 404 permit (fill = >10 acres) unless the impact is less than 1 acre which then is typically covered under a general nationwide permit.

The ACOE and the U.S. Environmental Protection Agency (USEPA) jointly conducted a delineation of jurisdictional waters of the U.S., including adjacent wetlands, on the Santa Clara River (from Castaic Creek to Las Brisas bridge in Ventura County) on The Newhall Land and Farming property in August 1993. The total acreage of jurisdictional areas as delineated at that time by the ACOE and USEPA on Newhall Ranch is approximately 407 acres. Subsequent flooding events may have resulted in minor changes to this acreage, as wetlands boundaries may have been slightly altered. The portion of the Santa Clara River east of the confluence with Castaic Creek is the subject of an environmental impact statement currently under preparation by Woodward Clyde Consultants, which will address the impacts associated with the application for a General or series of Section 404 Permits (draft) prepared by John M. Tettemer and Associates, Ltd. The total acreage within the banks of that portion of the River as discussed in the draft General Permit is approximately 210 acres. This jurisdictional area is illustrated on **Figure BIO-10 (ACOE Delineation/General Permit Area).**

A preliminary assessment of jurisdictional waters was conducted on the upland portion of the Newhall Ranch property in 1994. However, a formal wetland delineation was not conducted. The estimated acreage of jurisdictional waters from this preliminary assessment on Newhall Ranch is approximately 171 acres. It is estimated that an additional 8 acres is present in the off-site land area that would be impacted by the proposed extensions of Valencia Boulevard and Magic Mountain Parkway. This acreage estimate assumes that most of the drainages on the site would be considered jurisdictional waters.

Any alteration to a streambed or substantial drainage that may affect the quality of the state's fish and game resources are also subject to regulation by CDFG. The jurisdictional area of CDFG is similar to that of ACOE, but is generally broader in application. For example, a one-parameter approach to delineating wetlands is used by CDFG, while the ACOE uses a three-parameter approach. Alterations to streambeds and drainages must first be approved by the issuance of a streambed alteration agreement by CDFG. The sequencing process for the agreement is the same as for a ACOE permit: (1) avoidance;



SOURCES: U.S. ARMY CORPS OF ENGINEERS, AUGUST 1993
DRAFT U.S. ACOE GENERAL SECTION 404 PERMIT, JULY 1993

NEWHALL RANCH™
Newhall Ranch Company

L E G E N D

SANTA CLARA RIVER ACOE WETLAND DELINEATION

GENERAL PERMIT AREA

IMPACT SCIENCES INC

NORTH

English 0 1000' 2000'

Metric 0 225m 450m 900m

100 ACRES 400 ACRES

FIGURE BIO-10
ACOE DELINEATION/ GENERAL PERMIT AREA

(2) minimization of unavoidable impacts; and (3) mitigation of unavoidable impacts. A preliminary assessment of the streambeds and drainages subject to regulation by CDFG was made on the upland areas of the Newhall Ranch in 1994 by RECON. Total area of wetlands on Newhall Ranch that fall under the jurisdiction of CDFG is approximately 788 acres.

(c) Significant Ecological Areas

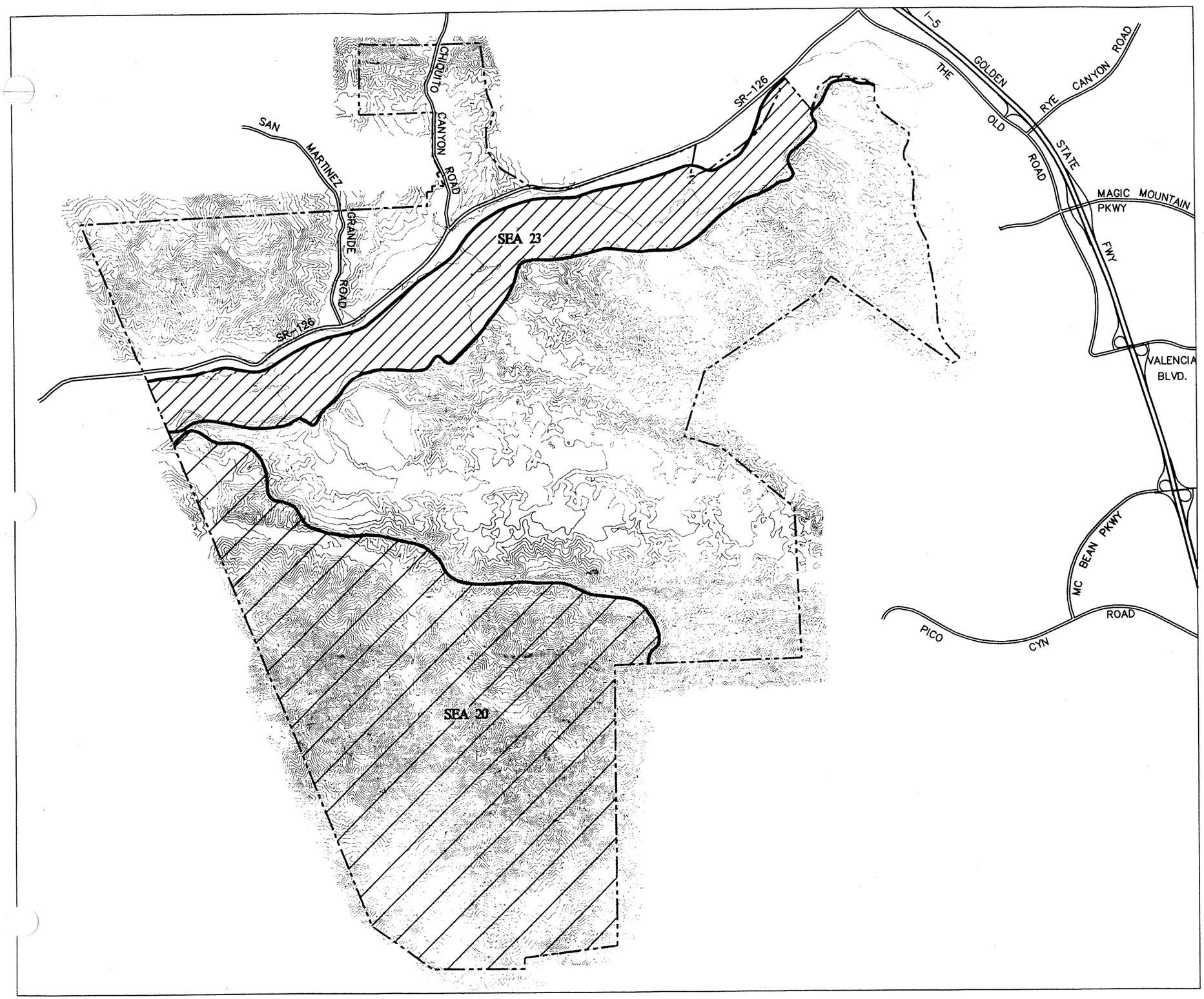
SEA Boundaries -- The SEA boundaries are policy lines, established by Los Angeles County, creating areas designated as having sensitive biological conditions. The mapped boundaries are not necessarily an accurate portrayal of the limits of the biological resources. The Los Angeles County General Plan does permit development within SEAs as long as the development is "highly compatible" with the identified resources.

Figure BIO-11 (Significant Ecological Areas Map) shows the current delineation of SEA 20, which is primarily noted for its oak/woodland conditions, wildlife corridors, and/or drainage areas. The Santa Clara River corridor SEA (SEA 23) is noted for its wetlands and critical habitat for the unarmored threespine stickleback (UTS) fish and the least Bell's vireo bird. A total of approximately 5,237 acres of the 11,963-acre Newhall Ranch are within SEAs 20 and 23 (3,947 acres in SEA 20 and 1,290 acres in SEA 23). The remainder of the Ranch (approximately 6,726 acres) is wholly outside the SEA boundaries.

The portions of the Santa Clara River which are part of Newhall Ranch are primarily west of Castaic Creek. The portion of the River east of Castaic Creek is the subject of the U. S. Army Corps of Engineers section 404 permitting process; the Corps is presently processing an application and Environmental Impact Statement (EIS) for a Permit for this portion of the River.

Santa Clara River SEA (SEA 23) -- The Santa Clara River is a regionally significant biological resource. Its value is derived from the inherent value of the wetland habitat and associated species, from its function as a regional wildlife corridor, and because it is a natural River for most of its course. The Ranch as a whole provides wildlife access from the Santa Susana Mountains to the River.

As shown in **Table BIO-14 (SEA 23 Habitats)**, agricultural uses, disturbed lands and non-riparian grasslands represent over one third of the acreage (466 of 1,290 acres) in the Newhall Ranch portion of SEA 23.Several types of riparian communities also occur in SEA 23. Expansive stands of southern cottonwood-willow riparian forest (86 acres) and southern willow riparian woodland (124 acres) occur along the banks of the river and on the flood plain. Willow and mulefat dominated scrubs (81 acres and 428 acres, respectively) occupy more open areas of the flood plain and begin to colonize the active



NEWHALL RANCH
Newhall Ranch Company

L E G E N D

SIGNIFICANT ECOLOGICAL AREA #20
SANTA SUSANA MOUNTAINS

SIGNIFICANT ECOLOGICAL AREA #23
SANTA CLARA RIVER

100 ACRES 400 ACRES

IMPACT SCIENCES INC

NORTH

English 0 1000' 2000'

Metric 0 225m 450m 900m

FIGURE BIO-11
SIGNIFICANT ECOLOGICAL AREAS MAP

channel between flood events. Arrow weed scrub (6 acres) is also present. Freshwater marsh areas (3 acres) form along the river in side channels and back water areas where water ponds or is slow moving (Source: Dames & Moore field survey of habitat). It has been estimated that approximately 156 oak trees exist in the portion of SEA 23 located on the Newhall Ranch.

Table BIO-14
SEA 23 Habitats

Habitat Types	Acres
Agricultural/Disturbed/Road	458.52
Alluvial Scrub	0.12
Arrow Weed Scrub	6.18
Cottonwood/Oak Woodland	10.06
Southern Cottonwood-Willow Riparian Forest	85.98
Elderberry Scrub	3.84
Freshwater Marsh	3.27
Non-Native Annual Grassland	7.79
Live Oak Woodland	7.18
Mixed Chaparral	3.75
Mule Fat Scrub	156.61
Successional Mule Fat Scrub	271.08
Mesic Meadow	1.05
Coastal Sage Scrub	64.02
Coastal Sage Scrub-Grassland	5.38
Southern Willow Riparian Woodland	123.73
Southern Willow Scrub	81.23
Subtotal	**831.27**
Total	**1,289.79**

Santa Susana SEA (SEA 20) – The Santa Susana SEA or High Country includes several thousand acres of habitat and forms a regionally significant core reserve for biological resources. **Table BIO-15 (SEA 20 Habitats)** indicates that SEA 20 is dominated by coastal sage scrub (1,966 acres), live oak woodland and valley oak savanna (520 and 357 acres, respectively), and mixed chaparral (815 acres) habitats. It has been estimated that approximately 13,211 oak trees exist in the portion of SEA 20 located on the Newhall Ranch. The value of the habitats found on the portion of the Ranch located within SEA 20 is enhanced substantially by its continuity and connectivity with the large areas of undeveloped land along the crest of the Santa Susana Mountains, the remainder of the SEA to the east providing opportunities for viable connections with a larger regional open space system.

Table BIO-15
SEA 20 Habitats

Habitat Types		Acres
Disturbed/Road		36.45
Alluvial Scrub		9.34
Coastal Sage Scrub		1965.96
Coastal Sage Scrub - Grassland		28.17
Non-Native Annual Grassland		160.20
Great Basin Scrub		26.22
Live Oak Woodland		519.54
Mixed Chaparral		814.57
Mule Fat Scrub		21.25
Pond		0.20
Valley Oak Savanna		356.91
Valley Oak Woodland		4.81
Southern Willow Scrub		3.06
	Subtotal	**3,910.23**
	Total	**3,946.68**

(d) Oak Woodlands

Oak woodlands have long been a feature of the California landscape and Los Angeles County. This habitat type can range from dense woodland to open savanna, depending on the geographical location and disturbance regime. Large oak trees are often considered part of the California heritage. Loss of oak woodland habitat over the last century to development, grazing, agriculture, and for fuel has reduced the overall acreage of this plant community. Because these trees are slow growing, replacing the habitat once it is disturbed is a long process. Some oak species (not including any present on the Ranch) have been significantly reduced in distribution along with the habitat. Los Angeles County and the CDFG recognize oak resources and woodlands as a sensitive habitat type and the California Native Plant Society considers oak woodlands a rare community type. Types of oak woodlands that occur on the Newhall Ranch property include coast live oak woodland, valley oak woodland, and valley oak savanna. In addition, oak trees are a substantial component of the cottonwood/oak woodland and mainland cherry forest communities.

An Oak tree survey of the site was conducted by Henrickson in 1995. The following information is summarized from the Henrickson report.

> Oak trees were evaluated on the northern two-thirds of the Newhall Ranch property, such that all trees within the proposed development areas were recorded. Data gathered during these efforts conform to the Los Angeles County Oak Tree Ordinance (No. 88-0157), and include species identification, general appearance and health evaluation, and size measured in diameter at

breast height (DBH) for all oak trees greater than eight inches DBH. Evaluated trees were mapped on 1 inch = 200 ft. scale maps of the Ranch. In this evaluation the minimum size for heritage oaks was reduced to 110 inches DBH from 113 inches DBH to allow for growth during the time prior to actual project development.

A total of 16,314 oak trees (12,388 coast live oaks and 3,926 valley oaks) occur on Newhall Ranch, including 3,314 oak trees (2,888 coast live oaks and 426 valley oaks) within the proposed development area[4] and 13,000 trees (9,500 coast live oaks and 3,500 valley oaks) within the High Country Special Management Area (SMA). Approximately 156, 13,211, and 2,947 oak trees occur within existing SEA 23, existing SEA 20 and the non-SEA area, respectively, located on the Specific Plan site for a total of 16,314 oak trees. The 3,314 trees in the proposed development area were individually counted, mapped, and graded for health. A total of 232 heritage trees (178 coast live oaks and 54 valley oaks) were identified among the 3,314 trees. Oak trees in the High Country SMA were counted based on aerial photography and field observation. In addition, 6 oak trees (including one heritage oak) were found within the proposed area of disturbance for the off site extensions of Valencia Boulevard and Magic Mountain Parkway. The health and appearance of the oak trees on the Ranch is generally good, with a large percentage of those coast live oak trees and valley oak trees evaluated assigned to grade classes A through C (A indicating excellent trees, B indicating trees of good to very good health but not exceptional size, and C indicating poor to moderately good trees with an equal chance to either decline or continue). A total of 53 trees were assigned to grade class F (dead standing trees), including 46 coast live oaks and seven valley oaks (one classified as a heritage tree).

h. Ecological Characteristics of the Site and Surrounding Area

(1) General Description of Habitats and Vegetation Communities

The habitats on the Newhall Ranch project site are representative, and a continuation, of many of the habitat types found in the surrounding landscape. The site provides high quality examples of the habitats of the Santa Susana Mountains and the Santa Clara River ecosystems. Coastal sage scrub, live oak woodland, mixed chaparral, chamise chaparral, and non-native grassland are the major upland community types occurring on the adjacent lands, both to the north and south of the Santa Clara River.

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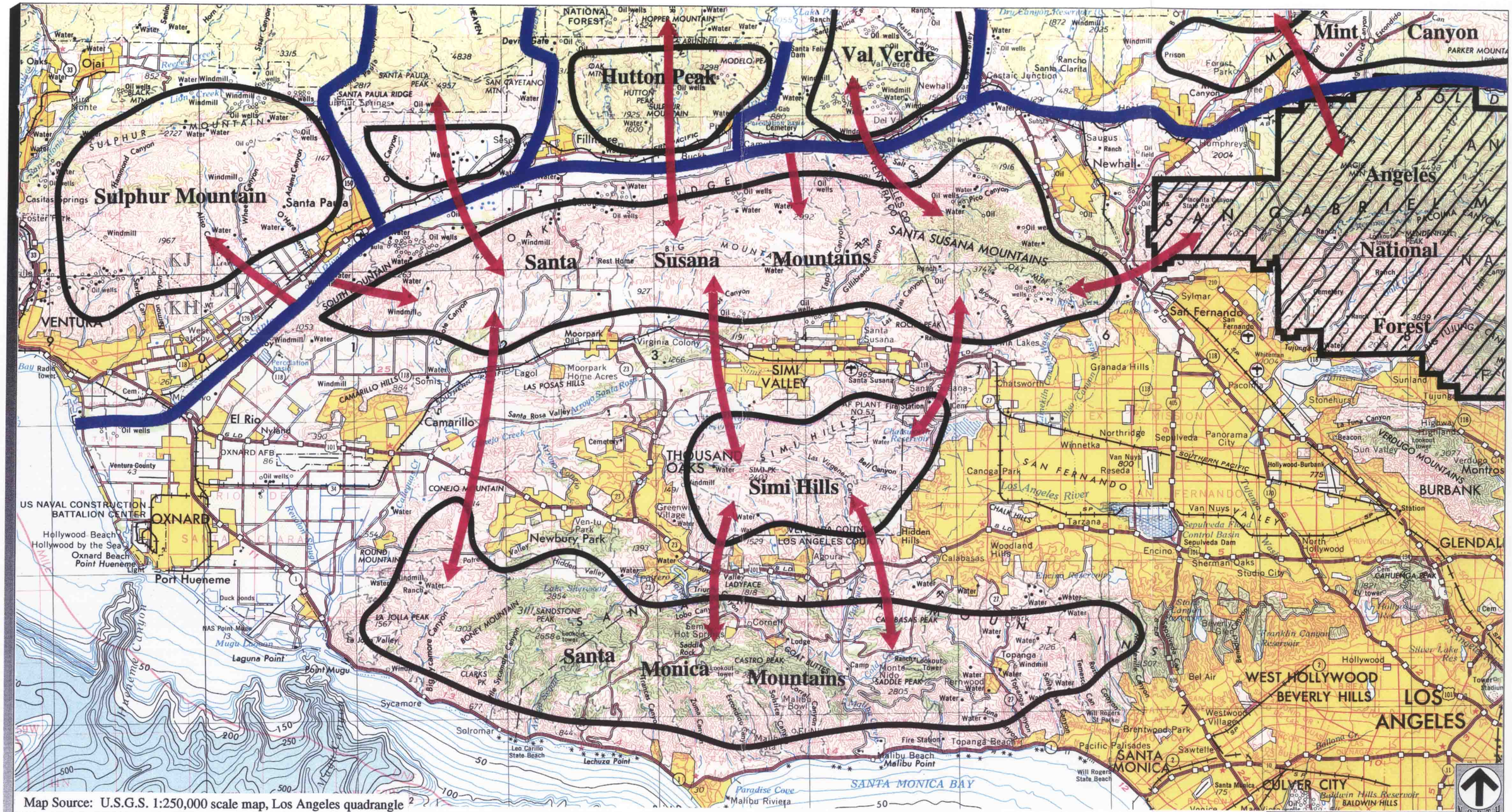
4 For the purposes of the oak tree survey, a generalized area was used to describe the development area which includes portions of the site designated as High Country, Open Area, and River Corridor.

The Santa Clara River, both up stream and downstream of the project site supports a variety of riparian habitats much like those identified on the site (e.g., willow woodlands and scrubs, cottonwood/willow forests, mule fat scrub, freshwater marsh). The quality of these habitats on the surrounding areas is variable. Most areas have been subject to cattle grazing and agriculture, but other areas have remained relatively undisturbed.

From the perspective of regional wildlife movement and connections, portions of the Newhall Ranch occupy an important location (see **Figure BIO-12, Regional Wildlife Movement**). The portions include the southern portion of the Ranch found in the Santa Susana Mountains, the western end of the San Martinez Grande area, and the Santa Clara River, all of which are potentially key components of a regional conservation system. The primary connectivity of the site is to the larger undeveloped area in the Santa Susana Mountains, including the recently dedicated Santa Clarita Woodlands Park. The eastern end of the Santa Susana Mountains is potentially connected to several other surrounding undeveloped areas, albeit somewhat more tenuously. The Santa Susana's have some potential for wildlife exchange with the Simi Hills and the Santa Monica Mountains to the south (see **Figure BIO-12**). However, these connections are limited by intervening urban development in Simi Valley, the San Fernando Valley and other communities in Ventura and Los Angeles Counties and existing State Route 118 (SR-118) and the U.S. 101 freeway. The connection to the east between the Santa Susana's and the Angeles National Forest is also problematic because of the presence of Interstate 5 (I-5) and State Route (SR I-14) freeways, and because of urban development in the City of Santa Clarita and unincorporated areas of Los Angeles County to the east and the San Fernando Valley to the southeast. Such barriers act to limit the potential movement of species between the larger ecological units.

Wildlife movement corridors from the project site to the surrounding areas are focused on movement to and from the Santa Clara River. The Santa Clara River is an important riparian corridor that connects the project site with habitat to the east and west. The river and its tributaries serve as connections between the upland habitats to the north and south of the river, as well as upstream and downstream. Large expanses of undeveloped land in the Santa Susana Mountains to the south allow for the movement of wildlife down to the river and back primarily through a series of ridges and canyons (e.g., Salt Creek Canyon, Rawhide Canyon, and to a lesser extent Potrero Canyon). North of the river, wildlife movement from the surrounding hills to the river is somewhat facilitated by existing canyon connections (e.g., San Martinez Grande Canyon and to a lesser degree Chiquito Canyon), although SR-126 poses a barrier to wildlife movement. Proposed Caltrans improvements to SR-126 in Ventura County include the provision of three agricultural undercrossings which may function as wildlife undercrossings. One of these undercrossings is planned to be located across from the confluence of Salt Creek and the river, enhancing the future value of Salt Creek as a wildlife corridor between the areas



Map Source: U.S.G.S. 1:250,000 scale map, Los Angeles quadrangle

FIGURE BIO-12

REGIONAL WILDLIFE MOVEMENT

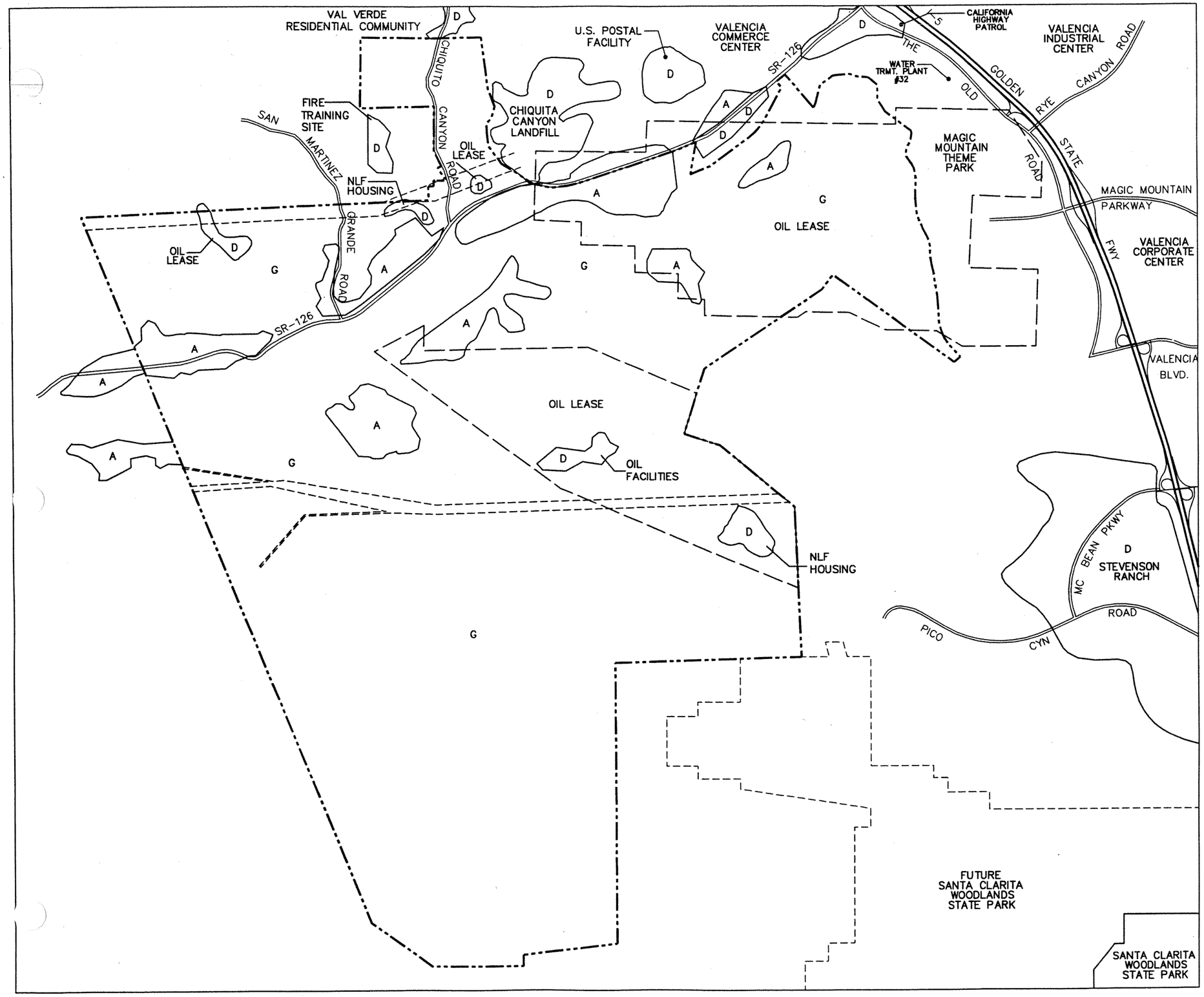
south and north of the river. Connection to the west along the Santa Susana Mountains and rugged terrain of the lower foothills above the river is still good due to lack of development. Viable upland connections to the east are very restricted by the I-5 freeway, Stephenson Ranch, the Magic Mountain Theme Park, and the continued development of the Santa Clarita Valley.

(2) Existing Land Use

The 11,963-acre Newhall Ranch is an irregularly-shaped site generally located between the Magic Mountain Theme Park on the east and the Los Angeles/Ventura County line on the west. The City of Santa Clarita is located east of the project site just beyond I-5, approximately one mile from the project site. SR-126 and the Santa Clara River transect the project site from east to west; a majority of the project area occurs south of SR-126 and the Santa Clara River. Present (and historical) land uses on the Newhall Ranch include: vacant land with oil and natural gas operations; agriculture primarily along the Santa Clara River corridor, on the mesas overlooking the River and in the wider canyon bottoms; and cattle grazing in Potrero Canyon, along the river, and in other upland and mountainous portions of the Ranch (see **Figure BIO-13, Existing Land Use**). Newhall Ranch is also periodically used by the movie industry for set locations. Several employee homes, an oil company office, and miscellaneous other structures are also on site. Related to the oil uses on the site, the central and northeastern portions of the property are heavily traversed with dirt and asphalt roads, which provide access to numerous graded oil well pads and pipelines, and storage and transmission facilities.

The Newhall Land & Farming Company presently leases out portions of the project site for on-going oil and natural gas production, as well as for cattle grazing and limited irrigated row crop and dryland agricultural operations. However, the oil and natural gas operations are slowly phasing out due to decreasing production values. There are major Southern California Edison Company (SCE) electrical transmission lines and Southern California Gas Company (SCGC) pipelines within easements traversing the property which would remain in place or be relocated. There are also a variety of electrical distribution lines and smaller natural gas and water lines which are either to remain in place, be relocated, or be removed during development or abandonment of oil and gas operations.

Direct access to the project site is currently provided by SR-126. The I-5/SR-126 interchange is located approximately one half mile east of the site. San Martinez Grande Road and Chiquito Canyon Road, north of SR-126, provide access to the northern portion of the site. South of SR-126, the site is criss-crossed by a network of paved and unpaved roads which were established to serve the oil and gas operation sites, as well as cattle and farming uses.



NEWHALL RANCH
Newhall Ranch Company

L E G E N D

- A — AGRICULTURE
- D — DEVELOPMENT
- G — CATTLE GRAZING
- SCE/UTILITY EASEMENTS

IMPACT SCIENCES INC

NORTH

English 0 1000' 2000'

Metric 0 225m 450m 900m

100 ACRES 400 ACRES

FIGURE BIO-13
EXISTING LAND USE

Land use types surrounding the site locally include: to the north, scattered rural and urban residential uses (the communities of Val Verde and San Martinez Grande), landfill uses (Chiquita Canyon), oil and natural gas production uses, business park uses (Valencia Commerce Center), urban single family homes and low intensity commercial uses (Castaic corridor), and open area; on the east, wastewater treatment plant (WRP 32), a California Highway Patrol station, high intensity commercial/recreational uses (Magic Mountain Theme Park), hotels, restaurants and service stations adjacent to I-5, urban density residential uses (Stevenson Ranch), and open area; on the south, open area; and on the west, citrus orchards, oil and natural gas production uses and vacant open area.

(3) Major Public and Private Open Space (within 10 miles of Newhall Ranch)

Figure BIO-14 (Major Public and Private Open Space) illustrates the distribution of major public and private open space in the vicinity of the site. Provided below is a listing of the same properties depicted in **Figure BIO-14**.

Public (existing)

1. Los Padres National Forest, including the Sespe Condor Sanctuary
2. Angeles National Forest
3. Santa Clarita Woodlands Park
4. Santa Susana Mountain Project
5. Porter Ranch Park
6. Porter Ridge Park
7. O'Melveny Park
8. Placerita Canyon State Park
9. Happy Camp Canyon Regional Park
10. Sage Ranch
11. Chatsworth Reservoir Park
12. Challenger Park
13. Tapo Canyon Regional Park

Public (proposed)

14. Remainder of Santa Clarita Woodlands Park
15. Rocky Peak Park (Runkle Ranch)
16. Ahmanson Open Space Area

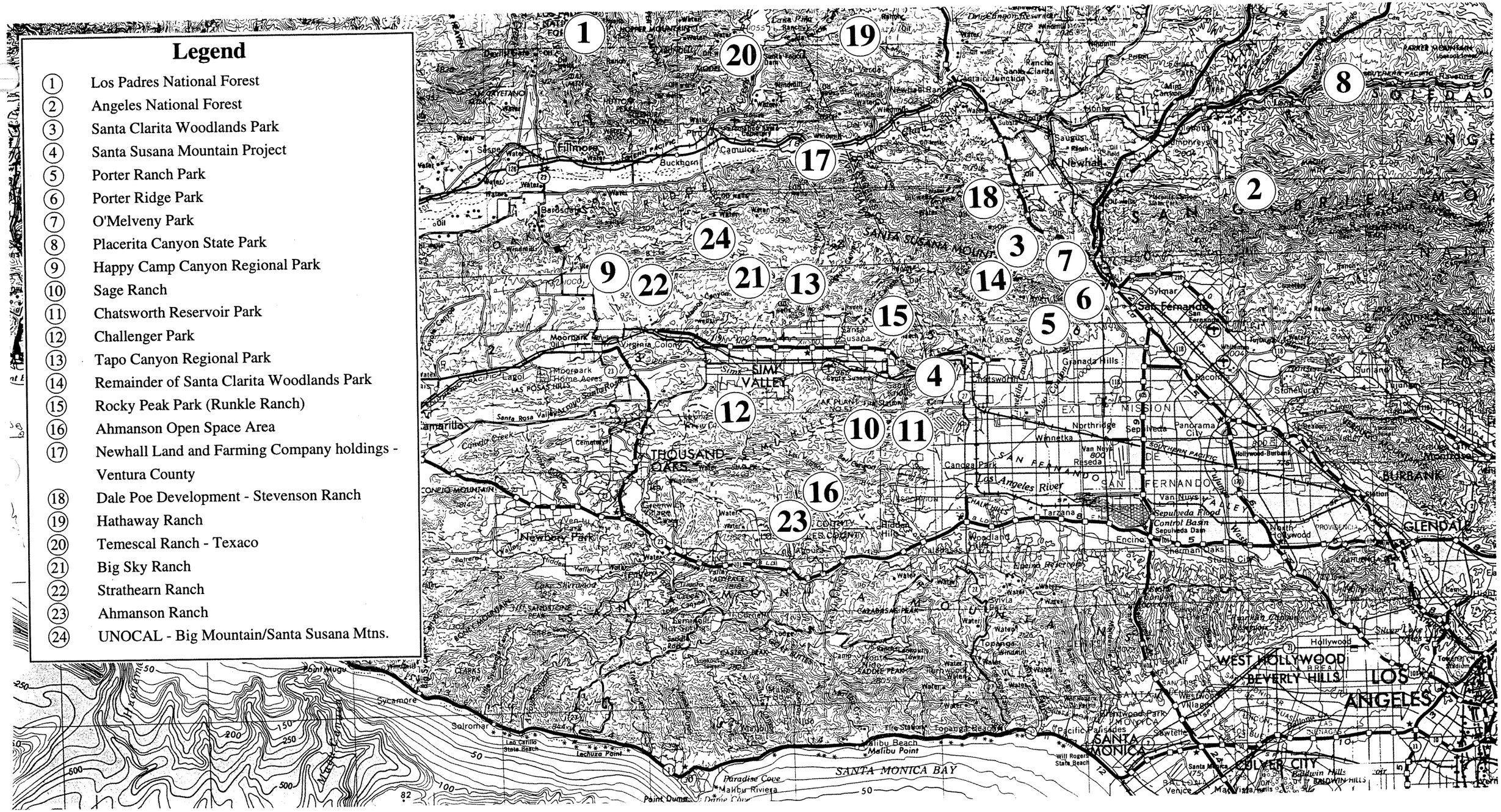


FIGURE BIO-14

MAJOR PUBLIC AND PRIVATE OPEN SPACE

NEWHALL RANCH™
Newhall Ranch Company

Private Holdings

17. Newhall Land and Farming Company holdings -Ventura County
18. Dale Poe Development - Stevenson Ranch
19. Hathaway Ranch
20. Temescal Ranch-Texaco
21. Big Sky Ranch
22. Strathearn Ranch
23. Ahmanson Ranch
24. UNOCAL-Big Mountain/Santa Susana Mountains

(a) Actual or Potential Wildlife Movement and Gene Flow Between Surrounding Open Space and Reserves to the Project Site

Because of the large area encompassed by the site and the large amount of relatively undisturbed habitat remaining around the site, precise assessment of the actual wildlife movements associated with the project site are problematic. Current wildlife use of the area is not restricted to corridors as such, but reflect species specific use of the landscape for life history requirements, as well as for local and larger scale movements. Current constraints on wildlife movement and use of the property and surrounding area are associated with existing land uses, particularly urbanization to the east and north of the site, agriculture along the river, and highways (SR-126 and I-5).

Generally, the pattern of wildlife movement and gene flow in the area, including the Newhall Ranch project site, can be characterized as being within and between the three important local ecotypes or ecological units. These are: the uplands of the Santa Susana Mountains ('High Country'), the Santa Clara River riparian system, and the uplands to the north on into the Los Padres National Forest. **Figure BIO-12** above illustrates the estimated pathways between regionally important large ecological units.

From the conservation planning perspective, it is most important to anticipate land connections necessary to maintain the general pattern of connectivity that currently exists. This will require that the open space system within the site provide for adequate connectivity between the uplands on the site and the Santa Susana Mountain uplands south of the site; adequate connectivity upstream and downstream along the Santa Clara River; and not preclude adequate connectivity between the uplands to the north (Los Padres National Forest) and south (Santa Susana Mountains) of the river. To provide adequate connectivity, the landscape connections within each of the ecological units must be broad enough to provide for regular movement of individuals or dispersal of units.

Connections between the river and upland areas and across the river (for example, Salt Creek) serve as more intermittent connections between ecotypes and are more easily characterized as corridors, and as such are not as necessarily broad as connections within ecological units (e.g., Los Padres National Forest, Santa Susana Mountains, etc.). To function adequately for large mammal and small vertebrate movement, the corridors intended to serve this function must provide the necessary habitat characteristics, adequate width so as to not inhibit movement, and continuity between the areas being connected.

(b) Overall Biological Value of the Project Site and its Context with Adjacent Lands

To gain perspective of the general overall biological values of the habitats both on and off the project site, the historical land use of the Newhall Ranch property must be considered. As stated earlier, cattle grazing, agriculture, and oil and gas exploration have been a part of the land use history since the early 1870's and continues to the present time. Many of these historical activities have also occurred on portions of the adjacent lands, especially cattle grazing and agriculture. Therefore, there is a distinct difference in biological values of habitats found in the landscape. Habitats that occur on steep slopes and in the high country of the Santa Susana Mountains have been less affected by the historical land uses and consequently have a higher diversity of species, good use by wildlife, and the best biological values. The main riparian corridor of the Santa Clara River, although somewhat affected by historical land use, is relatively intact and supports a high diversity of species, good wildlife use, and overall good biological values. Areas both on the project site and surrounding areas that have been subject to long term cattle grazing, agriculture, or oil/gas exploration activities lack species diversity, have low wildlife use, and consequently low overall biological values.

The Santa Clara River is a regionally significant biological resource. Its value is derived from its status as one of the few remaining undammed river systems in southern California, the inherent value of the riparian habitat and associated species within its flood plain, and from its function as a regional wildlife corridor.

The reach of the Santa Clara River through the Newhall Ranch property has some of the highest quality riparian vegetation associations remaining on the entire river, providing habitat for a great diversity of species. These species include small populations of the federally listed least Bell's vireo, unarmored threespine stickleback, and southwestern willow flycatcher. Other sensitive species dependent upon riparian and aquatic habitats that occur or have the potential to occur in the area include western spadefoot toad, southwestern pond turtle, arroyo toad, two-striped garter snake, white-tailed kite, Cooper's hawk, and a diversity of migratory birds. The quality of the riparian

habitat along this reach of the river is a direct result of upstream runoff from developed areas and the discharge of treated effluent from wastewater treatment plants (Los Angeles County Sanitation District Plant Nos. 26 and 32). Other portions of the river not affected by such runoff and effluent discharges are typically dry during dry months of the year.

The upland areas of the Newhall Ranch property proposed for the open space system, including the High Country of the Santa Susana Mountains, are dominated by coastal sage scrub and mixed chaparral habitat, with scattered oak woodlands in the drainages. Patches of non-native grassland are also dispersed through the area. Coastal sage scrub habitat is the focus of regional planning processes because of the general trend of habitat loss in southern California and the occurrence of the federally threatened coastal California gnatcatcher in areas of Orange, Riverside, and San Diego counties.

Although their range historically included the Santa Clara River vicinity, coastal California gnatcatchers are believed to be extirpated in this area. The recent observation of a coastal California gnatcatcher in the Moorpark area of Ventura County does not likely indicate that this species is re-occupying the Santa Susana Mountains.

A number of sensitive species occur in the habitats within the Santa Susana Mountain High Country proposed for open space including: Peirson's morning-glory, San Diego and California horned lizard, coastal western whiptail, and San Diego woodrat. These habitats support a high diversity and abundance of other plant and wildlife species, including the potential for several other sensitive species such as golden eagle.

(4) Approach to Resource Conservation

As a result of their diversity and overall quality, consideration of the biological resources on the Newhall Ranch property has been incorporated into the early stages of the planning process for the Newhall Ranch Specific Plan to maximize the conservation of important biological features of the site. The habitat types and associated plant and animal species found on the property have become an integral part of the overall project design with respect to both environmental regulatory issues and as a project amenity. A multidisciplinary approach was taken in the design of the open space system that included factors such as biological issues, land use, geology, hydrology, soils, and infrastructure. The result was the formulation of a conservation strategy that allows for the development of the site in a way that minimizes the Specific Plan's effects on important biological resources.

In addition, the conservation strategy also incorporates the design and management of important open space areas in a way that conserves biological values. An important aspect of the approach was an analysis of the conservation value of habitats on the property. This analysis used the conservation principles and a geographical information system (GIS) methodology outlined below. An additional, component of the conservation strategy was the consideration of the larger regional context in the conservation design of biological resources on the site. The Ranch, which extends from the ridgeline of the Santa Susana Mountains across the Santa Clara River to the uplands on the north, offers the potential for significant habitat contributions to a potential Santa Susana Mountains open space area and a key segment of the Santa Clara River system, as well as, regionally important connections between these habitat areas and across the river (see **Figure BIO-12**).

Conservation theory and practice (Thomas et al. 1990; Noss 1991; USFWS 1993d) includes a number of concepts developed to guide regional conservation planning for sensitive species (e.g., spotted owl, desert tortoise, Stephen's kangaroo rat, and least Bell's vireo), as well as ongoing multiple species planning (i.e., Natural Community Conservation Planning). The biological resource conservation strategy developed for the Newhall Ranch property is based on these current conservation planning concepts. The scale of these conservation concepts ranges from *regional* (including an entire reserve system), to individual *reserves*, to single habitat *patches* within reserves, or combinations of these scales. Although the proposed open space system for the Newhall Ranch property is on the scale of an individual reserve, a combination of the concepts applicable to each of the scales above was used in the overall conservation strategy for the site.

A two step process was used to assess the conservation values of different portions of the property. In addition to the intrinsic value of each habitat patch or polygon mapped on the property, their value was evaluated in the context of the size of the patch and its connectivity and proximity to other natural habitat types. The point of this exercise was to give a more objective basis for evaluating which areas on the Ranch would be of greatest value as part of an open space system and which would contribute least. From the perspective of the planning process for the project, this provided direction as to which areas are least appropriate for development and which are least constrained by biological resources.

The first step in the analysis was to map the habitats on the Ranch. Each habitat type was then assigned a habitat value based on the habitat's sensitivity (CNDDB), regional rarity, diversity of wildlife species, and importance to listed and sensitive species. These factors were used to rate the habitat classes present on the Ranch on a scale from 1 to 10. The composite habitat values from this evaluation were used in the generation of a preliminary habitat values map.

The classification of habitat values for each patch was conducted using GIS analysis. The analysis focused on the value of each habitat patch (or polygon, in GIS terms), its size relative to other patches on the property, its proximity to other native habitat, and its continuity with other patches of native habitat. The four criteria that were used to classify the habitat conservation value of each polygon, *i*, on the property were:

- *Habitat value* - an arbitrary value for each polygon, V_i, between 0 and 5 based on habitat sensitivity and biodiversity value. These values are from the attached table.
- *Area* - based on the area of the polygon relative to the other polygons of the same habitat on the property. The value for this criterion for each polygon, A_i, will be generated relative to the distribution of size classes of polygons for each habitat type. The value of each is calculated as A_i = 5 x (area of the polygon/area of the largest polygon of the same habitat type).
- *Proximity* - based on the proportion of higher value habitats within 500 feet of the polygon. This value, Px_i, will be determined by adding 500-ft to each polygon. The value will be calculated as Px_i = S (area of each polygon within 500 ft x Vi of the polygon)/S(area of all polygons within 500 ft). This value is then assigned to the polygon itself, even though it was calculated from the added area.
- Continuity - based on the value of the habitat immediately adjacent to the polygon (i.e., sharing a boundary). This value, Cni, is calculated from all polygons which share a boundary with the polygon. The value for each polygon is calculated as Cni = S (area of each adjacent polygon x Vi of the polygon)/S(area of all adjacent polygons).

The overall habitat value, Si, for each polygon was calculated as:

$$Si = ((2Vi \times Ai) + Pxi + (Cni \times 2)) / 13$$

The divisor of 13 was chosen to normalize the resultant Si to a number between 0 and 5 (low to high value) for graphic representational purposes.

The results of the GIS habitat value analysis identified the values of each habitat patch (polygons) on the property from highest to lowest on a map. This was a first approximation of the distribution of habitat values on the property.

The second step in the evaluation involved the focused assessment of the results of the GIS analysis to add the perspective of site specific knowledge of the property and its resources, as well as to correct some computational limitations of the habitat evaluation model. In particular, the model overvalued areas of grassland habitat in Potrero Canyon because of their large area and their proximity and continuity to relatively undisturbed coastal sage scrub and other native habitats. The model also

overvalued the coastal sage scrub and mixed chaparral habitats in the lower elevation uplands because it did not factor in the disturbed nature of the habitat. By comparison, the coastal sage scrub, chaparral, and oak woodland habitats in the higher elevation portion of the property (Santa Susana Mountains) were undervalued.

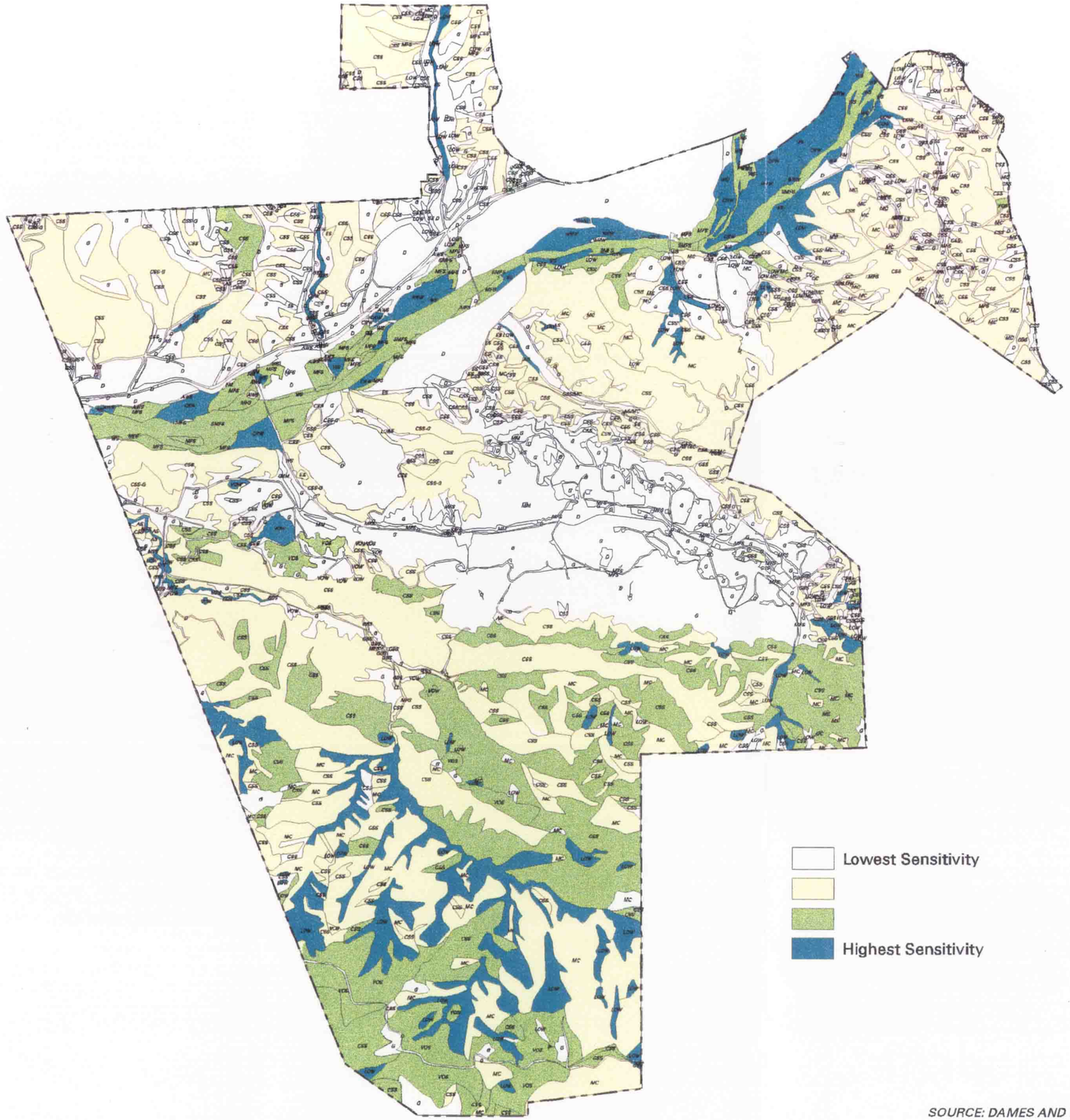
The result of the second step habitat value analysis is shown in **Figure BIO-15 (Habitat Value Study)**. The areas of highest value based on the criteria used were: the coastal sage scrub and oak woodlands at higher elevations on the southern half of the Ranch; the riparian woodlands along the Santa Clara River; and linear patches of riparian habitat in Salt Creek, Chiquito Canyon, San Martinez Grande Canyon, Lower Potrero, and Long Canyon. Areas of coastal sage scrub, oak savanna, and chaparral at lower elevations were rated as having moderate values. The grasslands, agricultural fields, and disturbed areas on both sides of the river have the lowest values from the perspective of biological conservation.

Based on the analysis, to minimize impacts to biological resources on the Ranch, potential development should be focused in more disturbed uplands areas in the central portion of the property to the north and south of the Santa Clara River. Development should be avoided in the high value areas along the Santa Clara River and in the High Country SMA in the southern half of the Ranch. To maximize long term habitat values, these high value areas should be connected by a landscape corridor. The most logical location for this corridor would be at the west edge of the property away from the likely development areas and making use of existing topographic characteristics, as well as, the planned undercrossing of improved SR-126 on the north side of the river. Salt Creek therefore appears to be the most appropriate topographic feature upon which to align this potential connection.

The result of the design effort has produced a strategy that has focused conservation and mitigation efforts on the Newhall Ranch property into three areas:

1. The Santa Clara River corridor,
2. The large block of relatively undisturbed habitats on higher elevations of the Santa Susana Mountains, and
3. The connection between these two areas along the Salt Creek drainage corridor.

The biological resource conservation strategy developed for the Newhall Ranch property includes the specific mitigation actions necessary to resolve regulatory issues and addresses the sequencing recommended by the resource agencies: avoidance, minimization, and mitigation for impacts to key resources. Proposed large, open space areas on the Newhall Ranch property avoid impacts to many of the highly sensitive species, present or potentially occurring on the site, and their habitats. Further



SOURCE: DAMES AND MOORE, RECON

NEWHALL RANCH.
Newhall Ranch Company

L E G E N D

UPLAND HABITAT

G	GRASSLAND
CC	CHAMISE CHAPARRAL
MC	MIXED CHAPARRAL
GBS	GREAT BASIN SCRUB
GBS-MC	GREAT BASIN SCRUB / MIXED CHAPARRAL
CSS	COASTAL SAGE SCRUB
CSS-G	COASTAL SAGE / GRASSLAND
ES	ELDERBERRY SCRUB
LOW	COAST LIVE OAK WOODLAND
LOW-MC	COAST LIVE OAK WOODLAND / MAINLAND CHERRY
VOW	VALLEY OAK WOODLAND
VOS	VALLEY OAK SAVANNAH
AS	ALLUVIAL SCRUB
AS-MC	ALLUVIAL SCRUB / MIXED CHAPARRAL
AWS	ARROW WEED SCRUB
SS	SCALEBROOM SCRUB
MFS	MULE FAT SCRUB
SMFS	SUCCESSIONAL MULE FAT SCRUB
WS	SOUTHERN WILLOW SCRUB
COW	COTTONWOOD / OAK WOODLAND
CRW	SOUTHERN COTTONWOOD WILLOW RIPARIAN FOREST
WRW	SOUTHERN WILLOW RIPARIAN WOODLAND
MM	MESIC MEADOWS
P	POND
FM	VALLEY FRESHWATER MARSH
D	DEVELOPED / DISTURBED AREAS

English 0 1000' 2000'
Metric 0 460m 920m
NORTH

FIGURE BIO-15
HABITAT VALUE STUDY

project design with respect to potential significant impacts to biological resources has minimized encroachments into key areas of the property, decreasing the overall mitigation requirements. Indirect impacts to biological resources are minimized through the dedication of large blocks of habitat that decrease the edge-area ratio, and thus, buffer the habitat from noise, lighting, and encroachment by domestic pets, non-native plants, and humans. Specific design criteria have resulted in the placement of more benign land uses between development areas and higher value habitats (e.g., open areas, trail systems, parks, and utility easements/corridors have been situated between development areas and sensitive habitats, and lower density residential uses have been placed between higher density uses and sensitive habitats).

III. PROJECT IMPACTS

a. Significance Threshold Criteria

Appendix G of the California Environmental Quality Act (CEQA) Guidelines defines a significant effect on the biological environment as those changes that "substantially affect a rare or endangered species of animal or plant or the habitat of the species; . . . interfere substantially with the movement of any resident or migratory fish or wildlife species; . . . [or] substantially diminish habitat for fish, wildlife, or plants."

The direct impact of implementation of the Newhall Ranch Specific Plan would be to remove a portion of the natural biological resources that exist on the site and to convert them to a urban condition. Regardless of the magnitude of this change, this information in itself does not provide a conclusion regarding impact significance. To assess the significance of direct and indirect Specific Plan impacts, the following criteria were employed to define impact magnitude (these include the aforementioned significant effects as defined by CEQA).

- Will implementation of the Newhall Ranch Specific Plan substantially diminish habitat for fish, wildlife or plants?
- Will implementation of the Newhall Ranch Specific Plan substantially affect the movement of any resident fish or wildlife species?
- Will implementation of the Newhall Ranch Specific Plan substantially affect endangered, rare or sensitive plant or animal species?
- Will implementation of the Newhall Ranch Specific Plan substantially affect sensitive habitat types?

b. Specific Plan Impacts

(1) Effects on the Diminishment of Habitat for Fish, Wildlife or Plants

The discussion of direct impacts that follows identifies the direct impact of implementation of the Newhall Ranch Specific Plan and the resource value assigned to the individual habitat types. Review of this evaluation indicates that the majority of the proposed development area is situated in areas with low to moderate habitat values. This is summarized by the **Table BIO-16 (Vegetation on Newhall Ranch Affected by Specific Plan Implementation)**, which shows that the vegetative

communities with the highest percentage of area impacted are of relatively low habitat value (e.g., non-native grassland and disturbed areas). Conversely, the areas of least percentage of area impacted are among the highest value habitats (e.g., southern willow riparian woodland, valley oak and coast live oak woodlands, and valley oak savannas).

Table BIO-16
Vegetation on Newhall Ranch Affected by Specific Plan Implementation

Vegetation Community Type	Approximate Acres Present	Approximate Acres Disturbed	Approximate Percent Disturbed
Coastal Sage Scrub	5,183	1,820	35%
Chamise Chaparral	7	3	43%
Mixed Chaparral	1,206	199	16%
Great Basin Scrub	81	49	60%
Coast Live Oak Woodland	670	37	5%
Valley Oak Woodland	26	2	8%
Valley Oak Savanna	394	25	6%
Elderberry Scrub	24	14	58%
Non-Native Grassland	1,896	1,480	78%
Mainland Cherry Forest	18	11	61%
Disturbed Areas	1,523	1,317	87%
Mule Fat Scrub	222	63	28%
Successional Mule Fat Scrub	275	6	2%
Southern Willow Scrub	96	15	16%
Southern Willow Riparian Woodland	126	4	3%
Southern Cottonwood-Willow Riparian Forest	93	15	16%
Arrow Weed Scrub	16	11	69%
Valley Freshwater Marsh and Ponds	5	2	40%
Cottonwood/Oak Woodland	26	7	27%
Alluvial Scrub	39	21	54%
Scalebroom Scrub	20	17	85%
Mesic Meadow	14	14	100%
Total of Rounded Numbers	**11,963**	**5,132**	**43%**

(a) Direct Impacts

Section 15358 of the CEQA Guidelines defines direct effects (effects being synonymous with impacts) as "Direct or primary effects which are caused by the project and occur at the same time and place." As used in this analysis, direct impacts are considered to be the changes that would occur to the site as a result of Specific Plan implementation. For this analysis, the outer limits of ultimate build-out as defined by the Conceptual Grading Plan for the Specific Plan (EIR **Figure 1.0-14**) was used to evaluate the magnitude of direct impacts to biological resources. As the Grading Plan is conceptual in nature, a precise determination of impacts cannot be made at this time. This analysis, based on the Conceptual Grading Plan, represents a reasonable worst case analysis of impacts for the proposed Specific Plan. In order for development to occur, the Specific Plan area will have to be subdivided. Subdivisions are governed by the State Subdivision Map Act and will require environmental review. Subdivisions will be evaluated for consistency with the Specific Plan and its related environmental documents. At subsequent levels of planning, there may be opportunities to reduce the level of impacts below those described in this subsection.

The following categories of direct impacts to biological resources are discussed below:

- the direct loss of natural vegetation,
- direct effects on wildlife, and
- the direct loss of jurisdictional wetlands and waters of the U.S.

1. Habitat and Vegetation Communities

The principal direct impact of implementation of the Specific Plan is to convert approximately 5,132 acres of the approximately 11,963-acre Newhall Ranch property (about 43 percent) from a natural to an urban condition. Direct impacts are based on a maximum build-out scenario as proposed in the Specific Plan (these impacts may be reduced as plans are developed at a tract map level of detail). In addition to disturbances within the proposed development area, approximately 169 off-site acres would be subject to disturbance as a result of off-site roadway extension construction. The approximate acreage of each of the vegetation/habitat types present on the Newhall Ranch property, the approximate acreage of each type subject to disturbance as a result of maximum build-out, and the percentage of each type subject to disturbance are provided in **Table BIO-16**.

The impact to each of the vegetation/habitat types identified on the Newhall Ranch is described below. The rationale associated with habitat values identified below was discussed and described earlier in this subsection in existing conditions.

Coastal Sage Scrub -- The loss of approximately 1,820 acres of coastal sage scrub vegetation on the Ranch would result from implementation of the Specific Plan. This total includes 1,709 acres of coastal sage scrub, as well as 111 acres of coastal sage scrub/grassland mix and represents approximately 35 percent of the total 5,183 acres of coastal sage scrub present on the site. About 56 acres of coastal sage scrub vegetation would also be impacted along the off-site roadway extension alignments.

On the Ranch, the various densities of coastal sage scrub vegetation provide habitat for a variety of plant and animal species, including California species of special concern, special animals, and federal plant and wildlife species of concern. Potential impacts to these sensitive plant and animal species are discussed and described later in this subsection. A large majority of the coastal sage scrub vegetation that would be impacted by implementation of the Specific Plan has been subject to a variety of disturbances and was assigned the two lowest Habitat Value ranks (Rank 1 and 2) identified in the Habitat Value Analysis, with the rest assigned the second highest Habitat Value rank (Habitat Rank 3).

Mixed Chaparral -- Implementation of the Specific Plan would result in the direct loss of approximately 202 acres of the 1,213 acres of chaparral vegetation on the Ranch (including 3 acres of chamise chaparral and 199 acres of mixed chaparral). This loss represents about 43 percent of the total 7 acres of chamise chaparral present on site and approximately 16 percent of the total 1,206 acres of mixed chaparral present on the Newhall Ranch. In addition, construction of off-site roads associated with the Specific Plan will impact an additional 98 acres of chamise chaparral, as well as 8 acres of mixed chaparral.

Chaparral is a dominant vegetation type in the region, and it is not considered sensitive in southern California. The chamise chaparral and mixed chaparral vegetation on the Ranch are not known to support rare, threatened, endangered, candidate or proposed plant and wildlife species. However, this habitat type does provide habitat for California species of special concern, special animals, and federal species of concern. Impacts to these sensitive species are discussed and described later in this subsection.

The chamise and mixed chaparral vegetation impacted by implementation of the Specific Plan was assigned entirely to the two lowest Habitat Value ranks, with the large majority of chamise chaparral being assigned to the lowest rank.

Great Basin Scrub -- The direct loss of approximately 49 of the total 81 acres of Great Basin scrub vegetation on the site would result from implementation of the Specific Plan. This loss represents approximately 60 percent of the Great Basin scrub vegetation on the Ranch. Construction of off-site roads would impact 2 additional acres of Great Basin scrub vegetation.

The Great Basin scrub vegetation on the Ranch is not known to support rare, threatened, endangered, proposed or candidate plant and wildlife species; however, it does provide habitat for one California species of special concern and one federal species of concern, and five declining butterflies. Impacts to these sensitive species are discussed and described later in this subsection. The large majority of Great Basin scrub directly impacted by implementation of the Specific Plan was assigned to the two lowest Habitat Value ranks, with a very small amount assigned to the highest Habitat Value rank (Habitat Value Rank 4). However, this vegetation is regionally important because it is at the extreme edge of its distribution.

Oak Communities – The loss of about 64 acres of oak vegetation (consisting of up to 37 acres of the 670 acres of coast live oak woodland present on site, up to 2 acres of the 26 acres of valley oak woodland, and up to 25 acres of the 394 acres of valley oak savanna) could result from implementation of the Specific Plan. This represents a loss of about 5 percent of the total amount of the coast live oak

woodland, 8 percent of the valley oak woodland, and 6 percent of the valley oak savanna areas on the Newhall Ranch. Coast live oak woodland, valley oak woodland, and valley oak savanna vegetation types are considered sensitive by the state of California and provide habitat for sensitive species. Impacts to these sensitive species are discussed and described later in this subsection.

According to the Habitat Value Analysis, approximately two-thirds of the coast live oak woodland to be disturbed were assigned to the highest Habitat Value rank, while about one-third was assigned to the lowest. About three-quarters of the valley oak woodland to be disturbed were assigned to the highest Habitat Value rank, with the remaining one-quarter divided evenly between the two lower ranks. The large majority of the valley oak savanna that would be subject to disturbance was assigned to the highest Habitat Value rank, while the small remainder was divided between the two lowest ranks. However, all oak woodland is considered sensitive.

Implementation of the Specific Plan would result in an impact of up to 648 oak trees or 4 percent of the estimated 16,314 trees which occur on site, consisting of up to 553 coast live oak and up to 95 valley oak on the Ranch. This includes 11 dead coast live oaks and 3 dead valley oaks assigned to Health Category 5 (dead standing). County Ordinance No. 88-0157 does not require an Oak Tree Permit for Category 5 trees. Included in these impacts are up to 109 heritage oak trees (89 heritage coastal live oak and 20 heritage valley oak) as a result of completion of the ultimate project buildout. Along the off-site highway extensions, 6 coast live oak trees, including 1 heritage oak tree, would be impacted. Of the 648 oak trees impacted on site, 54 occur within the existing bounds of SEA 23, 13 occur within the existing bounds of SEA 20, and 581 occur outside the bounds of the SEAs.

Oak trees are considered sensitive by the County of Los Angeles, and County Ordinance No. 88-0157 provides protection for oak trees with a trunk diameter of greater than 8 inches. This ordinance requires a permit for cutting, moving, removal, or encroachment into the 'protected zone' of oak trees, and further requires replacement of lost oak trees. The numbers of oak trees to be impacted as indicated above are based on the Conceptual Grading Plan for the Specific Plan. During the subdivision process, individual grading plans will be prepared for each tract that will provide a more accurate assessment of graded area than the Conceptual Grading Plan. Therefore, the number of trees identified as being impacted represents the maximum amount of loss that is anticipated. It is possible that trees shown to be impacted may be preserved through adjustments to the grading and development plans, provisions for retaining walls and other such techniques.

Elderberry Scrub – The direct loss of approximately 14 acres of the 24 acres of elderberry scrub vegetation present on site as a result of implementation of the Specific Plan is anticipated. This loss represents about 58 percent of all elderberry scrub vegetation present on the Newhall Ranch.

Elderberry scrub vegetation present on the Ranch is not known to support rare, threatened, endangered, proposed or candidate plant and wildlife species. It may provide habitat for several California species of special concern, special animals, and federal wildlife species of concern, similar to those potentially occurring in mixed chaparral or coastal sage scrub. The large majority of the vegetation to be lost was assigned to the two lowest Habitat Value ranks, with a very small amount assigned to Habitat Value Rank 3. Elderberry scrub vegetation is considered sensitive.

Non-native Grassland Vegetation -- Implementation of the Specific Plan would result in the direct loss of approximately 1,480 acres of the 1,896 acres of non-native grassland vegetation present on the Newhall Ranch. This loss represents about 78 percent of the non-native grassland vegetation on the Ranch with an additional 9 acres being impacted along the off-site road alignments.

The non-native grassland vegetation on the Ranch is not known to support rare, threatened, endangered or proposed plant and wildlife species. It does provide habitat for California species of concern and federal species of concern; foraging habitat for sensitive raptors, and three declining butterflies. Impacts to these sensitive species are discussed and described later in this subsection. In addition, the edges of grasslands (where grassland interfaces with other, more densely structured vegetation communities) are used to a large degree by many wildlife species.

Nearly all grassland vegetation present within the proposed development area was assigned to the lowest Habitat Value rank with only a small amount of acreage included in the other three Habitat Value ranks.

Mainland Cherry Forest -- The direct loss of approximately 11 acres of the 18 acres of mainland cherry forest vegetation would occur with implementation of the Specific Plan. This loss represents about 61 percent of the mainland cherry forest on the Newhall Ranch.

On the Ranch, mainland cherry forest vegetation is intermixed with coast live oak vegetation. Mainland cherry forest vegetation on the Ranch is not known to support rare, threatened, endangered, proposed or candidate plant and wildlife species. However, it may provide habitat for several declining butterflies. Impacts to these sensitive species are discussed and described later in this subsection.

According to the Habitat Value Analysis, the large majority of the vegetation to be lost was assigned to the lowest Habitat Value rank, with small amounts being assigned to the second lowest rank and second highest rank. However, all mainland cherry forest vegetation is sensitive.

Disturbed Areas -- Approximately 1,317 acres of the 1,523 acres of area categorized as disturbed would be lost as a result of Specific Plan implementation. This loss represents about 87 percent of the disturbed area on the Ranch. Proposed off-site roadways would impact 1 additional acre of this vegetation type.

Disturbed areas on the Newhall Ranch are not known to support rare, threatened, endangered, proposed or candidate plant and wildlife species. Ruderal vegetation contained in the disturbed areas does provide habitat for California species of special concern, federal species of concern, and special animals, and it may also provide foraging habitat for raptors. Impacts to these sensitive species are discussed and described later in this subsection. In general, this non-native vegetation represents marginal quality habitat for wildlife.

The large majority of the disturbed vegetation was assigned to the lowest Habitat Value rank with only small amounts being included in the other three ranks.

Riparian Scrub -- The direct loss of up to 95 acres (or about 16 percent) of the 609 acres of riparian scrub vegetation (consisting of about 69 of the 497 acres of mule fat scrub [in turn consisting of up to about 63 acres of mule fat scrub and up to about 6 acres of successional mule fat scrub], about 15 of the 96 acres of southern willow scrub, and about 11 of the 16 acres of arrow weed scrub present on site) could occur with implementation of the Specific Plan. About 14 percent of the mule fat scrub vegetation present on the Ranch would be disturbed (about 28 percent of the mule fat scrub and about 2 percent of the successional mule fat scrub), about 16 percent of the sensitive southern willow scrub vegetation would be disturbed, while about 69 percent of the sensitive arrow weed scrub vegetation would be disturbed.

On the Ranch, mule fat scrub and southern willow scrub vegetation, and to a lesser degree arrow weed scrub vegetation, provide habitat for many wildlife species, and are an especially important component of the life history of riparian dependent birds (many of which are considered sensitive).

According to the Habitat Value Analysis, about 10 percent of the mule fat scrub to be disturbed was assigned to the highest Habitat Value rank, while approximately 40 percent was assigned to the lowest. The majority of the southern willow scrub vegetation to be disturbed was assigned to the highest Habitat Value rank, while the large majority of the arrow weed scrub vegetation to be disturbed was assigned to the lowest Habitat Value rank. However, all riparian vegetation is considered sensitive.

Riparian Woodland -- The direct loss of approximately 18 acres (or about 9 percent) of the 219 acres of riparian woodland vegetation (consisting of less than 4 of the 126 acres of southern willow riparian woodland and less than 15 of the 93 acres of southern cottonwood-willow riparian forest) would occur with implementation of the Specific Plan. About 3 percent of the southern willow riparian woodland vegetation present on the Ranch would be disturbed, while about 16 percent of the southern cottonwood-willow riparian forest vegetation present on the Ranch would be altered as a result of Specific Plan implementation.

Southern willow riparian woodland and southern cottonwood-willow riparian forest vegetation on the Ranch provide occupied or occupiable habitat for endangered, California species of special concern, federal species of concern, and special animals. It may also provide foraging habitat for sensitive raptors, as well as several declining butterflies. Impacts to these sensitive species are discussed and described later in this subsection.

The majority of both the southern willow riparian woodland vegetation and the southern cottonwood-willow riparian forest vegetation to be disturbed was assigned to the highest Habitat Value rank.

Valley Freshwater Marsh -- The direct loss of about 2 of the 5 acres of valley freshwater marsh vegetation could occur with implementation of the Newhall Ranch Specific Plan. This loss represents about 40 percent of the freshwater marsh vegetation present on the Ranch.

The freshwater marsh vegetation on the Ranch provides occupied or occupiable habitat for the federal candidate species western spadefoot toad, southwestern pond turtle, two-striped garter snake, and tricolored blackbird, as well as for common amphibians, migratory waterfowl, and aquatic insects. Impacts to these sensitive species are discussed and described later in this subsection.

While according to the Habitat Value Analysis, the large majority of the marsh areas to be lost were assigned to the lowest Habitat Value rank (with trace amounts being placed in the highest and second highest ranks), all marsh habitats are considered sensitive and the loss of them significant.

Cottonwood/Oak Woodland Vegetation -- The direct loss of approximately 7 of the 26 acres of cottonwood/oak woodland vegetation on the site would result from Specific Plan implementation. This loss represents about 27 percent of the cottonwood/oak woodland vegetation on the Ranch.

Cottonwood/oak woodland vegetation on the Ranch is not known to support rare, threatened, endangered, proposed or candidate plant and wildlife species. It may provide habitat for several declining butterflies.

According to the Habitat Value Analysis, the large majority of the vegetation to be lost was assigned to the highest Habitat Value rank, with a small amount being placed in the second lowest rank.

Alluvial Scrub Vegetation – About 38 of the 59 acres (about 64 percent) of alluvial scrub vegetation (consisting of about 21 of the 39 acres of alluvial scrub on the Ranch and about 17 of the 20 acres of scalebroom scrub) would be impacted by implementation of the Specific Plan. This represents the loss of approximately 54 percent of the alluvial scrub vegetation on the Ranch and loss of 85 percent of the scalebroom scrub. About 3 acres would also be impacted by off-site roadway alignments.

Alluvial scrub vegetation and scalebroom scrub vegetation on the Ranch are not known to support rare, threatened, endangered, proposed or candidate plant and wildlife species. They may provide habitat for several California species of special concern, special animals, and federal species of concern, and several declining butterflies. Impacts to these sensitive species are discussed and described later in this subsection.

According to the Habitat Value Analysis, the majority of the alluvial scrub vegetation to be lost on the site was assigned to the two lowest Habitat Value ranks, with about one tenth of the disturbance being assigned to the highest rank. Approximately two-thirds of the scalebroom scrub vegetation to be lost was also assigned to the highest Habitat Value rank, with the remaining one-third being assigned the lowest rank. However, alluvial scrub vegetation is regionally important.

Mesic Meadow Vegetation – Implementation of the Specific Plan would result in the direct loss of all 14 acres of mesic meadow vegetation on the Newhall Ranch site.

Mesic meadow vegetation on the Newhall Ranch is not known to support rare, threatened, endangered proposed, or candidate plant and wildlife species. However, it does provide occupied or occupiable habitat for common amphibians, migratory waterfowl, and aquatic insects.

This habitat type would qualify as a wetland based on ACOE and CDFG guidelines. According to the Habitat Value Analysis, all of the mesic meadow vegetation to be lost was assigned to the lowest Habitat Value rank based on the ranking methodology described above. However, all wetlands are considered to be sensitive habitats. Therefore, the loss of 14 acres of this wetland vegetation type is considered significant.

(b) General Wildlife Impacts

Construction activity and operation of the Specific Plan would directly disturb wildlife on and near the Newhall Ranch site. Most species are expected to be displaced to adjacent areas of similar habitat, provided it is available at the onset of construction activity. However, wildlife that emigrate from the site are vulnerable to mortality by predation and unsuccessful competition for food and territory. Within the proposed development area, species of low mobility (particularly burrowing mammals and reptiles) could be lost during site preparation. The effects of the incremental nature of the construction are less severe than if the entire area within the ultimate build-out envelope were to be disturbed at once, because wildlife from smaller disturbance areas may have a greater chance of being absorbed into surrounding areas.

Replacement of existing vegetation with structures and ornamental landscaping would eliminate natural communities on developed portions of the site and result in a reduction in native wildlife species diversity. The replacement of existing habitat with non-native or ornamental landscaping would result in the elimination (through emigration) of the majority of animal species typical of a natural setting. These animals would be replaced with a fauna composed of species tolerant of, or dependent upon, a human presence.

Habitat for fish species on the property, primarily in the Santa Clara River, will not be directly affected by the proposed development (with the exception of temporary impacts from construction of three bridge crossings and bank stabilization). Existing habitat for wildlife and plants will be removed or modified on approximately 43 percent of the Specific Plan area as a result of grading; however, much of the development focuses on habitat disturbed by past or current land uses. For example, over a quarter of the total area to be disturbed as a result of implementation of the Specific Plan has been classified as 'disturbed' during characterization and mapping of the vegetation types on the Ranch, and over another quarter has been classified as non-native grassland, much of which has been degraded by grazing. The remainder of the site would not be impacted (approximately 57 percent).

(c) Conclusion

Based on the amount of habitat lost (5,132 acres), the impact potential of implementation of the Newhall Ranch Specific Plan on the diminishment of habitat for wildlife or plants is considered significant but is not considered significant for fish. The impacts of this project on sensitive plant or wildlife species and habitats is discussed later in this report subsection.

(2) Effects on the Movement of any Resident Fish or Wildlife Species

Fish species on the property primarily make use of the Santa Clara River. The aquatic portion of the River will be left relatively intact. Additionally, the removal of cattle from the River or the use of grazing as a long-term management activity as described in the Resource Management Plan is expected to be of some benefit to fish and other River dependent species through improvements of the water quality on site and downstream. Fish species on the Ranch will not be affected substantially by development within the proposed development area. In addition, because the Specific Plan would not have significant sedimentation or scouring impacts on the Santa Clara River, implementation of the Specific Plan is not expected to affect fish movement anywhere along the River.

Development, both on the site and upstream, will add water to the low flow condition of the Santa Clara River through the property from increased irrigation runoff and discharge from the proposed water reclamation plant. Under normal conditions, no discharges of treated wastewater are expected from the proposed water reclamation plant, and all water would be reclaimed and used to water landscape vegetation on site. However, it is possible that approximately 522 to 1,372 acre-feet of tertiary treated wastewater could be discharged into the River near the County line during wet winter months when demand for reclaimed water would be low. This amount of discharge translates to a flow rate of 3.5 to 6.3 cubic feet per second, which would be a 1.5 to 3.9 percent increase in the average annual flow volume in the River, or approximately 0.002 to 0.004 percent of the Capital Flood volume at the County line. These discharges would not affect water quality or significantly increase flows in the Santa Clara River, nor would they impact the distribution of fish and aquatic species on the site, or the movement of these species through the property.

Implementation of the Newhall Ranch Specific Plan would limit the local movement of wildlife species that currently make use of areas that are proposed for development. Specific effects will occur to those species which use future developed portions of the property as habitat or for dispersal or other longer distance movements, such as for access to the River. Most of the habitats proposed for development on the property are those which have been disturbed by current or past land use activities. The species whose movement will be affected most by the proposed development are those that make use of these habitats, such as: San Diego horned lizard and California horned lizard, coastal western whiptail, San Diego desert woodrat, San Diego black-tailed jackrabbit, and several raptors.

The general trend of wildlife movement currently follows the southeast to northwest trend of ridgelines in the area. On the landscape scale, the primary effect of the proposed development will be to narrow the access for wildlife species between the Santa Susana Mountains and the Santa Clara River. Wildlife movement through the property will be focused toward the west side down Salt Creek and

away from Potrero and Long Canyons. Current and future development of the lands to the east and southeast of the Ranch in the City of Santa Clarita and unincorporated areas limit the amount of wildlife habitat available and, therefore, the wildlife that would be expected to continue to make use of the access through the eastern portion of the property. The majority of habitat available is south of the site, in the High Country SMA. Therefore, wildlife will continue to move in between the High Country SMA and the River in a generally north and south direction. Access for wildlife between the River and the High Country SMA would continue to be available along the proposed Salt Creek corridor. Salt Creek Canyon's value as open area or a movement corridor is high due to its relative remoteness, the quality of habitats present, the fact that it is an integral part of the High Country SMAs approximately 3,950 acres, and the fact that a vertical grade separation exists between it and the area proposed for development to the north and northeast.

Wildlife movement along the Santa Clara River through the Specific Plan area will also be affected by adjacent development and several bridges across the River. Current wildlife movement along the River is limited to some degree by development upstream to the east in Santa Clarita. The River is regularly used for movement by species, such as migratory birds, and for dispersal movements by a diversity of species. Riparian habitat in the River Corridor will likely be increased as a result of the proposed development, both in extent and connectivity. Portions of upland habitat adjacent to the River will be maintained along the corridor and periodic canyon connections between the River and the uplands will also be maintained to allow for connectivity. Crossings of the River will be bridge structures, allowing for wildlife movement.

(a) Conclusion

While the Specific Plan preserves the primary and highest quality movement corridor found on the site (the Salt Creek corridor), as well as other periodic canyon connections between the River and the uplands, the impact potential of implementation of the Newhall Ranch Specific Plan on the movement of resident wildlife species is considered significant due to the reduction in open land available for wildlife movement between the River and upland areas. The impact potential of implementation of the Newhall Ranch Specific Plan on the movement of resident fish species is not considered significant.

Note that a portion of the Salt Creek movement corridor occurs within the Specific Plan Area, with the remaining portion of the corridor occurring in Ventura County. Any future project proposed in Ventura County that would fragment this corridor would significantly impact the connection of the High Country SMA and Santa Susana Mountains with the Santa Clara River and the Los Padres and Angeles National Forests located to the north. Therefore, any future action taken in this portion of Ventura County should strongly consider this important ecological feature.

(3) Effects on endangered, rare or sensitive plant or wildlife species

Endangered, threatened, rare or otherwise sensitive plants and animals that were observed or those that have a reasonable potential for occurrence on the Newhall Ranch site are identified below. This discussion assesses the impact potential (inclusive of both construction and operation impacts) of the Newhall Ranch Specific Plan on these sensitive species, evaluates the magnitude of impact and references mitigation measures that are detailed later in this subsection (most are incorporated in detail in the Newhall Ranch Specific Plan Resource Management Plan [RMP]). The general locations of sensitive plant and wildlife species occurrence on the Ranch, as well as appropriate habitat, are presented in a series of labeled maps included in Appendix N.

(a) Plants

1. Observed On-site

Impact:	**Loss of an unknown number of Peirson's morning-glory individuals and habitat**
Significance:	**Not Significant**

Peirson's morning-glory has been assigned to the CNPS List 4 (a watch list), and is a federal species of concern. Taxa on List 4 are not considered to be severely threatened by CNPS, but the CNPS feels the plant's occurrence should be considered during the decision making process. The local USFWS office has supporting information gathered during the past several years which indicate that this plant is more widespread and abundant than previously believed (Rutherford, USFWS, personal communication, 1995).

On the Newhall Ranch, the distribution and abundance of this plant is considered uncommon, occurring in small, scattered, localized areas. A preliminary estimate, based on field observations, places the acreage of sparse coastal sage scrub possibly occupied by this sensitive taxon at approximately 29 acres. However, the exact acreage occupied during any give year will likely fluctuate. Ultimate buildout through implementation of the Specific Plan would remove a portion of this plant's habitat and would result in the elimination of certain of the known individual plants where site development and plant occurrence are coincidental. However, there is no potential to eliminate all habitat for this species on site, nor is there the potential to reduce the population size below self sustaining levels either on site or regionally.

Based on the status of the sensitivity designation (i.e., CNPS List 4 {a watch list} and USFWS acknowledgment that this taxon will likely not warrant consideration for possible future listing), the preservation of plants and habitat on site, the relatively wide distribution of this species regionally, and a greater abundance of this plant than was previously believed on a regional basis, this project's anticipated impact on Peirson's morning-glory is not considered significant.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

2. **Federal Proposed Endangered and State-listed Endangered Plants Not Observed but with a Moderate Potential for Occurrence On-site**

Impact:	**Potential loss of Nevin's barberry (if present)**
Significance:	**Significant (if present)**

Nevin's barberry is an easily detected evergreen shrub that was not recorded on the Newhall Ranch site during the extensive biological field surveys conducted on the Ranch. However, this taxon was assigned a moderate potential for occurrence due to the presence of large areas of potentially occupiable habitat (i.e., riparian scrub, alluvial scrub, chaparral and coastal sage scrub).

Nevin's barberry is currently listed as endangered by the State of California, and has been proposed as a federal endangered species by the USFWS. Nevin's barberry has been assigned to the CNPS List 1B, which is a list identifying plants that are considered by the CNPS to be rare, threatened or endangered in California and elsewhere in their range. Nevin's barberry has been assigned to the CNPS List 1B, which is a list identifying plants that are considered by the CNPS to be rare, threatened or endangered in California and elsewhere in their range.

Nevin's barberry occurs in a variety of habitat types including riparian scrub and alluvial scrub habitats, as well as chaparral and coastal sage scrub. Regionally, this species is known only from alluvial scrub. Biologists conducting the field investigations of the Newhall Ranch site were knowledgeable of this plant's potential for occurrence. However, no individuals of this plant were observed on the site during the intensive field investigations. Based on the lack of observation of this species on the Newhall Ranch site, it can be concluded that, if this taxon occurs at all, it occurs in very low numbers. Potential for direct loss of this taxon is expected to be very low, and only small portions of habitat in which this plant could occur would be lost (54 percent of the alluvial scrub, 16 percent of the

mixed chaparral, and 35 percent of the coastal sage scrub [68 percent of these vegetation types combined]). It is not expected that this project would impact Nevin's barberry. In the unlikely event that individuals of this species were lost as a result of site development, the impact would be considered significant due to this species' listing as endangered and other sensitivity designations.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

3. CNPS List 4 Sensitive Plants Not Observed but with a Moderate Potential for Occurrence On-site

Potential: **Potential loss of round-leaved boykinia (if present)**
Significance: **Not significant**

Round-leaved boykinia has been assigned to CNPS List 4. Round-leaved boykinia is a perennial herb that was not recorded from the Newhall Ranch site during the biological surveys conducted on the Newhall Ranch site. However, this taxon was assigned a moderate potential for occurrence due to the presence of areas of potentially occupiable habitat (i.e., riparian woodlands and mesic chaparral).

Round-leaved boykinia would most likely occur in two habitat types, including riparian woodlands and moist canyon bottoms (mesic chaparral). However, the lack of observation of this species on the Newhall Ranch site indicates that, if this taxon occurs at all it does so in very low numbers. Based on: (1) the lack of occurrence of this plant on the Newhall Ranch site; (2) the sensitivity designation of the plant (i.e., a CNPS List 4 species versus a rare, threatened or endangered species); (3) the fact that only small areas (17 percent of riparian and mixed chaparral vegetation combined) in which this plant may occur may be lost (i.e., 19 percent of the site's 932 acres of potential riparian habitats [inclusive of all wetland or Riverine habitats] would be lost and 16 percent of the site's 1,206 acres of mixed chaparral would be lost); and (4) the project mitigation will expand habitat for this species (i.e., riparian habitat), it is not expected that this project would substantially impact round-leaved boykinia. Any impacts to this species (should they actually occur) are not considered significant.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

Impact:	**Potential loss of individual Catalina mariposa lily (if present)**
Significance:	**Not Significant (if present)**

Catalina mariposa lily has not been assigned any formal state or federal rarity designation, but is included on CNPS List 4. This taxon was not recorded on the Newhall Ranch site during the biological field surveys. However, it may occur. Should this plant occur on the site, it would most likely occur in the chaparral, coastal sage scrub, oak woodlands or non-native grasslands.

Field investigations conducted on the site have failed to record the presence of this taxon. It can be concluded that, if this plant occurs on the site at all, it does so in limited areas and the frequency of occurrence is small. Given the results of the field investigations conducted on site over the past years, this taxon has been assigned a moderate probability of occurrence at the Newhall Ranch because this species is readily identifiable and would have been observed during field investigations.

Specific Plan implementation would not substantially impact this plant as it was not observed on site, and relatively small areas of the habitat in which this plant is most likely to occur would be lost. This includes about 202 of the 1,213 acres of chaparral on site, about 1,820 of the 5,183 acres of coastal sage scrub and 1,480 of the 1,896 acres of non-native grassland. Based on the sensitivity designation of this taxon and the information provided above, any impacts to this species (should they actually occur) are not considered significant.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

Impact:	**Potential loss of individual southwestern spiny rush (if present)**
Significance:	**Not Significant (if present)**

Southwestern spiny rush has not been assigned any formal state or federal rarity designation, but is included on CNPS List 4. This taxon was not recorded on the Newhall Ranch site during the biological field surveys. Should this plant occur on the site, it would most likely occur in the mesic meadow.

This taxon has been assigned a low probability of occurrence at the Newhall Ranch site because this species is readily identifiable and would have been observed during field investigations.

Implementation of the Specific Plan would not substantially impact this plant as it was not observed on site and the probability of its occurrence is low. Based on the sensitivity designation of this taxon and the information provided above, any impacts to this species (should they actually occur) are not considered significant.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

4. Rare or Endangered Plants Not Observed but with a Low Potential for Occurrence On-site

Impact:	**Potential loss of slender-horned spineflower (if present)**
Significance:	**Significant (if present)**

Slender-horned spine flower is listed by the federal government and State of California as endangered and is designated as a List 1B species by the CNPS. Slender-horned spineflower was not recorded on the Newhall Ranch site during the biological field surveys. Should this plant occur on the site, it would most likely occur in the alluvial scrub vegetation, or in chaparral and the coastal sage scrub of alluvial fans.

It can be concluded that, if this plant occurs on the site at all, it does so in limited areas and the frequency of occurrence is small. Given the results of the field investigations conducted on site over the past years this taxon has been assigned a low probability of occurrence at the Newhall Ranch.

Specific Plan implementation would not substantially affect this plant as it was not observed on site and the probability of occurrence is low. Areas of habitat where this plant has the potential to occur that would be lost on the property include approximately 38 of the 59 acres of alluvial and scalebroom scrub, 1,820 of the 5,183 acres of coastal sage scrub on-site, and approximately 202 of the 1,213 acres of chaparral habitat situated on the Newhall Ranch site. In the unlikely event that individuals of this species were lost as a result of site development, the impact would be considered significant, given its listing status and sensitivity designations.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

Impact:	**Potential loss of California Orcutt grass (if present)**
Significance:	**Significant (if present)**

California Orcutt grass is listed by the federal government and State of California as endangered and designated as List 1B species by the CNPS. California Orcutt grass was not recorded on the Newhall Ranch site during the biological field surveys.

Given the results of the field investigations conducted on site over the past years, this taxon has been assigned a low probability of occurrence at the Newhall Ranch site for the following reasons: lack of direct observation and lack of suitable habitat (California Orcutt grass occurs in vernal pools that do not occur on the Newhall Ranch).

Specific Plan implementation would not substantially affect this plant as it was not observed on site and the probability of occurrence is low (known occurrences of this plant are within 8 miles of the site to the west and east). In the unlikely event that individuals of this species were lost as a result of site development, the impact would be considered significant, given their listing status and sensitivity designations.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

Impact:	**Potential loss of individual thread-leaved brodiaea (if present)**
Significance:	**Significant (if present)**

Thread-leaved brodiaea is listed as endangered by the State of California, is proposed for listing as a threatened species by the federal government, and is included on CNPS List 1B. Thread-leaved brodiaea was not recorded on the Newhall Ranch site during the biological field surveys. Should this plant occur on the site, it would most likely occur in the chaparral, coastal sage scrub, or non-native grasslands.

Given the results of the field investigations conducted on site over the past years this taxon has been assigned a low probability of occurrence at the Newhall Ranch site. Areas of habitat where this plant has the potential to occur that would be lost on the property include approximately 202 of the 1,213 acres of chaparral, about 1,820 of the 5,183 acres of coastal sage scrub on-site, and about 1,480 of the

1,896 acres of grassland habitat situated on the Newhall Ranch site. No vernal pools occur on the Newhall Ranch. In the unlikely event that individuals of this species were lost as a result of site development, the impact would be considered significant, given its listing status and sensitivity designations.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

Impact:	**Potential loss of individual Santa Susana tarplant (if present)**
Significance:	**Significant (if present)**

Santa Susana tarplant is listed by the State of California as rare, is a federal species of concern, and is designated as a List 1B species by the CNPS. Santa Susana tarplant was not recorded on the Newhall Ranch site during the biological field surveys. Should this plant occur on the site, it would most likely occur in rocky chaparral or coastal sage scrub.

This taxon has been assigned a low probability of occurrence at the Newhall Ranch site because Santa Susana tarplant is readily identifiable and would have been observed during the field investigations.

Areas of habitat where this plant has the potential to occur that would be lost on the property include approximately 202 of the 1,213 acres of chaparral and about 1,820 of the 5,183 acres of coastal sage scrub. In the unlikely event that individuals of these species were lost as a result of site development, the impact would be considered significant, given their listing status and sensitivity designations.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

5. Federal Proposed Endangered Plant Species Not Observed and with a Low Potential for Occurrence On-site

Impact:	**Potential loss of individual Braunton's milk vetch (if present)**
Significance:	**Significant (if present)**

Braunton's milk vetch has been proposed as an endangered species by the federal government and is included on CNPS List 1B. Braunton's milk vetch primarily occurs in coastal sage scrub, chaparral, and grassland habitats, and requires limestone soils that are not common on the site. Field investigations conducted on the site failed to record the presence of this species.

This plant has been assigned a low probability of occurrence on the Newhall Ranch site because of rarity (according to Skinner and Pavlik 1994, known from fewer than ten occurrences), and lack of suitable substrate (generally associated with limestone soils that are not common on the site).

Specific Plan implementation would result in the loss of habitat in which this plant is most likely to occur, including about 202 of the 1,213 acres of chaparral on site, about 1,820 of the 5,183 acres of coastal sage scrub, and 1,480 of the 1,896 acres of non-native grassland. Should this plant be present, it does not likely occur in large numbers as no individuals of the plant species have been detected on the site. In the unlikely event that individuals of this species were lost as a result of site development, the impact would be considered significant, given this species proposed listing status and sensitivity designation.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

6. Federal Plant Species of Concern Included on CNPS List 1A, 1B, or 2 Not Observed and with a Low Potential for Occurrence On-site

Impact:	**Potential loss of slender mariposa lily (if present)**
Significance:	**Not Significant (if present)**

Slender mariposa lily is included on CNPS List 1B (plants considered rare, threatened or endangered), and is a federal species of concern. Slender mariposa lily was not recorded on the Newhall Ranch site during the biological field surveys. Should this plant occur on the site, it would most likely occur in chaparral.

In addition to the results of the field investigations, these plants have been assigned a low probability of occurrence on the Newhall Ranch site because they are readily identifiable and would have been observed during the field investigations if present.

Specific Plan implementation would result in the loss of habitat in which these plants are most likely to occur, including about 202 of the 1,213 acres of chaparral. Should this taxon be present, it does not likely occur in large numbers as no individuals of the species have been detected on the site.

Based on the information provided above, potential impacts to this plant are not considered likely and, due to the sensitivity designations and the amount of habitat preserved, impacts, should they occur at all, are not considered significant.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

Impact:	**Potential loss of individual Plummer's mariposa lily (if present)**
Significance:	**Not Significant (if present)**

Plummer's mariposa lily is included on CNPS List 1B and is a federal species of concern. Plummer's mariposa lily was not recorded on the Newhall Ranch site during the biological field surveys. Should this plant occur on the site, it would most likely occur in the chaparral and coastal sage scrub habitat.

Specific Plan implementation would result in the loss of habitat in which these plants are most likely to occur, including about 202 of the 1,213 acres of chaparral on site, and about 1,820 of the 5,183 acres of coastal sage scrub. Should this taxon be present, it does not likely occur in large numbers as no individuals of the species have been detected on the site.

Based on the information provided above, potential impacts to this plant are not considered likely and, due to the sensitivity designations and the amount of habitat preserved, impacts, should they occur at all, are not considered significant.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

Impact:	**Potential loss of individual San Fernando Valley spineflower (if present)**
Significance:	**Not Significant (if present)**

San Fernando Valley spineflower is included on CNPS List 1A (a plant presumed to be extinct), and is a federal species of concern. San Fernando Valley spineflower was not recorded on the Newhall Ranch site during the biological field surveys. Should this plant occur on the site, it would most likely occur in sandy coastal sage scrub habitat.

In addition to the results of the field investigations, these plants have been assigned a low probability of occurrence on the Newhall Ranch site because the plant is presumed to be extinct in the region.

Implementation of the Specific Plan would result in the loss of habitat in which this plant is most likely to occur, including about 1,820 of the 5,183 acres of coastal sage scrub on site. Should this taxon be present, it does not likely occur in large numbers as no individuals of the species have been detected on the site.

Based on the information provided above, potential impacts to this plant are not considered likely and, due to the sensitivity designations and the amount of habitat preserved, impacts, should they occur at all, are not considered significant.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

Impact:	**Potential loss of individual dune larkspur (if present)**
Significance:	**Not Significant (if present)**

Dune larkspur is included on CNPS List 1B and is a federal species of concern. Dune larkspur was not recorded on the Newhall Ranch site during the biological field surveys. Should this taxon occur on the site, it would most likely occur in the chaparral habitat.

In addition to the results of the field investigations, these plants have been assigned a low probability of occurrence on the Newhall Ranch site because the taxon is generally associated with maritime chaparral and dune habitat that is not present on site.

Should this plant occur on site, implementation of the Specific Plan would result in the loss of habitat in which these plants are most likely to occur, including about 202 of the 1,213 acres of chaparral. Should this taxon be present, it does not likely occur in large numbers as no individuals of the species have been detected on the site.

Based on the information provided above, potential impacts to this plant are not considered likely and, due to the sensitivity designations and the amount of habitat preserved, impacts, should they occur at all, are not considered significant.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

Impact:	**Potential loss of individual Blochman's dudleya (if present)**
Significance:	**Not Significant (if present)**

Blochman's dudleya is included on CNPS List 1B, and is a federal species of concern. Blochman's dudleya was not recorded on the Newhall Ranch site during the biological field surveys. Should this plant occur on the site, it would most likely occur in the coastal sage scrub habitat.

This plant has been assigned a low probability of occurrence on the Newhall Ranch site because it requires rock outcrops that are not common on the site, and because it is generally associated with coastal bluffs and coastal chaparral.

Implementation of the Specific Plan would result in the loss of habitat in which this plant is most likely to occur, including about 1,820 of the 5,183 acres of coastal sage scrub habitat. Should this taxon be present, it does not likely occur in large numbers as no individuals of the species have been detected on the site.

Based on the information provided above, potential impacts to this plant are not considered likely and, due to the sensitivity designations and the amount of habitat preserved, impacts, should they occur at all, are not considered significant.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

Impact:	**Potential loss of individual many-stemmed dudleya (if present)**
Significance:	**Not Significant (if present)**

Many-stemmed dudleya is included on CNPS List 1B, and is a federal species of concern. Many-stemmed dudleya was not recorded on the Newhall Ranch site during the biological field surveys. Should this plant occur on the site, it would most likely occur in rocky substrate in chaparral and coastal sage scrub habitats.

This plant has been assigned a low probability of occurrence on the Newhall Ranch site because it requires rock outcrops that are not common on the site.

Should this plant occur on site, implementation of the Specific Plan would result in the loss of habitat in which this plant is most likely to occur, including about 202 of the 1,213 acres of chaparral on site and 1,820 of the 5,183 acres of coastal sage scrub habitat. Should this taxon be present, it does not likely occur in large numbers as no individuals of the species have been detected on the site.

Based on the information provided above, potential impacts to this plant are not considered likely and, due to the sensitivity designations and the amount of habitat preserved, impacts, should they occur at all, are not considered significant.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

Impact:	**Potential loss of individual short-joint beavertail cactus (if present)**
Significance:	**Not Significant (if present)**

Short-joint beavertail cactus is included on CNPS List 1B, and is a federal species of concern. Short-joint beavertail cactus was not recorded on the Newhall Ranch site during the biological field surveys. Should this plant occur on the site, it would most likely occur in the chaparral communities on site.

In addition to the results of the field investigations, this plant has been assigned a low probability of occurrence on the Newhall Ranch site because of its rarity and/or the fact that this plant is readily identifiable and would have been observed during the field investigations if it was present on site.

Implementation of the Specific Plan would result in the loss of habitat in which these plants are most likely to occur, including about 202 of the 1,213 acres of chaparral on site. Should this taxon be present, it does not likely occur in large numbers as no individuals of the species have been detected on the site.

Based on the information provided above, potential impacts to this plant are not considered likely and due to the sensitivity designations and the amount of habitat preserved, impacts, should they occur at all, are not considered significant.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

Impact:	**Potential loss of individual Palmer's grapplinghook (if present)**
Significance:	**Not Significant (if present)**

Palmer's grapplinghook is included on CNPS List 2 and is a federal species of concern. Palmer's grapplinghook was not recorded on the Newhall Ranch site during the biological field surveys. Should this plant occur on the site, it would most likely occur in the chaparral, coastal sage scrub and grassland communities.

In addition to the results of the field investigations, this plant has been assigned a low probability of occurrence on the Newhall Ranch site because of its rarity.

Implementation of the Specific Plan would result in the loss of habitat in which this plant is most likely to occur, including about 202 of the 1,213 acres of chaparral on site, about 1,820 of the 5,183 acres of coastal sage scrub, and 1,480 of the 1,896 acres of non-native grassland habitat. Should this taxon be present, it does not likely occur in large numbers as no individuals of the species have been detected on the site.

Based on the information provided above, potential impacts to this plant are not considered likely and, due to the sensitivity designations and the amount of habitat preserved, impacts, should they occur at all, are not considered significant.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

7. Federal Plant Species of Concern Included on CNPS List 4 Not Observed and with a Low Potential for Occurrence On-site

Impact:	**Potential loss of individual ocellated humboldt lily (if present)**
Significance:	**Not Significant (if present)**

Ocellated humboldt lily is included on CNPS List 4 and is a federal species of concern. Ocellated humboldt lily was not recorded on the Newhall Ranch site during the biological field surveys. Should this plant occur on the site, it would most likely occur in the chaparral, oak woodlands or mainland cherry forest.

This plant has been assigned a low probability of occurrence on the Newhall Ranch site because of lack of high quality habitat (ocellated lily is generally associated with openings in yellow pine forests or oak canyons). Based on: (1) the lack of occurrence of this plant on the Newhall Ranch site; (2) the sensitivity designation of the plant (i.e., a CNPS List 4 species versus a rare, threatened or endangered species); and, (3) the fact that relatively small areas in which this plant could potentially occur may be lost (i.e., 16 percent of the site's 1,206 acres of mixed chaparral and 6 percent of the site's oak communities may be lost), any impacts to this species (should they actually occur) are not considered significant.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

8. CNPS List 4 Plants Not Observed and with a Low Potential for Occurrence On-site

Impact:	**Potential loss of individual heart-leaved thorn-mint (if present)**
Significance:	**Not Significant (if present)**

Heart-leaved thorn-mint has not been assigned any formal state or federal rarity designation, but is included on CNPS List 4. This taxon was not recorded on the Newhall Ranch site during the biological field surveys. Should this plant occur on the site, it would most likely occur in the chaparral communities.

Given the results of the field investigations conducted on site over the past years, this taxon has been assigned a low probability of occurrence at the Newhall Ranch site for the following reasons: lack of direct observation, and the main distribution of heart-leaved thorn-mint is situated north of the site.

Implementation of the Specific Plan would not substantially impact this plant as it was not observed on site, the probability of its occurrence is low, and relatively small areas of the habitat in which these plants are most likely to occur would be lost. This includes about 202 of the 1,213 acres of chaparral on site. Based on the sensitivity designation of this taxon and the information provided above, any impacts to this species (should they actually occur) are not considered significant.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

Impact:	**Potential loss of individual California androsace (if present)**
Significance:	**Not Significant (if present)**

California androsace has not been assigned any formal state or federal rarity designation, but is included on CNPS List 4. This taxon was not recorded on the Newhall Ranch site during the biological field surveys. Should this plant occur on the site, it would most likely occur in the chaparral and coastal sage scrub communities.

The Specific Plan would not substantially impact this plant as it was not observed on site, the probability of its occurrence is low, and relatively small areas of the habitat in which these plants are most likely to occur would be lost. This includes about 202 of the 1,213 acres of chaparral on site and about 1,820 of the 5,183 acres of coastal sage scrub. Based on the sensitivity designation of this taxon and the information provided above, any impacts to this species (should they actually occur) are not considered significant.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

Impact:	**Potential loss of individual Plummer's baccharis (if present)**
Significance:	**Not Significant (if present)**

Plummer's baccharis has not been assigned any formal state or federal rarity designation, but is included on CNPS List 4. This taxon was not recorded on the Newhall Ranch site during the biological field surveys. Should this plant occur on the site, it would most likely occur in the chaparral and coastal sage scrub communities.

Given the information provided above, it can be concluded that implementation of the Specific Plan would not substantially impact this plant as it was not observed on site, the probability of its occurrence is low, and relatively small areas of the habitat in which these plants are most likely to occur would be lost. This includes about 202 of the 1,213 acres of chaparral on site and about 1,820 of the 5,183 acres of coastal sage scrub. Based on the sensitivity designation of this taxon and the information provided above, any impacts to this species (should they actually occur) are not considered significant.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

Impact:	**Potential loss of individual Brewer's calandrinia (if present)**
Significance:	**Not Significant (if present)**

Brewer's calandrinia has not been assigned any formal state or federal rarity designation, but is included on CNPS List 4. This taxon was not recorded on the Newhall Ranch site during the biological field surveys. Should this plant occur on the site, it would most likely occur in the chaparral, coastal sage scrub, or non native grasslands.

It can be concluded that implementation of the Specific Plan would not substantially impact this plant as it was not observed on site, the probability of its occurrence is low, and relatively small areas of the habitat in which these plants are most likely to occur would be lost. This includes about 202 of the 1,213 acres of chaparral on site, about 1,820 of the 5,183 acres of coastal sage scrubland, and 1,480 of the 1,896 acres of non-native grassland. Based on the sensitivity designation of this taxon and the information provided above, any impacts to this species (should they actually occur) are not considered significant.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

Impact:	**Potential loss of individual prostrate spineflower (if present)**
Significance:	**Not Significant (if present)**

Prostrate spineflower has not been assigned any formal state or federal rarity designation, but is included on CNPS List 4 (plant species of limited distribution, a watch list). This taxon was not recorded on the Newhall Ranch site during the biological field surveys. Should this plant occur on the site, it would most likely occur in the chaparral, coastal sage scrub and non-native grasslands.

Given the results of the field investigations conducted on site over the past years, this taxon has been assigned a low probability of occurrence due to the lack of appropriate substrate or habitat (prostrate spineflower occurs in gabbroic clay or granitic soils that are not common on site).

Specific Plan implementation would not substantially impact this plant as it was not observed on site, the probability of its occurrence is low and relatively small areas of the habitat in which this plant is most likely to occur would be lost. This includes about 202 of the 1,213 acres of chaparral on site, about 1,820 of the 5,183 acres of coastal sage scrub and 1,480 of the 1,896 acres of non-native grassland. Based on the sensitivity designation of this taxon and the information provided above, any impacts to this species (should they actually occur) are not considered significant.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

Impact:	**Potential loss of individual small-flowered morning-glory (if present)**
Significance:	**Not Significant (if present)**

Small-flowered morning-glory has not been assigned any formal state or federal rarity designation, but is included on CNPS List 4. This taxon was not recorded on the Newhall Ranch site during the biological field surveys. Should this plant occur on the site, it would most likely occur in the coastal sage scrub or non-native grasslands.

This taxon has been assigned a low probability of occurrence at the Newhall Ranch site as small-flowered morning-glory typically occurs in clay or serpentine soils that are not common on site.

Specific Plan implementation would not substantially impact this plant as it was not observed on site, the probability of its occurrence is low, and relatively small areas of the habitat in which this plant is most likely to occur would be lost. This includes about 1,820 of the 5,183 acres of coastal sage scrub and 1,480 of the 1,896 acres of non-native grasslands. Based on the sensitivity designation of this taxon and the information provided above, any impacts to this species (should they actually occur) are not considered significant.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

Impact:	**Potential loss of individual Santa Barbara bedstraw (if present)**
Significance:	**Not Significant (if present)**

Santa Barbara bedstraw has not been assigned any formal state or federal rarity designation, but is included on CNPS List 4. This taxon was not recorded on the Newhall Ranch site during the biological field surveys. Should this plant occur on the site, it would most likely occur in the oak woodlands.

Given the results of the field investigations conducted on-site over the past years, this taxon has been assigned a low probability of occurrence at the Newhall Ranch site because this species is readily identifiable and would have been observed during field investigations.

Specific Plan implementation would not substantially impact this plant as it was not observed on site, the probability of its occurrence is low, and relatively small areas of the habitat in which this plant is most likely to occur would be lost. This includes about 64 of the 1,090 acres of oak woodlands. Based on the sensitivity designation of this taxon and the information provided above, any impacts to this species (should they actually occur) are not considered significant.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

Impact:	**Potential loss of individual small flowered microseris (if present)**
Significance:	**Not Significant (if present)**

Small-flowered microseris has not been assigned any formal state or federal rarity designation, but is included on CNPS List 4. This taxon was not recorded on the Newhall Ranch site during the biological field surveys.

This taxon has been assigned a low probability of occurrence at the Newhall Ranch site because small-flowered microseris occurs in vernal pool habitat that does not occur on site.

Specific Plan implementation would not substantially impact this plant as it was not observed on site and the probability of its occurrence is low. Based on the sensitivity designation of this taxon (i.e., CNPS List 4 species versus rare, threatened or endangered species), and the information provided above, any impacts to this species (should they actually occur) are not considered significant.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

Impact:	**Potential loss of individual California spineflower (if present)**
Significance:	**Not Significant (if present)**

California spineflower has not been assigned any formal state or federal rarity designation, but is included on CNPS List 4. This taxon was not recorded on the Newhall Ranch site during the biological field surveys. Should this plant occur on the site, it would most likely occur in the chaparral, coastal sage scrub, and non-native grasslands.

This taxon has been assigned a low probability of occurrence at the Newhall Ranch site because California spineflower is most commonly found closer to the coast.

Specific Plan implementation would not substantially impact this plant as it was not observed on site, the probability of its occurrence is low, and relatively small areas of the habitat in which this plant is most likely to occur would be lost. This includes about 202 of the 1,213 acres of chaparral on site, about 1,820 of the 5,183 acres of coastal sage scrub, and 1,480 of the 1,896 acres of non-native grassland on-site. Based on the sensitivity designation of this taxon (i.e., CNPS List 4 species versus rare, threatened or endangered species), and the information provided above, any impacts to this species (should they actually occur) are not considered significant.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

Impact:	**Potential loss of slender nemacladus - (if present)**
Significance:	**Not Significant (if present)**

Slender nemacladus has not been assigned any formal state or federal rarity designation, but is included on CNPS List 4. This taxon was not recorded on the Newhall Ranch site during the biological field surveys. Should this plant occur on the site, it would most likely occur in the oak woodland or non-native grasslands.

Specific Plan implementation would not substantially impact this plant as it was not observed on site and the probability of its occurrence is low. Based on the sensitivity designation of this and the information provided above, any impacts to this species (should they actually occur) are not considered significant.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

Impact:	**Potential loss of individual Pringle's yampah - (if present)**
Significance:	**Not Significant (if present)**

Pringle's yampah has not been assigned any formal state or federal rarity designation, but is included on CNPS List 4. This taxon was not recorded on the Newhall Ranch site during the biological field surveys. Should this plant occur on the site, it would most likely occur in the chaparral, coastal sage scrub, oak woodlands or non-native grasslands.

Given the results of the field investigations conducted on site over the past years, this taxon has been assigned a low probability of occurrence at the site because Pringle's yampah typically occurs in serpentine soils that are not common on the Newhall Ranch site.

Implementation of the Specific Plan would not substantially impact this plant as it was not observed on site and the probability of its occurrence is low. Based on the sensitivity designation of this taxon and the information provided above, any impacts to this species (should they actually occur) are not considered significant.

This conclusion assumes implementation of Mitigation Measure numbers BIO-27, BIO- 34, BIO- 35 and BIO-53. These mitigation measures are defined in detail later in this section.

(b) Wildlife

Impacts to wildlife species that may occur as a result of implementation of the Newhall Ranch Specific Plan are described in this section. As shown, twenty-nine sensitive wildlife species and eight declining butterfly species were observed on Newhall Ranch and may be impacted by project implementation. The impact of this project on sensitive species observed on the project site, as well as sensitive species that are known to occur on the Newhall Ranch are described individually below.

1. Endangered Fish Species Observed On-site

Impact: **Potential loss of unarmored threespine stickleback individuals**
Significance: **Not significant**

The unarmored threespine stickleback has been designated as endangered by the USFWS and the CDFG. This endangered species has been recorded in the region and various locations on the Santa Clara River on the Newhall Ranch property. The portion of the Santa Clara River on the Newhall Ranch is included in the proposed critical habitat and designated essential habitat for this species. Although the fish is not abundant, it may occur in areas that are proposed for short-term disturbances that would occur during construction activities.

The Newhall Ranch Specific Plan proposes no substantial physical alteration to the River bottom. Bank stabilization would occur on approximately 30 percent of the southern side and 80 percent of the northern side of the River. In general, bank stabilization is proposed to be ungrouted rock (see **Section**

4.2, Flood). It is expected that direct impacts to the unarmored threespine stickleback would be limited to those impacts associated with short-term construction related activities (principally for bridge crossings and bank protection) that are proposed in the River Corridor. There is the potential for these fish to be directly impacted by bridge or bank construction for a short time period unless mitigated.

A potential indirect impact of implementation of the Newhall Ranch Specific Plan is the reduction in water quality in the Santa Clara River. This reduction in water quality could occur as a result of site runoff and potential contamination of the River through oils and grease, pesticides, herbicides, fertilizers and other contaminants characteristic of urban areas. However, the property is currently used for cattle grazing, farming, and oil and gas operations which may already be adding pollutants to the River at this time. It is not possible to quantify the magnitude of this impact potential. However, without mitigation, impacts to River water quality have the potential to reduce habitat quality for the unarmored threespine stickleback. Based upon mitigation measures for maintenance of water quality included in Section 4.2 of the EIR, these impacts are not considered significant (see **Section 4.2, Flood**).

Development, both on the site and upstream, will add water to the low flow condition of the Santa Clara River through the property from increased irrigation runoff and discharges from the proposed water reclamation plant. Under normal conditions, no discharges of treated wastewater are expected from the proposed water reclamation plant, and all water would be reclaimed and used to water landscape vegetation on site. However, it is possible that approximately 522 to 1,372 acre-feet of tertiary treated wastewater could be discharged into the River near the County line during wet winter months when demand for reclaimed water would be low. This amount of discharge translates to a flow rate of 3.5 to 6.3 cubic feet per second, which would be a 1.5 to 3.9 percent increase in the average annual flow volume in the River, or approximately 0.002 percent of the Capital Flood volume at the County line. These discharges would not significantly impact water quality or increase flows in the Santa Clara River, nor would they impact the distribution of fish and aquatic species on the site, or the movement of these species through the property. For additional information regarding this topic refer to Section 4.2 (Flood) of the EIR.

The Resource Management Plan (RMP) of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, Mitigation Measures BIO-

53, BIO-54, BIO-55, BIO-57, BIO-58 and BIO-59 would be implemented and impacts to the unarmored threespine stickleback would be reduced. Given the avoidance of impacts associated with construction and operation and mitigation within the RMP and EIR, impacts to this taxon are not considered significant.

2. Endangered Bird Species Observed On-site

Impact:	**Potential loss of individual least Bell's vireo (if present)**
Significance:	**Not Significant**

This taxon is designated as an endangered species by the USFWS and the CDFG. This endangered species has been recorded in the region and a few locations on the Newhall Ranch property. Although populations of this bird are not abundant, they may occur in areas impacted by implementation of the Specific Plan.

Portions of riparian habitat that occur on the Newhall Ranch are designated as critical habitat for the least Bell's vireo. Recorded occurrences of the least Bell's vireo are uncommon on the Newhall Ranch. One least Bell's vireo has been recorded.

Specific Plan implementation would result in the loss of riparian vegetation (inclusive of mule fat scrub, southern willow scrub, southern willow riparian woodland, southern cottonwood willow riparian forest, arrow weed scrub, valley freshwater marsh and ponds, cottonwood/oak woodland and alluvial scrub), and may result in direct or indirect impacts to the least Bell's vireo in areas where disturbances occur. Although direct impacts to these birds cannot be quantified, impacts to habitat are defined as follows: 63 of the 222 acres of mule fat scrub vegetation, 15 of the 96 acres of southern willow scrub, 4 of the 126 acres of southern willow riparian woodland, 15 of the 93 acres of southern cottonwood-willow riparian forest, 2 of the 5 acres of valley freshwater marsh and ponds, 7 of the 26 acres of cottonwood/oak woodland, 11 of the 16 acres of arrow weed scrub, and 21 of the 39 acres of alluvial scrub (when combined, 22 percent of these vegetation types would be severely disturbed or eliminated).

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-1 through

BIO-26, as well as EIR Mitigation Measures BIO-53, BIO-56, and BIO-59 would be implemented and impacts to individual least Bell's vireo would be reduced. Given the avoidance of impacts associated with construction and operation and mitigation within the RMP and EIR, impacts to this taxon are not considered significant.

Impact:	**Potential loss of individual southwestern willow flycatcher (if present)**
Significance:	**Not Significant**

This taxon is designated as an endangered species by the USFWS and the CDFG. This endangered species has been recorded in the region and a few locations on the Newhall Ranch property. Although populations of this bird are not abundant, they may occur in areas impacted by implementation of the Specific Plan.

No critical habitat has been designated at this time for the willow flycatcher on the Newhall Ranch, and occurrences of this species are uncommon. No breeding willow flycatchers have been observed on the Newhall Ranch.

Specific Plan implementation would result in the loss of riparian vegetation (inclusive of mule fat scrub, southern willow scrub, southern willow riparian woodland, southern cottonwood willow riparian forest, arrow weed scrub, valley freshwater marsh and ponds, cottonwood/oak woodland and alluvial scrub), and may result in direct or indirect impacts to willow flycatcher in areas where disturbances occur. Although direct impacts to these birds cannot be quantified, impacts to habitat are defined as follows: 63 of the 222 acres of mule fat scrub vegetation, 15 of the 96 acres of southern willow scrub, 4 of the 126 acres of southern willow riparian woodland, 15 of the 93 acres of southern cottonwood-willow riparian forest, 2 of the 5 acres of valley freshwater marsh and ponds, 7 of the 26 acres of cottonwood/oak woodland, 11 of the 16 acres of arrow weed scrub, and 21 of the 39 acres of alluvial scrub (when combined, 22 percent of these vegetation types would be severely disturbed or eliminated).

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-1 through BIO-26, as well as EIR Mitigation Measures BIO-53, BIO-56, and BIO-59 would be implemented and impacts to individual willow flycatchers would be reduced. Given the avoidance of impacts associated with construction and operation and mitigation within the RMP and EIR, impacts to this taxon are not considered significant.

3. Federal Fish Species of Concern Observed On-site

Impact:	**Potential loss of individual arroyo chub (if present)**
Significance:	**Not Significant**

The arroyo chub is considered a federal species of concern and a California species of special concern. It resides in stream course habitat and has been observed in the Santa Clara River on Newhall Ranch during biological field investigations

As stated for the unarmored threespine stickleback, a principal goal of the Specific Plan has been to retain the continuity and ecological integrity of the Santa Clara River. As such, the Newhall Ranch Specific Plan proposes no substantial physical alteration to the River. It is expected that direct impacts to the arroyo chub can be limited to those impacts associated with short-term construction related activities (principally for bridge crossings and bank protection) that are proposed in the River Corridor. This fish has been recorded in the Santa Clara River on the Ranch. Therefore, there is the potential for this fish to be directly impacted by bridge construction or bank protection construction for a short time period without mitigation.

A potential indirect impact of the implementation of the Newhall Ranch Specific Plan is the reduction in water quality in the Santa Clara River. This reduction in water quality may occur as a result of site runoff and potential contamination of the River through oils and grease, pesticides, herbicides, fertilizers and other contaminants characteristic of urban areas. However, the property is currently used for cattle grazing, farming, and oil and gas extraction that may already be adding pollutants to the River at this time. It is not possible to quantify the magnitude of this impact potential. However, impacts to River water quality have the potential to reduce habitat quality for this fish taxon, unless mitigated.

Development, both on the site and upstream, will add water to the low flow condition of the Santa Clara River through the property from increased irrigation runoff and discharges from the proposed water reclamation plant. Under normal conditions, no discharges of treated wastewater are expected from the proposed water reclamation plant, and all water would be reclaimed and used to water landscape vegetation on-site. However, it is possible that approximately 522 to 1,372 acre-feet of tertiary treated wastewater could be discharged into the River near the County line during wet winter months when demand for reclaimed water would be low. This amount of discharge translates to a flow rate of 3.5 to 6.3 cubic feet per second, which would be a 1.5 to 3.9 percent increase in the average annual flow volume in the River, or approximately 0.002 percent of the Capital Flood volume at the County line. These discharges would not significantly increase flows in the Santa Clara River, nor would they

impact the distribution of fish and aquatic species on the site, or the movement of these species through the property. These discharges would not result in the extension of the current range through the Santa Clara River system of several introduced, aggressive non-native predatory fish and amphibian species.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measure BIO-44, as well as EIR Mitigation Measures BIO-53, BIO-55 BIO-57, and BIO-58 would be implemented and impacts to individual arroyo chubs would be reduced. Given the avoidance of impacts associated with construction and operation and mitigation within the RMP and EIR, impacts to this taxon are not considered significant.

Impact:	**Potential loss of individual Santa Ana sucker (if present)**
Significance:	**Not Significant**

The Santa Ana sucker is considered a federal species of concern and a California species of special concern. It resides in stream course habitat and has been observed in the Santa Clara River on Newhall Ranch during biological field investigations.

As previously stated, a principal goal of the Specific Plan has been to retain the continuity and ecological integrity of the Santa Clara River. As such, the Newhall Ranch Specific Plan proposes no substantial physical alteration to the River. It is expected that direct impacts to the Santa Ana sucker would be limited to those impacts associated with short-term construction related activities (principally for bridge crossings and bank protection) that are proposed in the River Corridor. This fish has been recorded in the Santa Clara River on the Ranch. Therefore, there is the potential for this fish to be directly impacted by bridge construction or bank protection construction for a short time period without mitigation.

A potential indirect impact of the implementation of the Newhall Ranch Specific Plan is the reduction in water quality in the Santa Clara River. This reduction in water quality may occur as a result of site runoff and potential contamination of the River through oils and grease, pesticides, herbicides, fertilizers and other contaminants characteristic of urban areas. However, the property is currently used for cattle grazing, farming, and oil and gas extraction that may already be adding pollutants to the River at this time. It is not possible to quantify the magnitude of this impact potential. However, impacts to River water quality have the potential to reduce habitat quality for this fish unless mitigated.

Development, both on the site and upstream, will add water to the low flow condition of the Santa Clara River through the property from increased irrigation runoff and discharges from the proposed water reclamation plant. Under normal conditions, no discharges of treated wastewater are expected from the proposed water reclamation plant, and all water would be reclaimed and used to water landscape vegetation on site. However, it is possible that approximately 522 to 1,327 acre-feet of tertiary treated wastewater could be discharged into the River near the County line during wet winter months when demand for reclaimed water would be low. This amount of discharge translates to a flow rate of 3.5 to 6.3 cubic feet per second, which would be a 1.5 to 3.9 percent increase in the average annual flow volume in the River, or approximately 0.002 percent of the Capital Flood volume at the County line. These discharges would not significantly increase flows in the Santa Clara River, nor would they impact the distribution of fish and aquatic species on the site, or the movement of these species through the property. These discharges would not result in the extension of the current range through the Santa Clara River system of several introduced, aggressive non-native predatory fish and amphibian species.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measure BIO-44, as well as EIR Mitigation Measures BIO-53, BIO-55 BIO-57, and BIO-58 would be implemented and impacts to individual Santa Ana suckers would be reduced. Given the avoidance of impacts associated with construction and operation and mitigation within the RMP and EIR, impacts to this taxon are not considered significant.

4. Federal Wildlife Species of Concern Observed On-site (Riparian Habitat Affinity)

Impact:	**Potential loss of individual southwestern pond turtle (if present)**
Significance:	**Not Significant**

The southwestern pond turtle is considered a federal species of concern and a California species of special concern. It generally resides in aquatic/riparian habitats and has been observed on the site during biological field investigations.

As stated, this taxon has been observed on the Newhall Ranch site and is primarily associated with riparian and freshwater marsh vegetation. During sensitive aquatic reptile trapping efforts along the Santa Clara River, 25 southwestern pond turtles were captured between the Castaic Creek confluence and the Old Road bridge just west of I-5. About half of this stretch of the River is located within the Newhall Ranch Specific Plan area.

Specific Plan implementation would result in the loss of 63 of the 222 acres of mule fat scrub vegetation, 15 of the 96 acres of southern willow scrub, 4 of the 126 acres of southern willow riparian woodland, 15 of the 93 acres of southern cottonwood-willow riparian forest, 2 of the 5 acres of valley freshwater marsh and ponds, 7 of the 26 acres of cottonwood/oak woodland, 11 of the 16 acres of arrow weed scrub, and 21 of the 39 acres of alluvial scrub (when combined, 22 percent of these vegetation types would be lost). Loss of habitat in which this species is known to occur could result in the direct loss of individual southwestern pond turtles.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-1 through BIO-26, as well as EIR Mitigation Measures BIO-53, BIO-56, and BIO-55 would be implemented and impacts to individual southwestern pond turtles would be reduced. Given the avoidance of impacts associated with construction and operation and mitigation within the RMP and EIR, impacts to this taxon are not considered significant.

Impact:	**Potential loss of individual western spadefoot toad (if present)**
Significance:	**Not Significant**

The western spadefoot toad is considered a federal species of concern and a California species of special concern. It resides in aquatic/riparian habitats and has been observed on the site during biological field investigations.

As stated, this taxon has been observed on the Newhall Ranch site and is primarily associated with riparian and freshwater marsh vegetation. No surveys have been conducted on the site that provided quantifiable data regarding the number of western spadefoot toads that are present.

Specific Plan implementation would result in the loss of 63 of the 222 acres of mule fat scrub vegetation, 15 of the 96 acres of southern willow scrub, 4 of the 126 acres of southern willow riparian woodland, 15 of the 93 acres of southern cottonwood-willow riparian forest, 2 of the 5 acres of valley freshwater

marsh and ponds, 7 of the 26 acres of cottonwood/oak woodland, 11 of the 16 acres of arrow weed scrub, and 21 of the 39 acres of alluvial scrub (when combined, 22 percent of these vegetation types would be lost). Loss of habitat in which this species is known to occur could result in the direct loss of individual western spadefoot toads.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-1 through BIO-26, as well as EIR Mitigation Measures BIO-53, BIO-56, and BIO-55 would be implemented and impacts to individual western spadefoot toads would be reduced. Given the avoidance of impacts associated with construction and operation and mitigation within the RMP and EIR, impacts to this taxon are not considered significant

Impact:	**Potential loss of two-striped garter snake**
Significance:	**Not Significant**

The two-striped garter snake is considered a federal species of concern and a California species of special concern. It generally resides in aquatic/riparian habitats and has been observed on the site during biological field investigations.

As stated, this taxon has been observed on the Newhall Ranch site and is primarily associated with riparian and/or freshwater marsh vegetation. During the aquatic reptile trapping efforts conducted along the Santa Clara River, no two-striped garter snakes were captured between the Castaic Creek confluence and the Old Road bridge just west of I-5. About half of this stretch of the River is located within the Newhall Ranch Specific Plan area.

Specific Plan implementation would result in the loss of 63 of the 222 acres of mule fat scrub vegetation, 15 of the 96 acres of southern willow scrub, 4 of the 126 acres of southern willow riparian woodland, 15 of the 93 acres of southern cottonwood-willow riparian forest, 2 of the 5 acres of valley freshwater marsh and ponds, 7 of the 26 acres of cottonwood/oak woodland, 11 of the 16 acres of arrow weed scrub, and 21 of the 39 acres of alluvial scrub (when combined, 22 percent of these vegetation types would be lost). Loss of habitat in which this species is known to occur could result in the direct loss of individual two-striped garter snakes.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure

the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-1 through BIO-26, as well as EIR Mitigation Measures BIO-53, BIO-56, and BIO-55 would be implemented and impacts to individual two-striped garter snakes would be reduced. Given the avoidance of impacts associated with construction and operation and mitigation within the RMP and this EIR, impacts to this taxon are not considered significant.

5. Federal Wildlife Species of Concern Observed On-site (Upland Habitat Affinity)

Impact:	**Potential loss of individual California horned lizard (if present)**
Significance:	**Significant**

The California horned lizard is considered a federal species of concern and a California species of special concern.

This taxon has been observed on the Ranch during the biological field investigations. As stated, this taxon is primarily associated with upland habitats, including coastal sage scrub, chaparral and grassland habitat. Given that a substantial acreage of these habitat types occurs on the site and in the region, the abundance and distribution of this species are generally not limited.

The loss of habitat on the site is substantial. As proposed, implementation of the Specific Plan would result in the loss of 1,820 of the 5,183 acres of coastal sage scrub, 202 of the 1,213 acres of chaparral, and 1,480 of the 1,896 acres of non-native grassland habitat present on the site (when combined, 42 percent of these vegetation types would be lost). Given the concern for this species in the region, the substantial loss of habitat, and potentially the direct loss of individuals of this species, this impact would be considered significant without mitigation.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-27 through BIO-43, as well as EIR Mitigation Measures BIO-53, BIO-56, and BIO-55 would be implemented and impacts to individual California horned lizards would be reduced. However, in spite of these measures, impacts to this taxon are still considered significant.

Impact:	**Potential loss of individual San Diego horned lizard (if present)**
Significance:	**Significant**

The San Diego horned lizard is considered a federal species of concern and a California species of special concern.

This taxon has been observed on the Ranch during the biological field investigations. As stated, this taxon is also primarily associated with upland habitats, including coastal sage scrub, chaparral and grassland habitat. Given that a substantial acreage of these habitat types occurs on the site and in the region, the abundance and distribution of this species are generally not limited.

The loss of habitat on the site is substantial. As proposed, implementation of the Specific Plan would result in the loss of 1,820 of the 5,183 acres of coastal sage scrub, 202 of the 1,213 acres of chaparral, and 1,480 of the 1,896 acres of non-native grassland habitat present on the site (when combined, 52 percent of these vegetation types would be lost). Given the concern for this species in the region, the substantial loss of habitat, and potentially the direct loss of individuals of this species, this impact would be considered significant without mitigation.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-27 through BIO-43, as well as EIR Mitigation Measures BIO-53, BIO-56, and BIO-55 would be implemented and impacts to individual San Diego horned lizards would be reduced. However, in spite of these measures, impacts to this taxon are still considered significant.

Impact:	**Potential loss of individual southern California rufous-crowned sparrow**
Significance:	**Significant**

The southern California rufous-crowned sparrow is considered a federal species of concern and a California species of special concern.

This taxon has been observed on the Ranch during the biological field investigations. Southern California rufous-crowned sparrow are primarily associated with upland habitats, including coastal sage scrub, chaparral and grassland habitat. Given that a substantial acreage of these habitat types occur on the site and in the region, the abundance and distribution of these species are generally not limited.

Loss of habitat on the site is substantial. As proposed, implementation of the Specific Plan would result in the loss of 1,820 of the 5,183 acres of coastal sage scrub, 202 of the 1,213 acres of chaparral, and 1,480 of the 1,896 acres of non-native grassland habitat present on the site (when combined, 42 percent of these vegetation types would be lost). Given the rarity of this species in the region, the substantial loss of habitat, and potentially the direct loss of individuals of this species, impacts would be considered significant without mitigation.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-27 through BIO-43, as well as EIR Mitigation Measures BIO-53, BIO-56, and BIO-55 would be implemented and impacts to southern California rufous-crowned sparrow would be reduced. However, in spite of these measures, impacts to this taxon are still considered significant.

Impact:	**Potential loss of San Diego desert woodrat**
Significance:	**Significant**

The San Diego desert woodrat is considered a federal species of concern and a California species of special concern.

This taxon has been observed on the Ranch during the biological field investigations. The San Diego desert woodrat is primarily associated with upland habitats, including coastal sage scrub and chaparral habitats. Given that a substantial acreage of these habitat types occur on the site and in the region, the abundance and distribution of this species is generally not limited throughout the region.

Loss of habitat on the site for this species is substantial. As proposed, implementation of the Specific Plan would result in the loss of 1,820 of the 5,183 acres of coastal sage scrub, and 202 of the 1,213 acres of chaparral habitat present on the site. Given the concern of this species in the region, the substantial loss of habitat, and potentially the direct loss of individuals of this species, impacts would be considered significant without mitigation.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted

and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-27 through BIO-43, as well as EIR Mitigation Measures BIO-53, BIO-56, and BIO-55 would be implemented and impacts to individual San Diego desert woodrats would be reduced. However, in spite of these measures, impacts to this taxon are still considered significant.

Impact:	**Potential loss of San Diego black-tailed jackrabbit**
Significance:	**Significant**

The San Diego black-tailed jackrabbit is considered a federal species of concern and a California species of special concern.

This taxon has been observed on the Ranch during the biological field investigations. San Diego black-tailed jackrabbit are primarily associated with upland habitat, including coastal sage scrub, chaparral and grassland habitat.

The loss of habitat for this species on the site is substantial. As proposed, implementation of the Specific Plan would result in the loss of 1,820 of the 5,183 acres of coastal sage scrub, 202 of the 1,213 acres of chaparral, and 1,480 of the 1,896 acres of non-native grassland habitat present on the site (when combined, 42 percent of these vegetation types would be lost). Given the rarity of these species in the region, the substantial loss of habitat, and potentially the direct loss of individuals of this species, impacts to this species would be considered significant without mitigation.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-27 through BIO-43, as well as EIR Mitigation Measures BIO-53, BIO-56, and BIO-55 would be implemented and impacts to individual San Diego black-tailed jackrabbits would be reduced. However, in spite of these measures, impacts to this taxon are still considered significant.

6. Federal Wildlife Species of Concern Observed On-site (Breeding Colony)

Impact:	**Potential loss of tricolored blackbird breeding locations**
Significance:	**Significant**

The tricolored blackbird is a California species of special concern and federal species of concern that generally resides in aquatic or riparian habitats. A flock of about 20 tricolored blackbirds was observed in Middle Potrero Canyon and a flock of 50 birds was seen on the Newhall Ranch property north of

Mayo Crossing during earlier biological field surveys, although none was recorded during the recent surveys conducted in 1995. Tricolored blackbirds generally breed in colonies in freshwater marsh vegetation and aquatic habitat. As such, their abundance and distribution are relatively limited throughout the region.

Specific Plan implementation would result in the loss of 175 of the 932 acres of the appropriate types of riparian habitat (19 percent of these vegetation types would be lost) present within the proposed development area and the loss of tricolored blackbird breeding colonies may occur, if this species uses the areas to be impacted as a breeding colony site. Given the direct loss of habitat, the breeding behavior of this bird may be directly impacted by project implementation, if there is a breeding colony established at the time of construction.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-1 through BIO-26, as well as EIR Mitigation Measures BIO-53, BIO-56, and BIO-55 would be implemented and impacts to breeding colonies (if present) may be reduced. However, the potential to re-locate breeding colonies at new locations is relatively low; therefore, impacts to breeding colonies (if present) are considered significant.

7. California Fully Protected Species Observed On-site (Upland Habitat Affinity)

Impact:	**Potential loss of white-tailed kite habitat**
Significance:	**Significant**

The white-tailed kite is a California fully protected species. This species has been observed foraging on the Newhall Ranch, and may occur in areas proposed for disturbance. This taxon forages over open upland vegetation, including non-native grassland, coastal sage scrub, and the more open areas of chaparral and oak vegetation, which together represent the dominant habitat type in the region. Therefore, this species is relatively widely distributed throughout the region. However, large blocks of contiguous open foraging habitats used by this raptor are becoming increasingly scarce in the region.

The loss of individual white-tailed kite, particularly nesting individuals (if present) as a result of project implementation would be considered a potential adverse impact. However, loss of nesting individuals can be avoided by conducting preconstruction breeding kite surveys prior to disturbance of potential breeding habitat during the breeding season (approximately mid-March through August). Impacts to certain types of occupied or occupiable foraging and nesting habitat for this species would occur as a result of implementation of the Specific Plan and the loss of habitat for this species on the

site is substantial. As proposed, implementation of the Specific Plan would result in the loss of 1,480 of the 1,896 acres of non-native grassland, 1,820 of the 5,183 acres of coastal sage scrub, 202 of the 1,213 acres of chaparral, and about 64 of the 1,090 acres of oak vegetation present on the site (when combined, 38 percent of these vegetation types would be lost). This bird is known to occur over a relatively broad geographic range. However, the loss of these large amounts of foraging habitat is considered a significant impact.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-27 through BIO-43, as well as EIR Mitigation Measure BIO-53 would be implemented and impacts to individual white-tailed kites and their foraging habitat may be reduced. However, in spite of these measures, impacts to this taxon are still considered significant.

8. California Species of Special Concern and Special Animals Observed On-site (Riparian Habitat Affinity)

Impact:	**Potential loss of individual Cooper's hawk**
Significance:	**Not Significant**

This taxon is considered sensitive in the region and is a California species of special concern. This animal has been observed on the Newhall Ranch during the biological field investigations. This taxon is primarily associated with riparian vegetation and aquatic habitat, including riparian scrub, riparian woodland, and freshwater marsh vegetation. Due to the scarcity of such habitats, the distribution of these species is relatively limited throughout the region. However, these species can be relatively common where appropriate habitat is present, although population levels do fluctuate year to year. The Cooper's hawk is most likely to nest in riparian scrub and woodlands in the area. Observations indicate that these species may be common on the Newhall Ranch site, and they may use the site for nesting or roosting.

Specific Plan implementation would result in the loss of 63 of the 222 acres of mule fat scrub vegetation, 15 of the 96 acres of southern willow scrub, 4 of the 126 acres of southern willow riparian woodland, 15 of the 93 acres of southern cottonwood-willow riparian forest, 2 of the 5 acres of valley freshwater marsh and ponds, 7 of the 26 acres of cottonwood/oak woodland, 11 of the 16 acres of arrow weed scrub, and 21 of the 39 acres of alluvial scrub (when combined, 22 percent of these vegetation types would be lost). Loss of habitat in which this species is known to occur is expected to result in the direct loss of habitat utilized by Cooper's hawk.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-1 through BIO-26, as well as EIR Mitigation Measures BIO-53, BIO-55, and BIO-56 would be implemented and impacts to individual Cooper's hawk would be reduced. Given the avoidance of impacts associated with construction and operation and mitigation within the RMP and EIR, impacts to this taxon are not considered significant.

Impact:	**Potential loss of individual yellow warbler**
Significance:	**Not Significant**

This taxon is considered sensitive in the region and is a California species of special concern. Yellow warblers have been observed on the Newhall Ranch during the biological field investigations. This taxon is primarily associated with riparian vegetation and aquatic habitat, including riparian scrub, riparian woodland, and freshwater marsh vegetation. Due to the scarcity of such habitats, the distribution of this species is relatively limited throughout the region. However, this species can be relatively common where appropriate habitat is present, although population levels do fluctuate year to year. Yellow warblers are most likely to nest in riparian scrub and woodlands in the area and may breed communally in these habitat types. Observations indicate that this species may be common on the Newhall Ranch site, and it may use the site for nesting or roosting.

Specific Plan implementation would result in the loss of 63 of the 222 acres of mule fat scrub vegetation, 15 of the 96 acres of southern willow scrub, 4 of the 126 acres of southern willow riparian woodland, 15 of the 93 acres of southern cottonwood-willow riparian forest, 2 of the 5 acres of valley freshwater marsh and ponds, 7 of the 26 acres of cottonwood/oak woodland, 11 of the 16 acres of arrow weed scrub, and 21 of the 39 acres of alluvial scrub (when combined, 22 percent of these vegetation types would be lost). Loss of habitat in which this species is known to occur is expected to result in the direct loss of habitat utilized by yellow warbler.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-1 through BIO-26, as well as EIR Mitigation Measures BIO-53, BIO-55, and BIO-56 would be implemented and impacts to individual yellow warblers would be reduced. Given the avoidance of impacts associated with construction and operation and mitigation within the RMP and this EIR, impacts to this taxon are not considered significant.

Impact: **Potential loss of individual vermilion flycatcher**
Significance: **Not Significant**

This taxon is considered sensitive in the region and is a California species of special concern. This species has been observed on the Newhall Ranch during the biological field investigations, and is primarily associated with riparian vegetation and aquatic habitat, including riparian scrub, riparian woodland, and freshwater marsh vegetation. Due to the scarcity of such habitats, the distribution of this species is relatively limited throughout the region. However, this species can be relatively common where appropriate habitat is present, although population levels do fluctuate year to year. The vermilion flycatcher is most likely to nest in riparian scrub and woodlands in the area. Observations indicate that this species may be common on the Newhall Ranch site, and it may use the site for nesting or roosting.

Specific Plan implementation would result in the loss of 63 of the 222 acres of mule fat scrub vegetation, 15 of the 96 acres of southern willow scrub, 4 of the 126 acres of southern willow riparian woodland, 15 of the 93 acres of southern cottonwood-willow riparian forest, 2 of the 5 acres of valley freshwater marsh and ponds, 7 of the 26 acres of cottonwood/oak woodland, 11 of the 16 acres of arrow weed scrub, and 21 of the 39 acres of alluvial scrub (when combined, 22 percent of these vegetation types would be lost). Loss of habitat in which this species is known to occur is expected to result in the direct loss of habitat utilized by vermilion flycatcher.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-1 through BIO-26, as well as EIR Mitigation Measures BIO-53, BIO-55, and BIO-56 would be implemented and impacts to individual vermilion flycatchers would be reduced. Given the avoidance of impacts associated with construction and operation and mitigation within the RMP and EIR, impacts to this taxon are not considered significant.

Impact: **Potential loss of individual summer tanager**
Significance: **Not Significant**

This taxon is considered sensitive in the region and is a California species of special concern. Summer tanager has been observed on the Newhall Ranch during the biological field investigations. This taxon is also associated with riparian vegetation and aquatic habitat, including riparian scrub, riparian woodland, and freshwater marsh vegetation. Due to the scarcity of such habitats, the distribution of this species is relatively limited throughout the region. However, this species can be relatively

common where appropriate habitat is present, although population levels do fluctuate year to year. Summer tanagers are most likely to nest in riparian scrub and woodlands in the area and may breed in these habitat types. Observations indicate that this species may be common on the Newhall Ranch site, and members of this species may use the site for nesting, foraging or roosting.

Specific Plan implementation would result in the loss of 63 of the 222 acres of mule fat scrub vegetation, 15 of the 96 acres of southern willow scrub, 4 of the 126 acres of southern willow riparian woodland, 15 of the 93 acres of southern cottonwood-willow riparian forest, 2 of the 5 acres of valley freshwater marsh and ponds, 7 of the 26 acres of cottonwood/oak woodland, 11 of the 16 acres of arrow weed scrub, and 21 of the 39 acres of alluvial scrub (when combined, 22 percent of these vegetation types would be lost). Loss of habitat in which this species is known to occur is expected to result in the direct loss of habitat utilized by summer tanager.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-1 through BIO-26, as well as EIR Mitigation Measures BIO-53, BIO-55, and BIO-56 would be implemented and impacts to individual summer tanagers would be reduced. Given the avoidance of impacts associated with construction and operation and mitigation within the RMP and EIR, impacts to this taxon are not considered significant.

Impact:	**Potential loss of great blue heron habitat**
Significance:	**Not Significant**

Great blue heron has been defined as a California special animal and been observed on the Newhall Ranch during the biological field investigations. Great blue heron are primarily associated with riparian vegetation and aquatic habitat, including riparian scrub, riparian woodland, and freshwater marsh vegetation. Due to the scarcity of such habitats, the distribution of this species is limited throughout the region. However, this species can be common where appropriate habitat is present, although population levels do fluctuate year to year. Great blue heron feed, roost and breed communally in these habitat types and observations indicate that this species may be common on the Newhall Ranch site.

Specific Plan implementation would result in the loss of 63 of the 222 acres of mule fat scrub vegetation, 15 of the 96 acres of southern willow scrub, 4 of the 126 acres of southern willow riparian woodland, 15 of the 93 acres of southern cottonwood-willow riparian forest, 2 of the 5 acres of valley freshwater

marsh and ponds, 7 of the 26 acres of cottonwood/oak woodland, 11 of the 16 acres of arrow weed scrub, and 21 of the 39 acres of alluvial scrub (when combined, 22 percent of these vegetation types would be lost). Loss of habitat in which this species is known to occur is expected to result in the direct loss of habitat utilized by great blue heron.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-1 through BIO-26, as well as EIR Mitigation Measures BIO-53, BIO-55, and BIO-56 would be implemented and impacts to individual great blue herons would be reduced. Given the avoidance of impacts associated with construction and operation and mitigation within the RMP and this EIR, impacts to this taxon are not considered significant.

Impact:	**Potential loss of great egret habitat**
Significance:	**Not Significant**

Great egrets have been defined as a California special animal and have been observed on the Newhall Ranch during the biological field investigations. Great egrets are primarily associated with riparian vegetation and aquatic habitat, including riparian scrub, riparian woodland, and freshwater marsh vegetation. Due to the scarcity of such habitats, the distribution of this species is limited throughout the region. However, this species can be common where appropriate habitat is present, although population levels do fluctuate year to year. Great egrets feed, roost and breed communally in these habitat types and observations indicate that this species may be common on the Newhall Ranch site.

Specific Plan implementation would result in the loss of 63 of the 222 acres of mule fat scrub vegetation, 15 of the 96 acres of southern willow scrub, 4 of the 126 acres of southern willow riparian woodland, 15 of the 93 acres of southern cottonwood-willow riparian forest, 2 of the 5 acres of valley freshwater marsh and ponds, 7 of the 26 acres of cottonwood/oak woodland, 11 of the 16 acres of arrow weed scrub, and 21 of the 39 acres of alluvial scrub (when combined, 22 percent of these vegetation types would be lost). Loss of habitat in which this species is known to occur is expected to result in the direct loss of habitat utilized by great egrets.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures

BIO-1 through BIO-26, as well as EIR Mitigation Measures BIO-53, BIO-55, and BIO-56 would be implemented and impacts to individual great egrets would be reduced. Given the avoidance of impacts associated with construction and operation and mitigation within the RMP and this EIR, impacts to this taxon are not considered significant.

Impact:	**Potential loss of snowy egret habitat**
Significance:	**Not Significant**

Snowy egrets have also been defined as a California special animal and have been observed on the Newhall Ranch during the biological field investigations. Snowy egrets are primarily associated with riparian vegetation and aquatic habitat, including riparian scrub, riparian woodland, and freshwater marsh vegetation. Due to the scarcity of such habitats, the distribution of this species is limited throughout the region. However, this species can be common where appropriate habitat is present, although population levels do fluctuate year to year. Snowy egrets feed, roost and breed communally in these habitat types, and observations indicate that this species may be common on the Newhall Ranch site.

Specific Plan implementation would result in the loss of 63 of the 222 acres of mule fat scrub vegetation, 15 of the 96 acres of southern willow scrub, 4 of the 126 acres of southern willow riparian woodland, 15 of the 93 acres of southern cottonwood-willow riparian forest, 2 of the 5 acres of valley freshwater marsh and ponds, 7 of the 26 acres of cottonwood/oak woodland, 11 of the 16 acres of arrow weed scrub, and 21 of the 39 acres of alluvial scrub (when combined, 22 percent of these vegetation types would be lost). Loss of habitat in which this species is known to occur is expected to result in the direct loss of habitat utilized by snowy egrets.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-1 through BIO-26, as well as EIR Mitigation Measures BIO-53, BIO-55, and BIO-56 would be implemented and impacts to individual snowy egrets would be reduced. Given the avoidance of impacts associated with construction and operation and mitigation within the RMP and this EIR, impacts to this taxon are not considered significant.

Impact:	**Potential loss of black crowned night heron habitat**
Significance:	**Not Significant**

Black-crowned night herons have been defined as a California special animal and have been observed on the Newhall Ranch during the biological field investigations. Black-crowned night herons are primarily associated with riparian vegetation and aquatic habitat, including riparian scrub, riparian woodland, and freshwater marsh vegetation. Due to the scarcity of such habitats, the distribution of this species is limited throughout the region. However, this species can be common where appropriate habitat is present, although population levels do fluctuate year to year. Black-crowned night herons feed, roost and breed communally in these habitat types and observations indicate that this species may be common on the Newhall Ranch site.

Specific Plan implementation would result in the loss of 63 of the 222 acres of mule fat scrub vegetation, 15 of the 96 acres of southern willow scrub, 4 of the 126 acres of southern willow riparian woodland, 15 of the 93 acres of southern cottonwood-willow riparian forest, 2 of the 5 acres of valley freshwater marsh and ponds, 7 of the 26 acres of cottonwood/oak woodland, 11 of the 16 acres of arrow weed scrub, and 21 of the 39 acres of alluvial scrub (when combined, 22 percent of these vegetation types would be lost). Loss of habitat in which this species is known to occur is expected to result in the direct loss of habitat utilized by black-crowned night herons.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-1 through BIO-26, as well as EIR Mitigation Measures BIO-53, BIO-55, and BIO-56 would be implemented and impacts to individual black-crowned night herons would be reduced. Given the avoidance of impacts associated with construction and operation and mitigation within the RMP and this EIR, impacts to this taxon are not considered significant.

9. California Species of Special Concern Observed On-site (Upland Habitat Affinity)

Impact:	**Potential loss of northern harrier foraging habitat**
Significance:	**Significant**

The northern harrier is considered a California species of special concern. This species has been observed foraging on the Newhall Ranch, and occur or may occur in areas proposed for disturbance. This taxon primarily forages over open upland vegetation, including non-native grassland, coastal sage

scrub, and the more open areas of chaparral and oak vegetation, which together represent the dominant habitat type in the region. Therefore, this species is relatively widely distributed throughout the region. However, large blocks of contiguous open foraging habitats used by this raptor are becoming increasingly scarce in the region.

The loss of individual northern harriers, particularly nesting individuals (if present) as a result of project implementation would be considered a potential adverse impact. However, loss of nesting individuals will be avoided by conducting preconstruction breeding harrier surveys prior to disturbance of potential breeding habitat during the breeding season (approximately mid-March through August). Impacts to certain types of occupied or occupiable foraging and nesting habitat for this species would occur as a result of implementation of the Specific Plan. The loss of habitat on the site is substantial. As proposed, implementation of the Specific Plan would result in the loss of 1,480 of the 1,896 acres of non-native grassland, 1,820 of the 5,183 acres of coastal sage scrub, 202 of the 1,213 acres of chaparral, and about 64 of the 1,090 acres of oak vegetation present on the site (when combined, 38 percent of these vegetation types would be lost). This bird is known to occur over a relatively broad geographic range. However, the loss of these large amounts of foraging habitat is considered a significant impact.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-27 through BIO-43, as well as EIR Mitigation Measure BIO-53 would be implemented and impacts to northern harrier foraging habitat would be reduced. However, in spite of these measures, impacts to this taxon are still considered significant.

Impact:	**Potential loss of individual California horned lark**
Significance:	**Not Significant**

This taxon is considered a California species of special concern and is considered to be sensitive in the region. This species has been observed on Newhall Ranch during the extensive biological field investigations. This taxon is primarily associated with open upland vegetation, including non-native grassland, coastal sage scrub, and the more open areas of chaparral, which together represent the dominant habitat type present in the region. As such, California horned lark can occur with relatively high frequency and abundance, and members of this species are relatively widely distributed throughout southern and central California.

Impacts to certain types of occupied or occupiable habitat for this species would occur as a result of implementation of the Specific Plan. As proposed, implementation of the Specific Plan would result in the loss of 1,480 of the 1,896 acres of non-native grassland, 1,820 of the 5,183 acres of coastal sage scrub, 202 of the 1,213 acres of chaparral, and about 64 of the 1,090 acres of oak vegetation present on the site (when combined, 38 percent of these vegetation types would be lost). Because this taxon can occur with relatively high frequency and abundance, and this bird is widely distributed throughout southern and central California, the loss of a number of individuals of this taxon or their habitat would represent an adverse, but not a significant impact.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-27 through BIO-43, as well as EIR Mitigation Measure BIO-53 would be implemented and impacts to individual California horned lark would be reduced further.

Impact:	**Potential loss of individual loggerhead shrike**
Significance:	**Not Significant**

This taxon is considered sensitive in the region and, is a California species of special concern. Loggerhead shrikes were observed on Newhall Ranch during the biological field investigations. This taxon is also primarily associated with open upland vegetation, including non-native grassland, coastal sage scrub, and the more open areas of chaparral, which together represent the dominant habitat type present in the region. As such, this taxon can occur with relatively high frequency and abundance, and is relatively widely distributed throughout southern and central California.

Impacts to certain types of occupied or occupiable habitat for this species would occur as a result of implementation of the Specific Plan. As proposed, implementation of the Specific Plan would result in the loss of 1,480 of the 1,896 acres of non-native grassland, 1,820 of the 5,183 acres of coastal sage scrub, 202 of the 1,213 acres of chaparral, and about 64 of the 1,090 acres of oak vegetation present on the site(when combined, 38 percent of these vegetation types would be lost). Because this taxon can occur with relatively high frequency and abundance, and the species is widely distributed throughout southern and central California, the loss of a number of individuals of this taxon or their habitat would represent an adverse, but not significant impact.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-27 through BIO-43, as well as EIR Mitigation Measure BIO-53 would be implemented and impacts to individual loggerhead shrike would be reduced further.

10. Declining Butterflies Observed On-site

Impact:	**Loss of Becker's white, California white, Harford's sulfur, Comstock's fritillary, Gabb's checkerspot, Lorquin's admiral, cloudy copper, or Gorgon copper butterfly individuals**
Significance:	**Not Significant**

These eight butterfly taxa are considered to be declining in the region. All have been observed on the Ranch and occur or may occur in the future in areas subject to disturbance. These taxa primarily are dependent upon a relatively narrow range of larval food plants and/or adult nectar sources associated with plants that occur in natural areas of the site. Therefore, their distribution may be relatively limited throughout the region. However, these species can be relatively common where appropriate food plants and other habitat features are present. The loss of even a substantial number of these taxa would represent an adverse, but not significant impact, due to their relative abundance in the region where appropriate habitat features are present. Impacts to certain occupied or occupiable habitat for these species include about 1,820 of the 5,183 acres of coastal sage scrub, about 64 of the 1,090 acres of oak vegetation, 15 of the 93 acres southern willow scrub vegetation and about 19 of the 219 acres of riparian woodland vegetation that occurs on-site (when combined, about 29 percent of these vegetation types would be lost).

Given the amount of habitat preserved on the site and habitat present in the region, the loss of individual Becker's white, California white, Harford's sulfur, Comstock's fritillary, Gabb's checkerspot, Lorquin's admiral, cloudy copper, or Gorgon copper butterflies as a result of Specific Plan implementation would be considered an adverse impact that is not significant.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, Mitigation Measures BIO-27 through BIO-43, as well as EIR Mitigation Measure BIO-53 would be implemented and impacts to these butterflies would be further reduced.

11. Federal Candidate Wildlife Species Not Observed but with a Moderate to High Potential for Occurrence On-site (Upland Habitat Affinity)

Impact:	**Potential loss of individual mountain plover (if present)**
Significance:	**Significant (if present)**

The mountain plover has not been observed on the Newhall Ranch site during the biological field surveys. However, this species has been assigned a moderate to high potential for occurrence given their habitat preference and known geographic range. If present, this federal candidate and California species of special concern likely occurs in coastal sage scrub, chaparral, and open riparian scrub vegetation.

The loss of habitat on the site for this sensitive species is substantial. As proposed, implementation of the Specific Plan would result in the loss of 1,820 of the 5,183 acres of coastal sage scrub, 202 of the 1,213 acres of chaparral, and about 64 of the 171 acres of the more open riparian scrub vegetation (when combined, 32 percent of these vegetation types would be lost). Given this substantial loss of habitat and potentially the direct loss of individuals of this species, this impact would be considered significant without mitigation.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-27 through BIO-43, as well as EIR Mitigation Measure BIO-53 would be implemented and impacts to individual mountain plovers would be reduced. However, in spite of these measures, impacts to this taxon are still considered significant.

12. Federal Wildlife Species of Concern Not Observed but with a Moderate to High Potential for Occurrence On-site (Upland Habitat Affinity)

Impact:	**Potential loss of individual Bell's sage sparrow (if present)**
Significance:	**Significant (if present)**

The Bell's sage sparrow has not been observed on the Newhall Ranch site during the biological field surveys. However, this species has been assigned a moderate to high potential for occurrence given its habitat preference and known geographic range. If present, this California species of special concern and federal species of concern likely occurs in coastal sage scrub, chaparral, and open riparian scrub vegetation.

The loss of habitat on the site for this sensitive species is substantial. As proposed, implementation of the Specific Plan would result in the loss of 1,820 of the 5,183 acres of coastal sage scrub, 202 of the 1,213 acres of chaparral, and about 64 of the 171 acres of the more open riparian scrub vegetation (when combined, 32 percent of these vegetation types would be lost). Given this substantial loss of habitat and potentially the direct loss of individuals of this species, this impact would be considered significant without mitigation.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-27 through BIO-43, as well as EIR Mitigation Measure BIO-53 would be implemented and impacts to individual Bell's sage sparrows would be reduced. However, in spite of these measures, impacts to this taxon are still considered significant.

Impact:	**Potential loss of individual ferruginous hawk (if present)**
Significance:	**Significant (if present)**

The ferruginous hawk has not been observed on the Newhall Ranch site during the biological field surveys. However, this species has been assigned a moderate to high potential for occurrence given it's habitat preference and known geographic range. If present, this California species of special concern and federal species of concern likely occurs in coastal sage scrub, chaparral, and open riparian scrub vegetation.

The loss of habitat on the site for this sensitive species is substantial. As proposed, implementation of the Specific Plan would result in the loss of 1,820 of the 5,183 acres of coastal sage scrub, 202 of the 1,213 acres of chaparral, and about 64 of the 171 acres of the more open riparian scrub vegetation (when combined, 32 percent of these vegetation types would be lost). Given this substantial loss of habitat and potentially the direct loss of individuals of this species, this impact would be considered significant without mitigation.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-27 through BIO-43, as well as EIR Mitigation Measure BIO-53 would be implemented and impacts to individual ferruginous hawks would be reduced. However, in spite of these measures, impacts to this taxon are still considered significant.

Impact:	**Potential loss of individual silvery legless lizard (if present)**
Significance:	**Significant (if present)**

The silvery legless lizard has not been observed on the Newhall Ranch site during the biological field surveys. However, this species has been assigned a moderate to high potential for occurrence given its habitat preference and known geographic range. If present, this California species of special concern and federal species of concern likely occurs in coastal sage scrub, chaparral, and open riparian scrub vegetation.

The loss of habitat on the site for this sensitive species is substantial. As proposed, implementation of the Specific Plan would result in the loss of 1,820 of the 5,183 acres of coastal sage scrub, 202 of the 1,213 acres of chaparral, and about 64 of the 171 acres of the more open riparian scrub vegetation (when combined, 32 percent of these vegetation types would be lost). Given this substantial loss of habitat and potentially the direct loss of individuals of this species, this impact would be considered significant without mitigation.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted

and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-27 through BIO-43, as well as EIR Mitigation Measure BIO-53 would be implemented and impacts to individual silvery legless lizards would be reduced. However, in spite of these measures, impacts to this taxon are still considered significant.

Impact:	**Potential loss of individual coast patch-nosed snake (if present)**
Significance:	**Significant (if present)**

The coast patch-nosed snake has not been observed on the Newhall Ranch site during the biological field surveys. However, this species has been assigned a moderate to high potential for occurrence given its habitat preference and known geographic range. If present, this California species of special concern and federal species of concern likely occurs in coastal sage scrub, chaparral, and open riparian scrub vegetation.

The loss of habitat on the site for this sensitive species is substantial. As proposed, implementation of the Specific Plan would result in the loss of 1,820 of the 5,183 acres of coastal sage scrub, 202 of the 1,213 acres of chaparral, and about 64 of the 171 acres of the more open riparian scrub vegetation (when combined, 32 percent of these vegetation types would be lost). Given this substantial loss of habitat and potentially the direct loss of individuals of this species, this impact would be considered significant without mitigation.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-27 through BIO-43, as well as EIR Mitigation Measure BIO-53 would be implemented and impacts to individual coast patch-nosed snakes would be reduced. However, in spite of these measures, impacts to this taxon are still considered significant.

Impact:	**Potential loss of individual coastal rosy boa (if present)**
Significance:	**Significant (if present)**

The coastal rosy boa has not been observed on the Newhall Ranch site during the biological field surveys. However, this species has been assigned a moderate to high potential for occurrence given its habitat preference and known geographic range. If present, this federal species of concern likely occurs in coastal sage scrub, chaparral, and open riparian scrub vegetation.

The loss of habitat on the site for this sensitive species is substantial. As proposed, implementation of the Specific Plan would result in the loss of 1,820 of the 5,183 acres of coastal sage scrub, 202 of the 1,213 acres of chaparral, and about 64 of the 171 acres of the more open riparian scrub vegetation (when combined, 32 percent of these vegetation types would be lost). Given this substantial loss of habitat and potentially the direct loss of individuals of this species, this impact would be considered significant without mitigation.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-27 through BIO-43, as well as EIR Mitigation Measure BIO-53 would be implemented and impacts to individual coastal rosy boa's would be reduced. However, in spite of these measures, impacts to this taxon are still considered significant.

Impact:	**Potential loss of individual San Bernardino ringneck snake (if present)**
Significance:	**Significant (if present)**

The San Bernardino ringneck snake has not been observed on the Newhall Ranch site during the biological field surveys. However, this species has been assigned a moderate to high potential for occurrence given its habitat preference and known geographic range. If present, this federal species of concern likely occurs in coastal sage scrub, chaparral, and open riparian scrub vegetation.

The loss of habitat on the site for this sensitive species is substantial. As proposed, implementation of the Specific Plan would result in the loss of 1,820 of the 5,183 acres of coastal sage scrub, 202 of the 1,213 acres of chaparral, and about 64 of the 171 acres of the more open riparian scrub vegetation (when combined, 32 percent of these vegetation types would be lost). Given this substantial loss of habitat and potentially the direct loss of individuals of this species, this impact would be considered significant without mitigation.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-27 through BIO-43, as well as EIR Mitigation Measure BIO-53 would be implemented and impacts to individual San Bernardino ringneck snakes would be reduced. However, in spite of these measures, impacts to this taxon are still considered significant.

13. Federal Endangered and Federal Wildlife Species of Concern Not Observed but with a Moderate Potential for Occurrence On-site (Riparian Habitat Affinity)

Impact:	**Potential loss of individual arroyo southwestern toad (if present)**
Significance:	**Not Significant**

The arroyo southwestern toad has not been observed on the Newhall Ranch site during the biological field surveys. However, it has been assigned a moderate potential for occurrence on the site due to the presence of substantial areas of preferred habitat. If present, this federally listed endangered species likely occurs in riparian scrub, riparian woodland, alluvial scrub, and freshwater marsh vegetation and aquatic habitat.

Specific Plan implementation would result in the loss of 63 of the 222 acres of mule fat scrub vegetation, 15 of the 96 acres of southern willow scrub, 4 of the 126 acres of southern willow riparian woodland, 15 of the 93 acres of southern cottonwood-willow riparian forest, 2 of the 5 acres of valley freshwater marsh and ponds, 7 of the 26 acres of cottonwood/oak woodland, 11 of the 16 acres of arrow weed scrub, and 21 of the 39 acres of alluvial scrub (when combined, 22 percent of these vegetation types would be lost). Loss of habitat in which this species is known to occur could result in the direct loss of individual arroyo toads (if present).

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-1 through BIO-26, as well as EIR Mitigation Measures BIO-53, BIO-55, and BIO-56 would be implemented and impacts to individual arroyo southwestern toads would be reduced. Given the avoidance of impacts associated with construction and operation and mitigation within the RMP and this EIR, impacts to this taxon are not considered significant.

Impact:	**Potential loss of individual western least bittern (if present)**
Significance:	**Not Significant**

The western least bittern has not been observed on the Newhall Ranch site during the biological field surveys. However, it has been assigned a moderate potential for occurrence on the site due to the presence of substantial areas of preferred habitat. If the western least bittern occurs on the Ranch, it would most likely be associated with freshwater marsh vegetation and aquatic habitat along the Santa Clara River. This species is not expected to nest on the Ranch.

Specific Plan implementation would result in the loss of 63 of the 222 acres of mule fat scrub vegetation, 15 of the 96 acres of southern willow scrub, 4 of the 126 acres of southern willow riparian woodland, 15 of the 93 acres of southern cottonwood-willow riparian forest, 2 of the 5 acres of valley freshwater marsh and ponds, 7 of the 26 acres of cottonwood/oak woodland, 11 of the 16 acres of arrow weed scrub, and 21 of the 39 acres of alluvial scrub (when combined, 22 percent of these vegetation types would be lost). Loss of habitat in which this species is known to occur could result in the displacement of western least bittern (if present).

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-1 through BIO-26, as well as EIR Mitigation Measures BIO-53, BIO-55, and BIO-56 would be implemented and impacts to individual western least bitterns would be reduced. Given the avoidance of impacts associated with construction and operation and mitigation within the RMP and this EIR, impacts to this taxon are not considered significant.

Impact:	**Potential loss of individual fulvous whistling duck (if present)**
Significance:	**Not Significant**

The fulvous whistling duck has not been observed on the Newhall Ranch site during the biological field surveys. However, it has been assigned a moderate potential for occurrence on the site due to the presence of substantial areas of preferred habitat. If the fulvous whistling duck occurs on the Ranch, it would most likely be associated with freshwater marsh vegetation and aquatic habitat along the Santa Clara River. This species in not expected to nest on the Ranch.

Specific Plan implementation would result in the loss of 63 of the 222 acres of mule fat scrub vegetation, 15 of the 96 acres of southern willow scrub, 4 of the 126 acres of southern willow riparian woodland, 15 of the 93 acres of southern cottonwood-willow riparian forest, 2 of the 5 acres of valley freshwater marsh and ponds, 7 of the 26 acres of cottonwood/oak woodland, 11 of the 16 acres of arrow weed scrub, and 21 of the 39 acres of alluvial scrub (when combined, 22 percent of these vegetation types would be lost). Loss of habitat in which this species is known to occur could result in the displacement of fulvous whistling-duck.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, Mitigation Measures BIO-1 through BIO-26, as well as EIR Mitigation Measures BIO-53, BIO-55, and BIO-56 would be implemented and impacts to fulvous whistling-ducks would be reduced. Given the avoidance of impacts associated with construction and operation and mitigation within the RMP and this EIR, impacts to this taxon are not considered significant.

Impact:	**Potential loss of individual Yuma myotis (if present)**
Significance:	**Not Significant**

Yuma myotis has not been recorded from the Newhall Ranch. However, due to the presence of suitable habitat, this bat has been assigned a moderate potential for occurrence. The Yuma myotis tends to roost under bridges. No loss of bat roosts (if present) as a result of project implementation would be expected, as little if any direct disturbance would occur in the High Country portions of the Newhall Ranch where roosts would most likely be located. However, this species likely occurs in and forages over the riparian scrub and riparian woodland vegetation.

Acreage subject to disturbance in vegetation communities which may represent potential foraging habitat for these species includes about 175 of the 932 acres of the appropriate types of riparian and wetland vegetation (inclusive of riparian woodlands) that occur on site (19 percent of this vegetation types would be lost).

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-1 through BIO-26, as well as EIR Mitigation Measures BIO-53, BIO-55, and BIO-56 would be implemented and impacts to individual Yuma myotis would be reduced. Given the avoidance of impacts associated with construction and operation and mitigation within the RMP and this EIR, impacts to this taxon are not considered significant.

Impact:	**Potential loss of individual pale Townsend's big-eared bat (if present)**
Significance:	**Not Significant**

Pale Townsend's big-eared bat has not been recorded from the Newhall Ranch. However, due to the presence of suitable habitat, this bat has been assigned a moderate potential for occurrence. The pale Townsend's big-eared bat tends to roost in steep rocky cliff faces. No loss of bat roosts (if present) as a result of project implementation would be expected, as little if any direct disturbance would occur in the High Country portions of the Newhall Ranch where roosts would most likely be located. However, this species likely occurs in and forages over the riparian scrub and riparian woodland vegetation.

Acreage subject to disturbance in vegetation communities which may represent potential foraging habitat for these species includes about 175 of the 932 acres of the appropriate types of riparian and wetland vegetation (inclusive of riparian woodlands) that occur on-site (19 percent of this vegetation types would be lost).

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-1 through BIO-26, as well as EIR Mitigation Measures BIO-53, BIO-55, and BIO-56 would be implemented and impacts to individual pale Townsend's big-eared bats would be reduced. Given the avoidance of impacts associated with construction and operation and mitigation within the RMP and this EIR, impacts to this taxon are not considered significant.

Impact:	**Potential loss of individual greater western mastiff bat (if present)**
Significance:	**Not Significant**

Greater western mastiff bat has not been recorded from the Newhall Ranch. However, due to the presence of suitable habitat, this bat has been assigned a moderate potential for occurrence. The greater western mastiff bat tends to roost in steep rocky cliff faces. No loss of bat roosts (if present) as a result of project implementation would be expected, as little if any direct disturbance would occur in the High Country portions of the Newhall Ranch where roosts would most likely be located. However, this species likely occurs in and forages over the riparian scrub and riparian woodland vegetation.

Acreage subject to disturbance in vegetation communities which may represent potential foraging habitat for these species includes about 175 of the 932 acres of the appropriate types of riparian and wetland vegetation (inclusive of riparian woodlands) that occur on-site (19 percent of this vegetation types would be lost).

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-1 through BIO-26, as well as EIR Mitigation Measures BIO-53, BIO-55, and BIO-56 would be implemented and impacts to individual greater western mastiff-bats would be reduced. Given the avoidance of impacts associated with construction and operation and mitigation within the RMP and EIR, impacts to this taxon are not considered significant.

14. State Threatened Species Not Observed but with a Moderate Potential for Occurrence On-site (Upland Affinity)

Impact:	**Potential loss of individual Swainson's hawk (if present)**
Significance:	**Significant (if present)**

Swainson's hawk was not observed on the Newhall Ranch site during the biological field surveys. However, Swainson's hawk has been assigned a moderate potential for occurrence due to the presence of suitable habitat and the geographic range of this bird. If this taxon is present, it would most likely occur in, fly over, and forage in the riparian woodland, coastal sage scrub and chaparral vegetation.

The loss of habitat on the site is substantial. Acreage subject to disturbance in vegetation communities which may represent the greatest potential habitat for these species includes 19 of the 219 acres of riparian woodland, 1,820 acres of the 5,183 acres of coastal sage scrub, and 202 acres of the 1,213 chaparral vegetation that occurs on site (when combined, 31 percent of these vegetation types would be lost). The loss of individual Swainson's hawk as a result of Specific Plan implementation would be an adverse impact that is considered significant, given the listing status of Swainson's hawk. Also, given this substantial loss of habitat, this impact would be considered significant without mitigation.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted

and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-27 through BIO-43, as well as EIR Mitigation Measure BIO-53 would be implemented and impacts to individual Swainson's hawks would be reduced. However, in spite of these measures, impacts to this taxon are still considered significant.

15. Federal Species of Concern Not Observed but with a Moderate Potential for Occurrence On-site (Upland Affinity)

Impact:	**Potential loss of individual western burrowing owls (if present)**
Significance:	**Significant (if present)**

Western burrowing owls were not observed on the Newhall Ranch site during the biological field surveys. However, this California species of special concern has been assigned a moderate potential for occurrence due to the presence of suitable habitat and the geographic range of these birds. If this taxon is present, it would most likely occur in non-native grassland, valley oak savanna, coastal sage scrub and disturbed areas (those areas where ground squirrels are prevalent).

The loss of habitat on the site is substantial. Acreage subject to disturbance in vegetation communities which may represent the greatest potential habitat for this species includes 1,820 of the site's 5,183 acres of coastal sage scrub, 1,480 acres of the 1,896 acres of non-native grassland, 25 acres of the 394 acres of valley oak savanna, and 1,317 acres of the 1,523 acres of disturbed habitat (when combined, about 42 percent of these vegetation types would be lost). Given this substantial loss of habitat and potentially the direct loss of individuals of this species, this impact would be considered significant without mitigation.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, Mitigation Measures BIO-27 through BIO-43, as well as EIR Mitigation Measure BIO-53 would be implemented and impacts to individual western burrowing owls would be reduced. However, in spite of these measures, impacts to this taxon are still considered significant.

16. California Species of Special Concern and Special Interest Species Not Observed but with a Moderate Potential for Occurrence On-site

Impact:	**Potential loss of individual sharp-shinned hawk (if present)**
Significance:	**Significant (if present)**

Sharp-shinned hawk was not observed on the Newhall Ranch site during the biological field surveys. However, sharp-shinned hawk has been assigned a moderate potential for occurrence due to the presence of suitable habitat on the site and the geographic range of this bird. If this taxon is present on Newhall Ranch, it would most likely occur in, fly over, and forage in the riparian woodland, coastal sage scrub and chaparral vegetation.

The loss of habitat on the site is substantial. Acreage subject to disturbance in vegetation communities which may represent the greatest potential habitat for these species includes 19 of the 219 acres of riparian woodland, 1,820 acres of the 5,183 acres of coastal sage scrub, and 202 acres of the 1,213 chaparral vegetation that occurs on-site (when combined, 31 percent of these vegetation types would be lost). The loss of a large number of individual sharp-shinned hawk, particularly nesting sharp-shinned hawk individuals (if present), would also be an adverse impact that is considered significant. Also, given this substantial loss of habitat, this impact would be considered significant without mitigation.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-27 through BIO-43, as well as EIR Mitigation Measure BIO-53 would be implemented and impacts to individual sharp-shinned hawks would be reduced. However, in spite of these measures, impacts to this taxon are still considered significant.

Impact:	**Potential loss of individual golden eagle (if present)**
Significance:	**Significant (if present)**

Golden eagle was not observed on the Newhall Ranch site during the biological field surveys. However, golden eagle has been assigned a moderate potential for occurrence due to the presence of suitable habitat and the geographic range of this bird. If this taxon is present, it would most likely occur in, fly over, and forage in the riparian woodland, coastal sage scrub and chaparral vegetation.

The loss of habitat on the site is substantial. Acreage subject to disturbance in vegetation communities which may represent the greatest potential habitat for these species includes 19 of the 219 acres of riparian woodland, 1,820 acres of the 5,183 acres of coastal sage scrub, and 202 acres of the 1,213 chaparral vegetation that occurs on-site (when combined, 31 percent of these vegetation types would be lost). The loss of a large number of individual golden eagles would be an adverse impact that is considered significant. Also, given this substantial loss of habitat, this impact would be considered significant without mitigation.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-27 through BIO-43, as well as EIR Mitigation Measure BIO-53 would be implemented and impacts to individual golden eagle would be reduced. However, in spite of these measures, impacts to this taxon are still considered significant.

Impact:	**Potential loss of individual pallid bat (if present)**
Significance:	**Not Significant**

The pallid bat has not been recorded from the Newhall Ranch. However, due to the presence of suitable habitat, this bat has been assigned a moderate potential for occurrence. The pallid bat tends to roost in steep rocky cliff faces. No loss of bat roosts (if present) as a result of project implementation would be expected, as little if any direct disturbance would occur in the High Country portions of the Newhall Ranch where roosts would most likely be located. However, this species likely occurs in and forages over the uplands as well as riparian scrub and riparian woodland vegetation.

Acreage subject to disturbance in vegetation communities which may represent potential foraging habitat for these species includes about 175 of the 932 acres of the appropriate types of riparian and wetland vegetation (inclusive of riparian woodlands) that occur on-site (19 percent of this vegetation types would be lost).

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures

BIO-1 through BIO-26, as well as EIR Mitigation Measures BIO-53, BIO-55, and BIO-56 would be implemented and impacts to individual pallid bats would be reduced. Given the avoidance of impacts associated with construction and operation and mitigation within the RMP and this EIR, impacts to this taxon are not considered significant.

17. Declining Butterflies Not Observed but Expected to Occur On-site

Impact:	**Potential loss of individual Leussler's skipper butterfly (if present)**
Significance:	**Not Significant**

The Leussler's skipper butterfly has not been observed on the Newhall Ranch site during the biological surveys. However, it has been assigned a moderate to high potential for occurrence. If this taxon is present, it likely occurs in the oak woodland and oak savanna, coastal sage scrub and chaparral vegetation. It is believed that this species of butterfly is declining in numbers. However, this species can be relatively common where appropriate food plants and other habitat features are present. Due to its substantial geographic range, the loss of even a substantial number of this taxon would represent an adverse, but not significant impact. Acreage subject to disturbance in vegetation communities which may represent potential habitat for these species includes 1,820 acres of the 5,183 acres of coastal sage scrub, 202 acres of the 1,213 acres of chaparral, and 64 of the 1,090 acres of various oak habitats that occur on the project site (when combined, 28 percent of these vegetation types would be lost).

Given the amount of habitat preserved on the site and habitat present in the region, the loss of individual Leussler's skipper butterflies as a result of Specific Plan implementation would be considered an adverse impact that is not significant.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-27 through BIO-43, as well as EIR Mitigation Measure BIO-53 would be implemented and impacts to this butterfly would be further reduced.

Impact:	**Potential loss of individual Columbia skipper butterfly (if present)**
Significance:	**Not Significant**

The Columbia skipper butterfly has not been observed on the Newhall Ranch site during the biological surveys. However, it has been assigned a moderate to high potential for occurrence. If this taxon is present, it likely occurs in the oak woodland and oak savanna, coastal sage scrub and chaparral vegetation. It is believed that this species of butterfly is declining in number. However, this species can be relatively common where appropriate food plants and other habitat features are present. Due to its substantial geographic range, the loss of even a substantial number of this taxon would represent an adverse, but not significant impact. Acreage subject to disturbance in vegetation communities which may represent potential habitat for these species includes 1,820 acres of the 5,183 acres of coastal sage scrub, 202 acres of the 1,213 acres of chaparral, and 64 of the 1,090 acres of various oak habitats that occur on the project site (when combined, 28 percent of these vegetation types would be lost).

Given the amount of habitat preserved on the site and habitat present in the region, the loss of individual Columbia skipper butterflies as a result of Specific Plan implementation would be considered an adverse impact that is not significant.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, RMP Mitigation Measures BIO-27 through BIO-43, as well as EIR Mitigation Measure BIO-53 would be implemented and impacts to this butterfly would be further reduced.

(c) Conclusion

Based on the information provided above the proposed project has the potential to significantly impact (post mitigation) several sensitive wildlife species generally considered to occur in upland habitats. Given the criteria set forth in Subsection 4.a., Significance Threshold Criteria, this project would significantly affect endangered, rare or sensitive plants or animals. Therefore, the impact potential of this project is considered significant with respect to this impact criterion.

(4) Effects on Sensitive Habitats

Habitats designated as sensitive by the state of California are present on the proposed Newhall Ranch site. This discussion is intended to define and describe the impact potential of the Specific Plan on these sensitive habitat types.

(a) California Department of Fish and Game CNNDB Designated Sensitive Habitats

Most of the vegetation communities present on the site are not identified as being sensitive by the California Natural Diversity Database. However, Venturan coastal sage scrub, valley oak woodland/savanna, elderberry scrub, mainland cherry forest, southern willow scrub, southern cottonwood-willow riparian forest and valley freshwater marsh and ponds have been designated by the CDFG as threatened. A discussion of these sensitive habitat types is provided below.

1. Coastal Sage Scrub

Coastal sage scrub vegetation is considered sensitive by the CDFG, and is the current focus of the state's Natural Community Conservation Planning (NCCP) process. The CDFG has assigned this vegetation type a status S3.1 (i.e., threatened status in habitats that are not common [as defined by the California Department of Fish and Game Natural Diversity Data Base]). As proposed, implementation of the Newhall Ranch Specific Plan would result in the removal of 1,820 of the 5,183 acres of this habitat on the project site, or 35 percent of this total. This impact of such a large amount of this sensitive habitat is considered significant.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, Mitigation Measures BIO-27 through BIO-43 would be implemented and impacts to coastal sage scrub would be reduced. However, in spite of these measures, impacts to this sensitive habitat type are still considered significant.

2. Valley Oak Woodland/Savanna

Valley oak woodland/savanna has been greatly reduced throughout its range. It provides valuable habitat for many special wildlife species. In response to this condition, the CDFG has assigned this vegetation type a status of S2.1 (i.e., very threatened status in habitats that are not common, [as defined by the California Department of Fish and Game Natural Diversity Data Base]). As proposed,

implementation of the Newhall Ranch Specific Plan would result in the removal of 27 of the 420 acres of this habitat on the project site, or 6 percent of this total. The majority of this habitat type is located in the uplands that would not be directly or indirectly impacted by this project. Oak trees removed will be replanted on a 2 to 1 replacement basis, as required by the Los Angeles County ordinance. However, given the sensitivity designation of this habitat type, these impacts are considered significant.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, Mitigation Measures BIO-27 through BIO-43 would be implemented and impacts to valley oak woodland/savanna would be reduced. However, in spite of these measures, impacts to this sensitive habitat type are still considered significant.

3. Elderberry Scrub

Elderberry scrub is not a common vegetation type and has been greatly reduced throughout its range, particularly in southern California. In response to this condition, the CDFG has assigned this vegetation type a status of S2.1 (i.e., very threatened status in habitats that are not common). As proposed, implementation of the Newhall Ranch Specific Plan would result in the removal of 14 of the 24 acres (58 percent of the total) of this habitat on the project site. Portions of elderberry scrub that would be removed on the site have been classified as having low biological value based on the Habitat Value Study (**Figure BIO-15, Habitat Value Study**). Cattle grazing has reduced the biological integrity of this habitat type where disturbances are proposed. The remaining portions of elderberry scrub are located in the uplands that would not be directly or indirectly impacted by this project and have been assigned a higher biological value on **Figure BIO-15**.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, Mitigation Measures BIO-27 through BIO-43, as well as EIR Mitigation Measure BIO-60 would be implemented and impacts to elderberry scrub would be reduced. Given the avoidance of impacts associated with construction and operation and mitigation within the RMP and EIR, impacts to this sensitive habitat type are not considered significant.

4. Mainland Cherry Forest

Similar to elderberry scrub, mainland cherry forest is a rare vegetation type which has been greatly reduced throughout its range, particularly in southern California. In response to this condition, the CDFG has assigned this vegetation type a status of S1.1 (i.e., a very threatened designation assigned to habitat types that are of very limited distribution). As proposed, implementation of the Newhall Ranch Specific Plan would result in the removal of 11 of the 18 acres (61 percent of the total) of this habitat on the site. On **Figure BIO-15**, the 11 acres of mainland cherry forest being impacted were assigned the two lowest Habitat Value ranks through application of the Habitat Value Analysis. Portions of mainland cherry forest preserved as part of this project are located in the uplands (generally in association with coast live oak woodlands) and were assigned higher value ranks on **Figure BIO-15**.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, Mitigation Measures BIO-27 through BIO-43, as well as EIR Mitigation Measure BIO-61 would be implemented and impacts to mainland cherry forest would be reduced. Given the avoidance of impacts associated with construction and operation and mitigation within the RMP and this EIR, impacts to this sensitive habitat type are not considered significant.

5. Southern Willow Scrub

Like many willow dominated riparian habitats in California, southern willow scrub has been greatly reduced throughout its range and provides valuable habitat for many special wildlife species, particularly songbirds. In response to this condition, the CDFG has assigned this vegetation type a status of S2.1 (i.e., very threatened status in habitats that are not common). As proposed, implementation of the Newhall Ranch Specific Plan would result in the removal of 15 of the 96 acres (16 percent of the total acres) of this habitat on the project site.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted

and would assure the implementation of the provisions therein. As a result, Mitigation Measures BIO-1 through BIO-26 would be implemented and impacts to southern willow scrub would be reduced. Given the avoidance of impacts associated with construction and operation and mitigation within the RMP and this EIR, impacts to this sensitive habitat type are not considered significant.

6. Southern Cottonwood-Willow Riparian Forest and Southern Willow Riparian Woodland

Like most riparian habitats in California, southern cottonwood-willow riparian forest and southern willow riparian woodland have been greatly reduced throughout their range and provide valuable habitat for many special wildlife species. In response to this condition, the CDFG has assigned these vegetation types a status of S3.2 (i.e., threatened status in habitats that are relatively common). As proposed, implementation of the Newhall Ranch Specific Plan would result in the removal of 15 of the 93 acres (16 percent of the total) of the cottonwood-willow riparian forest and 4 of the 126 acres (3 percent of the total) of southern willow riparian forest on the project site.

The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, Mitigation Measures BIO-1 through BIO-26 would be implemented and impacts to southern cottonwood-willow riparian forest and southern willow riparian woodland would be reduced. Given the avoidance of impacts associated with construction and operation and mitigation within the RMP and this EIR, impacts to these sensitive habitat types are not considered significant.

7. Valley Freshwater Marsh and Ponds

Like many wetland habitats in southern California, freshwater marshes and ponds have been greatly reduced throughout their range. This habitat type provides a water source in arid areas and, as such, is valuable habitat for many special wildlife species. In response to this condition, the CDFG has assigned this vegetation/habitat type a status of S2.1 (i.e., very threatened status in habitat that are not common). As proposed, implementation of the Newhall Ranch Specific Plan would result in the removal of 2 of the 5 acres of this habitat on the project site. Given the assumption that these features are wetlands and would require replacement as part of the ACOE and CDFG permitting processes, and the relatively small acreage affected, impacts to this habitat type are not considered significant.

(b) Wetlands

Wetland habitats are considered to be sensitive based upon the high value of wetlands and aquatic habitats to wildlife, as well as the relative rarity of these resources throughout the region and the state. The Santa Clara River Corridor supports the endangered fish species unarmored threespine stickleback, as well as the endangered least Bell's vireo and southwestern willow flycatcher. It also provides occupied or occupiable habitat for federal candidate species, including western spadefoot toad, southwestern pond turtle, two-striped garter snake, and tricolored blackbird, as well as more common amphibians, migratory waterfowl, and aquatic insects. Those jurisdictional wetlands located along or near the Santa Clara River are typically higher quality wetlands, and usually have an aquatic component or are located relatively close to an aquatic area. The jurisdictional wetlands that may be subject to disturbance in the upland portions of the Ranch are typically ephemeral, and are generally considered less sensitive than those associated with permanent or semi-permanent water. About 8 percent of the jurisdictional wetlands present along the Santa Clara River would be disturbed.

Jurisdictional wetlands and waters of the U.S. include those wetlands features subject to jurisdiction of the U.S. Army Corps of Engineers under Section 404 of the federal Clean Water Act. "Waters of the U.S." are broadly defined in 33 CFR 328.3(a) to include navigable Rivers and intermittent streams which are tributary to these watercourses, as well as wetlands, either associated with watercourses or isolated. By definition, all aquatic habitat present on the Newhall Ranch is contained within the waters of the U.S. or wetlands categories.

As proposed, implementation of the Newhall Ranch Specific Plan would result in the loss of approximately 53 acres of jurisdictional wetlands, waters of the U.S., and their associated aquatic habitat along the Santa Clara River. In addition, jurisdictional 'waters' may be subject to disturbance along the drainage features and intermittent streams in the upland portion of the Newhall Ranch. The severity of this impact will be offset via the replacement of wetland vegetation in association with the ACOE and/or CDFG permit process. Further, the Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, Mitigation Measures BIO-1 through BIO-26 would be implemented and impacts to wetlands would be reduced. Given the avoidance of impacts associated with construction and operation and mitigation within the RMP and this EIR, impacts to this sensitive habitat type are not considered significant.

(c) Significant Ecological Areas

The Significant Ecological Area (SEA) boundaries are policy lines, established by Los Angeles County, creating areas designated as having sensitive, unique or exemplary biological conditions. The mapped boundaries are not necessarily a precise portrayal of the limits of the biological resource defined in the SEA description. SEAs contain land that may be characterized by lower quality habitat values, and may exclude adjacent lands that are of higher quality. As part of the General Plan Amendment process, modification of the boundaries of SEAs 20 and 23 to, in part, better reflect the biological resources present on the site is proposed. In general, it is the intent of the Specific Plan to develop those portions of the existing SEAs which maintain lower quality habitat values (thereby removing these areas from the SEAs), and to add land to the SEA which maintains a higher quality habitat value. An assessment of the Specific Plan's impact on SEAs 20 and 23 is provided below.

1. Potential Impact on SEA 20

Presently, approximately 3,947 acres are located within the portion of SEA 20 which is located on the Newhall Ranch. The Specific Plan proposes a total of approximately 3,949.9 acres within this portion of SEA 20, resulting in an increase of approximately 3 acres of SEA land area. In addition, as discussed below, the modification of the SEA boundary and the consequent inclusion of other acreage results in an increase in the amount of land characterized by higher value habitats.

Impacts to SEA 20 occur in two forms. First, is the impact of the construction of 15 estate lots, access roads and recreational trails within the SEA; and second is the adjustment proposed in the boundary of SEA 20. As stated, 15 estate lots, access roads and recreational trails are proposed within SEA 20. Plans indicate that construction of the estate lots and roads would disturb approximately 45 acres of natural habitat within the SEA. Additional impacts would occur as a result of the indirect impacts of human use that are discussed later in this report section.

Table BIO-17 indicates the amount of each type of habitat and total amount of land currently within SEA 20, and the habitat and total within the proposed adjusted SEA boundaries. It also shows the incremental acreage of sensitive habitats that will be removed and added to the SEA. As shown, a total increase in SEA size of 2.86 acres would occur. Not all habitat types represented in the SEA would increase in total acreage. As shown in **Table BIO-17**, habitats that would decrease in acreage include alluvial scrub, coastal sage scrub-grassland, non-native annual grassland, Great Basin scrub, and mule fat scrub. In all, these habitats would be reduced in acreage by approximately 94 acres. Habitats that would be represented by a greater amount of land would include coastal sage scrub, live oak woodland, and mixed chaparral. Their acreages would be increased by a total of approximately 60 acres. The

amount of land represented by pond, valley oak savanna, valley oak woodland, and southern willow scrub would remain essentially unchanged by development. SEA 20 is primarily noted for its oak related conditions (e.g., coast live oak and valley oak woodland, and valley oak savanna). As noted in **Table BIO-17**, the total amount of land represented by oak woodland and savanna habitats in the SEA would increase by about 28 acres as a result of the proposed SEA boundary adjustment. Regarding sensitive habitats present, a total of 59.61 acres of such habitats will be added to the SEA with the boundary adjustment.

Table BIO-17
SEA 20 Habitats
Existing and Proposed

Habitat Types	Existing Acres	Proposed Acres	Total Added (Removed)	Sensitive Hab. Added (Removed)
Disturbed/Road	**36.45**	**25.04**	**(11.41)**	
Alluvial Scrub	9.34	1.29	(8.05)	
Coastal Sage Scrub	1,965.96	1,997.67	31.71	31.71
Coastal Sage Scrub - Grassland	28.17	0.00	(28.17)	
Non-Native Annual Grassland	160.20	116.74	(43.46)	
Great Basin Scrub	26.22	18.38	(7.84)	
Live Oak Woodland	519.54	547.42	27.88	27.88
Mixed Chaparral	814.57	863.38	48.81	
Mule Fat Scrub	21.25	14.68	(6.57)	
Pond	0.20	0.20	0	0
Valley Oak Savanna	356.91	356.90	(0.01)	(0.01)
Valley Oak Woodland	4.81	4.81	0	0
Southern Willow Scrub	3.06	3.09	0.03	0.03
Subtotal	**3,910.23**	**3,924.56**	**(14.27)**	**59.61**
Total	**3,946.68**	**3,949.60**	**2.86**	**59.61**

Another way to analyze the impact of the proposed Specific Plan is to compare pre- and post-project SEA habitat values. As indicated, four categories of habitat values have been identified, with value 1 being lowest and value 4 being highest. As shown on **Table BIO-18**, the amount of land represented by the lower value habitats (1 and 2) would decrease from 2,133 to 1,958 acres. However, the amount of land represented by the higher value habitats (3 and 4) would increase from 1,814 to 1,992 acres. In the end, a total of 175 acres of lower value habitat would be removed from the SEA, while a total of 178 acres of higher quality habitat would be added to the SEA.

Table BIO-18
SEA 20 Habitats-
Existing and Proposed by Habitat Value

Habitat Value	Existing Acres	Proposed Acres	Added (Removed)
1 (lowest)	262	220	(42)
2	1,871	1,738	(133)
3	1,291	1,451	160
4 (highest)	523	541	18
Subtotal	**3,947**	**3,950**	**3**

A further method of impact analysis of the project on the SEA is the extent of edge effects measured in linear feet of land fronting on the SEA. This provides a rough measure of potential impacts of urban uses on the edge of the SEA. A total of 24,724 linear feet (LF) of land fronts on SEA 20. Of that total length, nearly half (11,722 LF or 47 percent) fronts on the proposed Estate residential uses, 18 percent (4,446 LF) fronts on proposed roadways (with Low Residential uses above), 14 percent (3,566 LF) fronts directly onto Low Medium Residential uses, 12 percent (2,983 LF) fronts onto Visitor Serving uses, and 8 percent (2,007 LF) fronts onto proposed Open Space. Of the edge that fronts onto the Estate residential, the effects of this development are minimized due to the fact that this area is separated by a fairly severe vertical grade. The roadways that make up 18 percent of the edge are at grade with the SEA, but the Low Residential uses adjacent to the roadways are also separated vertically. The 14 percent of the edge made up by Low Medium Residential uses is adjacent to a portion of the SEA that is elevated steeply above the proposed uses. Lastly, the 12 percent Visitor Serving edge is the portion of the project that would control access to the SEA and proposed High Country Special Management Area (SMA). In all, approximately 69 percent of the SEA edge is either adjacent to proposed open space or is separated topographically from proposed development.

In conclusion, the total SEA 20 area would be increased by approximately 3 acres, and the relocation of SEA 20's northern boundary line and the resultant impact of the proposed project is not considered to be significant for the following reasons:

1) the Specific Plan would increase the amount of higher value habitat in the SEA by 178 acres;
2) the amount of land devoted to the habitat types SEA 20 is known for (oak woodland type habitats) would increase by approximately 28 acres;
3) the Specific Plan provides for a major interconnection (Salt Creek Canyon) between SEA 20 and the Santa Clara River which will allow for the continued movement of species between SEA 20 and major open space areas to the north and south; and
4) the Specific Plan provides for the actual permanent dedication of land located within the SEA and removal of cattle grazing, except for grazing for resource management purposes as development occurs.

2. Potential Impact on SEA 23

Presently, approximately 1,290 acres are located within the portion of SEA 23 which is located on the Newhall Ranch. The Specific Plan proposes a total of approximately 813 acres within this portion of SEA 23, resulting in a reduction of 477 acres of SEA land area. As discussed below, the modification of the SEA boundary and the consequent reduction in SEA acreage will reduce the amount of sensitive habitats within SEA 23 by 103.62 acres prior to mitigation. In addition, buffer areas along the River will be modified.

As shown in **Table BIO-19**, of the 1,290 acres located within SEA 23 on the project site, approximately 466 acres (36 percent) are non-riparian in character, and presently in either a disturbed condition (defined as areas already impacted under agricultural production, generally disturbed or ruderal areas, and roadways) or in non-native grassland (a non-riparian habitat type).

Table BIO-19 indicates that 340.58 acres of disturbed and non-riparian (non-native grassland) habitat will be removed from the SEA. Of the undisturbed habitats, their land area would be reduced from 823.48 acres to 687.16 acres. As shown in **Table BIO-19**, habitats that would decrease in acreage include alluvial scrub, cottonwood/oak woodland, southern cottonwood-willow riparian forest, elderberry scrub, freshwater marsh, coast live oak woodland, mixed chaparral, mesic meadows, and coastal sage scrub-grassland, mule fat scrub, successional mule fat scrub, coastal sage scrub, coastal sage scrub-grassland, and southern willow scrub. Willow riparian woodland habitat would increase in acreage by 0.65 acre, and arrow weed scrub would increase by 2.26 acres.

The Newhall Ranch Specific Plan proposes no substantial physical alteration to the River bottom. However, bank stabilization would occur on approximately 30 percent of the southern side and 80 percent of the northern side of the River. In general, bank stabilization is proposed to be ungrouted rock (see EIR **Section 4.2, Flood**). Bank stabilization construction could disturb wildlife species associated with the adjacent riparian vegetation and open channels.

Table BIO-19
SEA 23
Existing and Proposed

Habitat Types	Existing Acres	Proposed Acres	Total Added (Removed)	Sensitive Hab. Added (Removed)
Agricultural/Disturbed/Road	458.52	125.71	(332.81	
Non-Native Annual Grassland	7.79	0.21	(7.77)	
Subtotal	**466.31**	**125.92**	**(340.58)**	
Alluvial Scrub	0.12	0.00	(0.12)	
Arrow Weed Scrub	6.18	8.44	2.26	
Cottonwood/Oak Woodland	10.06	3.22	(6.84)	(6.84)
So. Cottonwood-Willow Riparian Forest	85.98	74.90	(11.08)	(11.08)
Elderberry Scrub	3.84	0.12	(3.72)	(3.72)
Freshwater Marsh	3.27	2.94	(0.33)	(0.33)
Live Oak Woodland	7.18	0.04	(7.14)	(7.14)
Mixed Chaparral	3.75	0.06	(3.69)	
Mule Fat Scrub	156.61	134.78	(21.83)	
Successional Mule Fat Scrub	271.08	267.09	(3.99)	
Mesic Meadow	1.05	0.00	(1.05)	(1.05)
Coastal Sage Scrub*	64.02	1.73	(62.29)	(62.29)*
Coastal Sage Scrub-Grassland	5.38	0.01	(5.37)	
Southern Willow Riparian Woodland	123.73	124.38	0.65	0.65
Southern Willow Scrub	81.23	69.41	(11.82)	(11.82)
Subtotal	**823.48**	**687.16**	**(136.36)**	
Total	**1,289.79**	**813.08**	**(476.94)**	**(103.62)**

** Coastal Sage Scrub is not included in the County's description of SEA 23 as being an important biological component of the biological resources of that SEA. SEA is known for its riparian habitats (which coastal sage scrub is not). The portion of SEA 23 on the Specific Plan site has 41.33 acres of sensitive riparian habitats.*

SEA 23 is primarily noted for its wetlands and critical habitat for the unarmored threespine stickleback and the least Bell's vireo. The vireo is known to commonly utilize the following habitat types found in this portion of SEA 23: arrow weed scrub (increased by 2.26 acres), southern cottonwood-willow riparian forest (reduced by 11.08 acres), mule fat scrub (reduced by 21.83 acres), southern willow riparian woodland (increased by 0.65 acres), and southern willow scrub (reduced by 11.82 acres). This portion of SEA 23 also contains a total of 62.29 acres of coast sage scrub which is considered a sensitive upland habitat. Based on the above discussion and the information presented in **Table BIO-19**, the total amount of land represented by habitats in the SEA used by the vireo or otherwise considered sensitive, without mitigation, would decrease by approximately 103.62 acres.

As was presented with the SEA 20 analysis above, a further method of impact analysis of the project on SEA 23 (including Travel Village which is not a part of the Specific Plan), is the extent of edge effects measured in linear feet of land fronting on the SEA. A total of 59,545 LF of land fronts on SEA 23. Excluding Travel Village, nearly half (48 percent or 28,242 LF) would front on uses that do not support human populations and associated lighting and domestic animals (i.e., proposed open area and roadways).

The impact of the proposed project on SEA 23 is not considered to be significant as provisions of the RMP state that restoration would occur in which would offset potential impacts associated with the loss of sensitive River resources. The Resource Management Plan of the Newhall Ranch Specific Plan provides numerous mitigation measures to reduce the potential impacts identified in this section of the Biota Report. With the approval of the Specific Plan by the County Board of Supervisors, those measures would be adopted and would assure the implementation of the provisions therein. As a result, Mitigation Measures BIO-1 through BIO-26 would be implemented and impacts to SEA 23 would be reduced.

Furthermore, the Specific Plan proposes to offer for permanent dedication approximately 451 acres of land designated by the Specific Plan as Open Area as part of the Specific Plan's buildout. This Open Area is located adjacent to the south side of the River Corridor SMA and includes the oak-filled canyons, blueline streams (drainages) tributary to the River, the River bluffs, and ridges contiguous with the River Corridor. **Table BIO-20, Comparison Between Sensitive Habitats Removed from SEA 23 and Added to Open Area Adjacent to Proposed River Corridor SMA,** shows this Open Area to be offered for dedication by habitat type. **Table BIO-20** also compares the amount of habitats classified as sensitive which are proposed to be removed from SEA 23 with the proposed amount of sensitive habitats to be dedicated adjacent to the River Corridor SMA. As shown, 103.62 acres of sensitive habitats are proposed to be removed from the existing bounds of SEA 23, while 259.14 acres of sensitive habitats would be offered for dedication to the public as Open Area adjacent to the River Corridor SMA. As a result of Specific Plan buildout, the amount of sensitive habitat acreage within or adjacent to the River Corridor and protected under the restrictions provided by the Specific Plan would increase by approximately 155 acres. The total acreage of the designated Open Area and River Corridor SMA would be comparable to the acreage in the current designated SEA 23 (1264 versus 1290 acres).

Given the avoidance of impacts associated with construction and operation, mitigation proposed within the RMP and this EIR, and the dedication of Open Area adjacent to the River Corridor SMA, impacts to this sensitive habitat type (SEA) are not considered significant.

(d) Conclusion of Impact on Sensitive Habitats

Based on the information provided above, the proposed project has the potential to significantly impact several sensitive habitat types that include Venturan coastal sage scrub, valley oak woodland/savanna, southern willow scrub, southern cottonwood-willow riparian forest and valley freshwater marsh and ponds. Through Specific Plan design and mitigation efforts, the magnitude of impacts to sensitive habitats would be reduced. However, these impacts would remain significant.

Table 4.6-20
Comparison Between Sensitive Habitats Removed from SEA 23 and Added to Open Area Adjacent to Proposed River Corridor SMA
(all in acres)

Habitat Types	Total Habitats Added (Removed) From SEA 23	Sensitive Habitats Added (Removed) From SEA 23	Proposed Open Area Habitats Added Adjacent to River Corridor SMA	Proposed Sensitive Open Area Habitats Added Adjacent to River Corridor SMA	Net Proposed Sensitive Habitats, Adjacent Open Area + River Corridor SMA (SEA)
Agricultural/Disturbed/Road	(332.81)		19.1		
Non-Native Annual Grassland	(7.77)		18.2		
Alluvial Scrub	(0.12)		3.4		
Arrow Weed Scrub	2.26				
Chamise Chaparral			0.6		
Cottonwood/Oak Woodland	(6.84)	(6.84)	13.2	13.2	6.36
So. Cottonwood-Willow Riparian Forest	(11.08)	(11.08)	4.9	4.9	(6.18)
Elderberry Scrub	(3.72)	(3.72)	4.8	4.8	1.08
Great Basin Scrub			2.9		
Freshwater Marsh	(0.33)	(0.33)			(0.33)
Live Oak Woodland	(7.14)	(7.14)	46.3	46.3	39.16
Live Oak Woodland/Mixed Chaparral			4.9		
Mixed Chaparral	(3.69)		65.6		
Mule Fat Scrub	(21.83)		9.0		
Successional Mule Fat Scrub	(3.99)		6.2		
Mesic Meadow	(1.05)	(1.05)	0.01	0.01	(1.04)
Coastal Sage Scrub	(62.29)	(62.29)	181.3	181.3	119.01
Coastal Sage Scrub-Grassland	(5.37)		62.2		
Southern Willow Riparian Woodland	0.65	0.65			0.65
Southern Willow Scrub	(11.82)	(11.82)	8.3	8.3	(3.52)
Total	**(476.94)**	**(103.62)**	**450.91**	**259.14**	**155.19**

c. Indirect Impacts

Indirect impacts would occur in areas surrounding the proposed development area subsequent to project operation. Section 15358 of the CEQA Guidelines defines these indirect impacts as "Indirect or secondary effects which are caused by the project and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect or secondary effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems, including ecosystems." In simple terms, indirect impacts are generally those impacts that would occur outside the proposed development area subsequent to project operation.

It is expected that implementation of the Newhall Ranch Specific Plan would result in indirect impacts to biological resources in the following ways:

- an increased human and domestic animal presence in the Santa Clara River and High Country SMAs;
- increased use of on- and off-site areas by wildlife associated with an urban environment (e.g., ravens, crows, ground squirrels, etc.); and
- increased noise, light, glare, and low flow runoff in the Santa Clara River area.

Indirect impacts associated with implementation of the Newhall Ranch Specific Plan would adversely impact wildlife that currently utilize the Santa Clara River and upland areas, in particular the sensitive species that occur proximal to development areas in the riparian and other wetland plant communities. However, it must be acknowledged that most of these indirect impacts are not unique to this area. Many animals that utilize this area have adjusted to a constant human presence. Therefore, implementation of the Newhall Ranch Specific Plan as proposed would incrementally contribute to increased use of the Santa Clara River area by people and pets and would serve to exacerbate this existing problem, particularly as to sensitive species that occur in the Santa Clara River area. It is anticipated that indirect impacts in the High Country SMA would be less than for the River area due to both the distance of the upland areas from areas proposed for urban development and the presence of a smaller number of sensitive species in the High Country SMA compared to the River area.

Indirect impacts have the potential to degrade the quality of the wildlife corridor potential within and adjacent to the Santa Clara River drainage. The indirect impacts associated with development of the project will compound the direct impact of the physical loss of undeveloped land and could further constrict habitat linkages.

Indirect impacts associated with the proposed project are not quantifiable, but are reasonably foreseeable. As such, the discussion that follows provides a common sense identification of the types of secondary impacts and their relative magnitude such that decision makers and the general public are aware of the indirect impact potential associated with implementation of the Newhall Ranch Specific Plan.

(1) Increased Human and Domestic Animal Presence in the River and High Country Areas

Implementation of the Newhall Ranch Specific Plan would place a substantial human population adjacent to the Santa Clara River and High Country SMAs. Common sense dictates that some people who reside on the project site will also use the Santa Clara River Corridor (River) and upland High Country area for recreational purposes. The most substantial effect would be the disturbance to and potential loss of habitat for the variety of sensitive animal species that occur in the River Corridor, as well as potential impacts to the sensitive vegetation.

It is anticipated that increased human use in the adjacent River areas would not affect all taxa equally. It is likely that human use would occur most frequently on the ground and, consequently, would have the greatest impact on ground dwelling animals versus those animals that primarily utilize the tree canopy. In addition, aquatic species would likely be subject to disturbance with an increased human presence.

It is expected that increased use of the site by residents of Newhall Ranch would also result in a corresponding increase in use of the site by domestic animals. Dogs are known to disturb nesting or resting areas, and disrupt the normal foraging activities associated with wildlife in adjacent River and upland areas. Should this activity occur frequently, and over a long time period, these disturbances may have a long-term effect on the behavior of sensitive animals and can result in their evacuation from the area.

Disturbances associated with feral cats on natural wildlife is well documented and can result in major alterations to the species composition of natural areas. In addition, house cats living adjacent to wildland areas can be considered to be "subsidized predators" who may spend an inordinate amount of time hunting native wildlife species (including some sensitive species) when the resultant food value of the prey item is low. It is also true that cats, and to a lesser extent dogs, are sources of food for some wild animal species (e.g., coyotes, bobcats, mountain lions, etc.).

A method of analysis available for use in estimating the Specific Plan's indirect impact on the River and High Country habitats is to estimate the amount of edges (measured in linear feet) that would occur between proposed urban uses and open areas, as was previously discussed in this section.

As is shown by this analysis, 48 percent of urban edges (37,678 of 78,255 LF) of SEA 20 and SEA 23 created by implementation of the Newhall Ranch Specific Plan would consist of uses that do not support human and domestic animal populations, and the types of disturbance potentially associated with them.

(2) Increased Use of the On- and Off-site Areas by Wildlife Associated With an Urban Environment

A concern of agencies is the potential that a project would introduce exotic wildlife to River and upland areas that are typical of an urban setting, and that these animals could adversely impact natural wildlife populations through habitat displacement or predation. It is understood that wildlife animals typical of an urban environment (e.g., ravens, crows, ground squirrels, etc.) do occur in the region (and in the Specific Plan area) at this time based upon on-site field investigations. Development of the Newhall Ranch site would introduce similar urban uses proximal to River and upland areas. Therefore, this indirect impact would not be considered new, but would further an already observed and adverse condition.

(3) Increased Noise, Light, Glare and Water Quality Impacts in the Santa Clara River

Nighttime illumination is known to adversely impact animals in natural areas. Nighttime light can disturb resting behavior and can potentially alter breeding cycles and nesting behavior. Land uses or facilities presently located on the Specific Plan site require constant monitoring and available light is critical to their safe operation. Other light sources present in the area include vehicular traffic that occurs on roadways. The Specific Plan site, however, is void of any measurable sources of light and glare. While the sources of light and glare located east of the site are somewhat visible in the distance, the site is relatively dark.

Project operation would increase the number of nighttime light sources on the Specific Plan site. If uncontrolled, such light, where proximal to sensitive natural areas, could adversely impact the animal species composition that occurs in these areas. However, just over 50 percent of the edges created by implementation of the Newhall Ranch Specific Plan adjacent to the River Corridor and the High Country areas would front on either open areas or land uses that produce limited light and/or are separated vertically from these areas (e.g., estate and low density residential uses). Based on this

information, the project would increase the amount of light and glare sources on the project site; however, mitigation measures incorporated as part of project design specifies that all lighting along the perimeter of natural areas will be downcast luminaries with light patterns directed away from natural areas. This measure would further reduce lighting impacts. However, impacts as a result of edge lighting would be considered significant.

It is also possible that the River Corridor could be impacted by the discharge of sediments and urban pollutants, such as oils, fertilizers, pesticides, etc. Construction (particularly site clearing and grading operations) would have the potential for discharging sediment downstream during storm events. Therefore, per County of Los Angeles Department of Public Works standards, temporary erosion control measures would be required in disturbed areas of the site during construction. A complete discussion of the impacts and mitigation measures related to the impact of sediments and urban pollutants on the Santa Clara River are discussed and defined in Section 4.2 (Flood) of the EIR.

(4) Indirect Impact Conclusion

Based on the information provided above, it can be concluded that implementation of the Newhall Ranch Specific Plan has the potential to indirectly impact adjacent natural areas and sensitive biological resources that occur proximal to the site. This would occur as a result of increased use of the Santa Clara River and upland areas by humans and domestic animals, increased use of adjacent natural areas by animals typical of an urban environment, and the potential effects of light, glare, and sediment- and urban pollutant-laden runoff, unless mitigated.

Further, many of the potential indirect impacts described above are now occurring in some cases on the Specific Plan site and in the region. The adjacent drainage areas are used indiscriminately by humans and domestic animals and this use is having a substantial impact on sensitive biological resources that occur adjacent to and proximal to the site. However, of important note is the fact that the Specific Plan proposes to transition the intensity of land uses away from the River, with low intensity uses proposed along the outer edges of the River and higher intensity land uses proposed away from the edges of the River. Also, in areas proposed for development next to the High Country and Salt Creek Canyon, most uses would be separated vertically from open space areas and their habitats, thereby lessening potential indirect impacts. Along the River Corridor, the Plan proposes many areas next to the River that are either to be left open, or developed only with land uses with limited human populations, and, where development would occur adjacent to the River Corridor, a trail has been proposed to transition between development areas and the River Corridor. While such design features cannot eliminate indirect impact potential altogether, they would act to reduce these impacts.

Approval of the Specific Plan and its associated RMP would involve an amendment to the Los Angeles County zoning ordinance such that the provisions of the Specific Plan and RMP are binding. Given this fact, it can be assumed that Mitigation Measures BIO-18 and BIO-19, as well as EIR Mitigation Measure BIO-56 would be incorporated. Given implementation of the mitigation measures identified above, indirect impacts would be reduced and or eliminated. However, others would remain significant.

d. Cumulative Impacts

The locations of major related projects around Newhall Ranch are illustrated on **Figure BIO-16**. Each of these projects is identified below.

(1) Los Angeles County Projects

Implementation of the Newhall Ranch Specific Plan is part of a continuing trend toward urbanization that is occurring along the eastern-most section of SR-126 near I-5 and along I-5 through the Santa Clarita Valley, north to Castaic. Along SR-126, large-scale development projects are planned and/or underway on land near the Specific Plan site that will marginally influence the biotic character of this area. These include the Valencia Commerce Center, a planned industrial development underway at the northwestern side of the Castaic Junction and the I-5/SR-126 interchange. This project includes an interchange at Commerce Center Drive's intersection with SR-126.

Along the west side of I-5, between the eastern boundary of the Specific Plan site and the freeway, several development projects are underway or proposed. These include: 1) Stevenson Ranch, a medium-density, single family residential community set in the hills south of McBean Parkway and north of Pico Canyon Road; 2) Magic Mountain Theme Park expansion; 3) Westridge development, a residential and golf course project to be located generally half a mile north of Valencia Boulevard on the north to McBean Parkway on the south; and, 4) Valencia Marketplace, a regional shopping center to be located along the freeway, between McBean Parkway on the north and Pico Canyon Road on the south.

The City of Santa Clarita and the community of Valencia are located on the immediate east side of I-5. Additional projects existing, proposed or under construction along the east side of I-5 include: 5) The North River community, a residential area that will be similar to already existing parts of Valencia is being developed on the east and west sides of San Francisquito Creek, north of the Santa Clara River; 6) The Valencia Industrial Center, an industrial park generally south of Newhall Ranch Road and west of San Francisquito Creek; 7) Tesoro del Valle project, a residential development proposed north of the North River community and adjacent to and including portions of San Francisquito Creek; 8) The

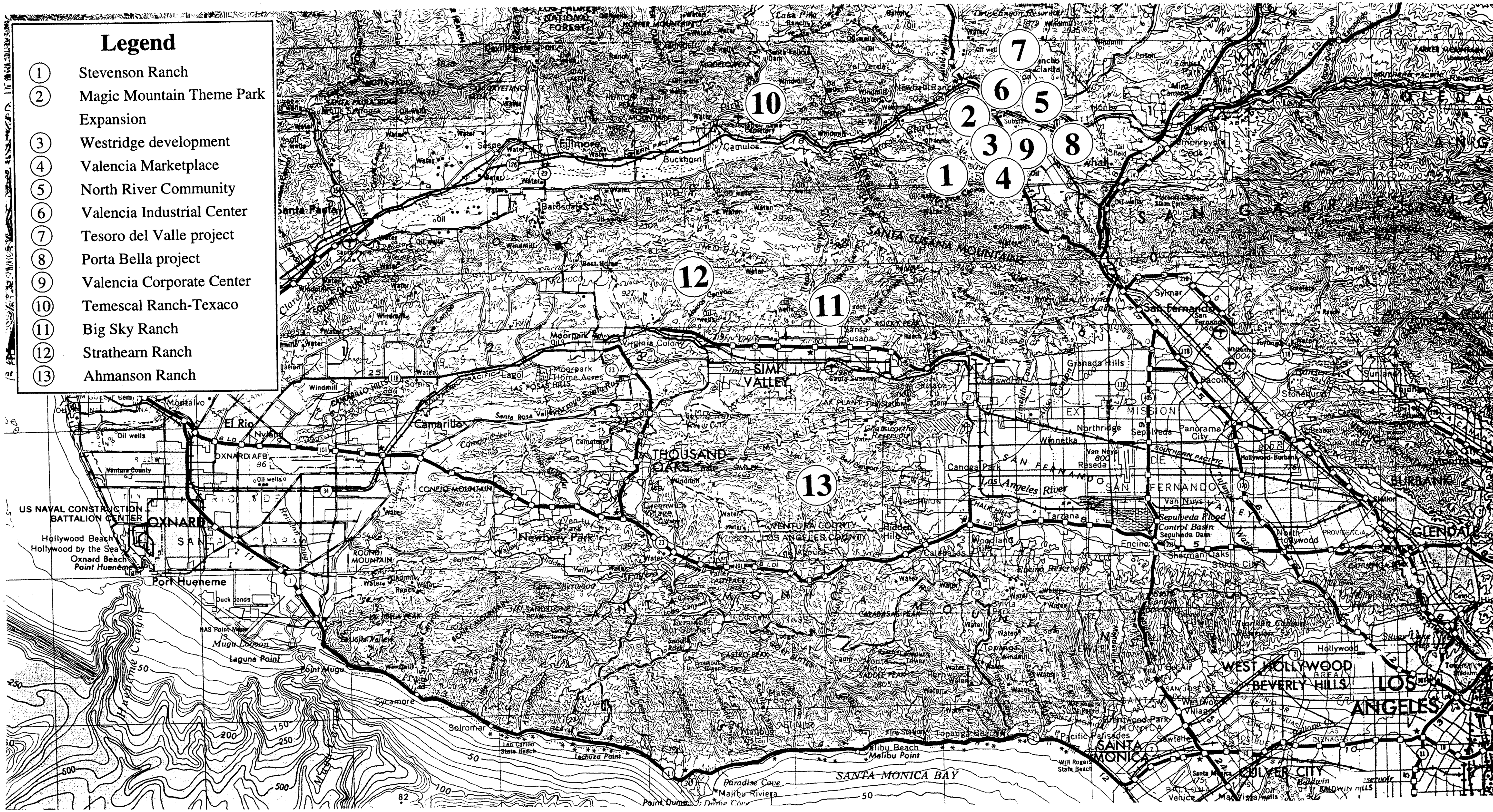


FIGURE BIO-16

MAJOR CUMULATIVE PROJECTS

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Porta Bella project, a mixed-use project proposed in the City of Santa Clarita at the southeast corner of the intersection of Soledad Canyon and San Fernando Roads; and, 9) The Valencia Corporate Center, a business park located between Magic Mountain Parkway on the north and Valencia Boulevard on the south.

(2) Ventura County Projects

In Ventura County, development occurs along the Santa Clara River, downstream of the Newhall Ranch Specific Plan site in the community of Piru, and the cities of Fillmore, and further west in the cities of Santa Paula, Oxnard and Ventura. Southwest of the Specific Plan site are the cities of Simi Valley and Moorpark. Various scattered development also occurs in unincorporated portions of the County. Several large proposed development projects are in various states of the entitlement process. They include: 10) Temescal Ranch-Texaco, a mixed-use development proposed near Piru; 11) Big Sky Ranch, a residential development proposed north of Simi Valley on the south-facing side of the Santa Susana Mountains; 12) Strathearn Ranch, a mixed-use development proposed north of Moorpark on the south-facing side of the Santa Susana Mountains; and, 13) Ahmanson Ranch, a mixed-use development approved at the southeast corner of Ventura County.

(3) Cumulative Projects

The following discussion addresses cumulative impacts from the perspective of the potential cumulative impact of the conversion of a natural habitat condition to that of a suburban/urban condition.

Development in the region (Ventura, as well as the San Fernando, Simi, and Santa Clara River valleys) has been cumulatively reducing the amount of open area and extent of sensitive habitats, and has been constricting wildlife movement. This trend is not new. Rather this trend has been occurring since the early 1950s. Remaining undeveloped are major open areas including the Angeles National Forest and Los Padres National Forest. As indicated above, several large development projects are proposed for the Los Angeles/Ventura County region including the Newhall Ranch Specific Plan.

The Newhall Ranch Specific Plan is proposing to permanently dedicate major amounts of land in the Santa Clara River Corridor and the Santa Susana Mountains, while at the same time converting approximately 5,132 acres of land from a largely natural, albeit partially disturbed, habitat condition, to that of a suburban/urban environment. That conversion, when added to all the other such conversions of open space that are proposed, has been and will continue to permanently lead to the shrinkage of the amount of land available for natural habitats and the flora and fauna that inhabit them. In some cases

specific natural habitats and plant and animal species occur in relative abundance despite the amount of development that is on the horizon; however, others do not. In these latter cases, incremental development has been contributing to habitat loss. When viewed individually, it may be possible for each of the projects to mitigate potential project-specific significant impacts through the implementation of habitat replacement programs and the requirements of the regulatory processes to which each of the projects may be subject (e.g., ACOE Section 404 permit process, California Fish and Game Code 1603 permit process, etc.). However, neither implementation of the Newhall Ranch Specific Plan nor any other similar large scale project proposed on the edge of the existing urban environment can mitigate from a biological perspective the permanent conversion of large blocks of open area. It is for this reason that the cumulative impact is considered unavoidably significant.

e. Unavoidable Significant Impacts

(1) Specific Plan Impacts

The Specific Plan would have unavoidable and significant project-specific impacts on several sensitive upland habitat types (including coastal sage scrub and oak woodlands), and the sensitive wildlife associated with upland habitats on the site (including San Diego coast horned lizard, California horned lizard, coastal western whiptail, southern California rufous-crowned sparrow, San Diego desert woodrat and San Diego black-tailed jackrabbit, and others). Also, due to the conversion of approximately 5,132 acres of habitat that is in a largely natural condition to a suburban and urban condition and the reduction in open land available for wildlife movement between the River and upland areas, the project would substantially diminish habitat for fish, wildlife and plants, and would significantly impact the movement of resident wildlife species. Consequently, the project's individual impacts on the site's and the regional biotic environment are considered significant impacts that cannot be mitigated.

(2) Cumulative Impacts

As indicated above, several large development projects are proposed for the Los Angeles/Ventura County region including the Newhall Ranch Specific Plan. All of these proposed developments would remove natural habitat. The Newhall Ranch Specific Plan will convert approximately 5,132 acres of land from a largely natural, albeit partially disturbed, habitat condition, to that of a suburban/urban environment. That conversion, when added to all the other such conversions of open space that are proposed, has been and will continue to permanently lead to the shrinkage of the amount of land

available for natural habitats and the flora and fauna that inhabit them. Neither implementation of the Newhall Ranch Specific Plan nor any other similar large scale project proposed on the edge of the existing urban environment can mitigate from a biological perspective the permanent conversion of large blocks of open area. It is for this reason that the cumulative impact is considered unavoidably significant.

IV. MITIGATION MEASURES

Development of the Newhall Ranch project will result in impacts to biological resources, some of which are considered to be significant. However, the Specific Plan generally avoids areas of highest biological value, and concentrates development in lower quality areas. The mitigation measures presented below, if successfully implemented, would reduce the degree of many of these impacts to a level that is considered not significant.

Mitigation measures are separated into three categories. The first includes an overview of those design features that are incorporated as part of the Specific Plan to reduce the biological impact potential. The second category includes specific mitigation measures incorporated as part of the Resource Management Plan. The last category includes additional mitigation measures recommended as part of the Draft EIR. The specific mitigation measures in each of these categories are defined below.

a. Specific Plan Design Measures

The project was designed to partially mitigate potential impacts to sensitive biological resources through avoidance in order to maximize the conservation of important biological features of the site. Specific elements of project design that are intended to reduce impacts to plants, animals and habitat would be implemented through adoption and approval of the Specific Plan.

The habitat types and associated plant and wildlife species which occur on the property have become an integral part of the overall Specific Plan design, through the formulation of a conservation strategy that allows for the development of the site in a way that minimizes the effects to sensitive biological resources. In addition, this conservation strategy incorporates the design and management of important open space areas in a way that conserves biological values. An important aspect of this approach was an analysis of the conservation value of habitats on the property, which used conservation principles and a GIS mapping methodology. An additional component of the conservation strategy was the consideration of the larger regional context in the conservation design of biological resources on the site.

The Ranch, which extends from the ridgeline of the Santa Susana Mountains across the Santa Clara River to the uplands on the north, offers the potential for significant habitat contributions to a Santa Susana Mountains open space area and a key segment of the Santa Clara River system, as well as regionally important connections between these habitat areas and across the River.

The biological resource conservation strategy developed for the Newhall Ranch property addresses the sequencing recommended by the resource agencies: avoidance, minimization, and mitigation for unavoidable impacts to key sensitive resources. The proposed large, open space areas on the Newhall Ranch property avoid impacts to many of the highly sensitive species present or potentially occurring on the site, and their habitats. Further design with respect to potential unavoidable impacts to biological resources has minimized encroachments into key areas of the property, decreasing the overall impacts. Indirect impacts to biological resources are minimized through the dedication of large blocks of habitat that decreases the edge-area ratio, and thus, buffers the habitat from noise, lighting, and encroachment by domestic pets, non-native plants, and humans. The result of these design efforts has produced a biological resource conservation strategy that has focused conservation and mitigation efforts on the Newhall Ranch property into three Special Management Areas:

- the Santa Clara River Corridor (River Corridor SMA);
- the large block of relatively undisturbed habitats on higher elevations into the Santa Susana Mountains (High Country SMA); and
- the connection between these two areas along the Salt Creek drainage.

In this design, the Conceptual Grading Plan (EIR **Figure 1.0-14**) has been developed to allow for preservation of significantly large areas of sensitive native habitats associated with the natural drainage areas of the site, and major landforms have been maintained. Large contiguous blocks of valuable habitat have been avoided and provided with direct linkage. The Specific Plan has focused on putting the two key habitat resource areas into consolidated blocks (connected by the Salt Creek drainage), resulting in minimal boundaries with developed areas. The assembly of these three elements will facilitate their management as a single special management area system within the Specific Plan area, as well as allowing coordination and interface with other programs outside the boundary of Newhall Ranch. The transitions between development and the special management areas will be the focus of special design treatments to protect the integrity of the conserved areas. As indicated above, the "edges" of urban development areas have been minimized to reduce the indirect impact potential of the Specific Plan, and native and compatible species will be used for landscaping in these areas.

The open area system for Newhall Ranch includes the most important habitat areas of the Santa Clara River (River Corridor SMA) and the areas which have been least impacted by agricultural, and oil and natural gas production activities (High Country SMA). It also includes the largest, least fragmented patches of each habitat type that remain on Newhall Ranch. In addition to consolidating the habitat on the Ranch into two major interconnected blocks, the open areas include the largest remaining individual blocks of each of the important habitat types. Substantial proportions of each of the habitat types and vegetation associations that occur on the Ranch will be conserved within the open area system. The incorporation of the River, the mountains, and connection provides for conservation of substantially the entire range of terrain and vegetation types on Newhall Ranch.

By connecting the open areas into two major blocks with a major linkage, the land use plan for the Ranch provides for a minimum edge-to-area ratio within the Specific Plan area. The least accessible portion of the property, in terms of topography and presence of roads, is the High Country SMA. In addition, there is limited existing access to the River and to the Salt Creek corridor area. The topography along the High Country and River provide the opportunity to focus management activities to effectively limit access to the habitat in these key resource areas. Additional management practices are intended to restrict future access as the Specific Plan is implemented.

A critical component of the open area system within the Newhall Ranch property and in the region is the connection between the High Country and the River Corridor along Salt Creek. The corridor will provide continuity between the habitats and the wildlife populations within the property, as well as forming a permanent regional linkage between the Santa Clara River and the Santa Susana Mountains. Salt Creek is the most appropriate location for such a wildlife corridor connection because of several distinguishing characteristics. These include provision of a direct link between the two major open space areas; less disturbance than any of the other potential connections; it is bound through most of its length by open space on the north side and, therefore, will not be surrounded by development in the future; it is the only drainage that would provide more than a discontinuous, narrow connection; it includes both upland and riparian vegetation through most of the corridor; and it is topographically isolated from areas of development on Newhall Ranch. Currently, a portion of the wildlife corridor is situated in Ventura County. Future land use decisions will be required to define the corridor's final configuration in areas that occur outside the County of Los Angeles.

b. Resource Management Plan Mitigation

Approval of the Specific Plan and its associated RMP would involve an amendment to the Los Angeles County zoning ordinance such that the provisions of the Specific Plan and RMP are binding. Specific measures to mitigate impacts to biological resources are incorporated as part of the Resource Management Plan (RMP) that is part of the Newhall Ranch Specific Plan. These measures are identified below:

(1) Santa Clara River SMA

(a) Mitigation Requirements

Mitigation for impacts for the Specific Plan on riparian resources will include restoration of riparian habitat and may include enhancement activities as well. In addition, a mitigation bank may be established as discussed in this section. The general areas in which riparian mitigation activities may take place are shown on Exhibit 2.6-3 of the Resource Management Plan, Candidate Riparian Restoration/Enhancement Areas of the Specific Plan.

The mitigation of Specific Plan impacts through restoration of habitat and enhancement of existing habitat quality shall conform to the requirements set forth below:

1. Mitigation Through Restoration

Habitat restoration as referred to in the Specific Plan means the revegetation of native plant communities on sites that have had the habitat removed due to past activities, such as agricultural or oil and natural gas operations.

Riparian resources along the Santa Clara River that are impacted by the Newhall Ranch Specific Plan will require restoration of similar habitat and values. Avoidance of impacts to riparian resources shall be the primary goal during the design of the individual stages of the Specific Plan. Unavoidable impacts to riparian resources shall be minimized through Specific Plan design, and then mitigated by the implementation of a revegetation plan. The revegetation plan may be prepared as part of a California Department of Fish and Game 1603 Streambed Alteration Agreement or U.S. Army Corps of Engineers Section 404 Permit and shall include the following:

BIO 1. The restoration mitigation areas located within the River Corridor SMA shall be in areas that have been disturbed by previous uses or activities. Mitigation shall be conducted only on sites where soils, hydrology, and microclimate conditions are suitable for riparian habitat. First priority will be given to those restorable areas that occur adjacent to existing patches (areas) of native habitat that support sensitive species, particularly endangered or threatened species. The goal is to increase habitat patch size and connectivity with other existing habitat patches while restoring habitat values that will benefit sensitive species.

BIO 2. A qualified biologist shall prepare or review revegetation plans. The biologist shall also monitor the restoration effort from its inception through the establishment phase.

BIO 3. Revegetation Plans may be prepared as part of a California Department of Fish and Game 1603 Streambed Alteration Agreement and/or an U.S. Army Corps of Engineers Section 404 Permit, and shall include:

- Input from both the Specific Plan proponent and resource agencies to assure that the Specific Plan objectives applicable to the River Corridor SMA and the criteria of this RMP are met.

- The identification of restoration/mitigation sites to be used. This effort shall involve an analysis of the suitability of potential sites to support the desired habitat, including a description of the existing conditions at the site(s).

BIO 4. The revegetation effort shall involve an analysis of the site conditions such as soils and hydrology so that site preparation needs can be evaluated. The revegetation plan shall include the details and procedures required to prepare the restoration site for planting (i.e. grading, soil preparation, soil stockpiling, soil amendments, etc.), including the need for a supplemental irrigation system, if any.

BIO 5. Restoration of riparian habitats within the River Corridor SMA shall use plant species native to the Santa Clara River whenever and to the extent possible. When possible, cuttings or seeds of native plants shall be gathered within the River Corridor SMA to provide good genetic stock for the replacement habitats. Plant species used in the restoration of riparian habitat shall be listed on the approved project plant palette (Specific Plan Table 2.6-1, Recommended Plant Species for Habitat Restoration in the River Corridor SMA) or as approved by the permitting State and Federal agencies.

BIO 6. The final revegetation plans shall include notes that outline the methods and procedures for the installation of the plant materials. Plant protection measures identified by the project biologist shall be incorporated into the planting design/layout.

BIO 7. The revegetation plan shall include guidelines for the maintenance of the mitigation site during the establishment phase of the plantings. The maintenance program shall contain guidelines for the control of non-native plant species, the maintenance of the irrigation system, and the replacement of plant species.

BIO 8. The revegetation plan shall provide for monitoring to evaluate the growth of the developing habitat. Specific goals for the restored habitat shall be defined by qualitative and quantitative characteristics of similar habitats on the River (e.g., density, cover, species composition, structural development). The monitoring effort shall include an evaluation of not only the plant material installed, but the use of the site by wildlife.

BIO 9. Monitoring reports for the mitigation site shall be reviewed by the permitting State and/or Federal agency.

BIO 10. Contingency plans and appropriate remedial measures shall also be outlined in the revegetation plan.

2. Mitigation Through Enhancement

BIO 11. Habitat enhancement as referred to in this document means the rehabilitation of areas of native habitat that have been moderately disturbed by past activities (e.g., cattle grazing, roads, oil and natural gas operations, etc.) or have been invaded by non-native plant species such as giant cane (*Arundo donax*) and tamarisk (*Tamarix* sp.).

BIO 12. Removal of cattle grazing is an important means of enhancement of habitat values. Without ongoing disturbance from cattle, many riparian areas will recover naturally. Grazing except as permitted as a long-term resource management activity will be removed from the River Corridor SMA pursuant to the Long-Term Management Plan set forth in (b) 4. below.

BIO 13. To provide guidelines for the installation of supplemental plantings of native species within enhancement areas, a revegetation plan shall be prepared prior to implementation of mitigation (see guidelines for revegetation plans above). These supplemental plantings will be composed of plant species similar to those growing in the existing habitat patch (see Specific Plan Table 2.6-1).

BIO 14. Not all enhancement areas will necessarily require supplemental plantings of native species. Some areas may support conditions conducive for rapid "natural" re-establishment of native species. The revegetation plan may incorporate means of enhancement to areas of compacted soils, poor soil fertility, trash or flood debris, and roads as a way of enhancing riparian habitat values.

BIO 15. Removal of non-native species such as giant cane (*Arundo donax*), salt cedar or tamarisk (*Tamarix* sp.), tree tobacco (*Nicotiana glauca*), castor bean (*Ricinus communis*), if included in a revegetation plan to mitigate impacts, shall be subject to the following standards:

- First priority shall be given to those habitat patches that support or have a high potential for supporting sensitive species, particularly endangered or threatened species.

- All non-native species removals shall be conducted according to a resource agency approved exotics removal program.

- Removal of non-native species in patches of native habitat shall be conducted in such a way as to minimize impacts to the existing native riparian plant species.

3. Mitigation Banking

BIO 16. Mitigation banking activities for riparian habitats will be subject to State and Federal regulations and permits. Mitigation banking for oak resources shall be conducted pursuant to the Oak Resources Replacement Program. Mitigation banking for elderberry scrub shall be subject to approval of plans by the County Forester.

(b) Management Requirements

1. Recreation and Access

The quality of the habitat values that are conserved in the River Corridor SMA will benefit from the control of access to riparian areas. Guidelines for the control of access to the River Corridor SMA include the following:

BIO 17. Access to the River Corridor SMA for hiking and biking shall be limited to the River trail system (including the Regional River Trail and various Local Trails) as set forth in the Specific Plan.

- The River trail system shall be designed to avoid impacts to existing native riparian habitat, especially habitat areas known to support sensitive species. Where impacts to riparian habitat are unavoidable, disturbance shall be minimized and mitigated as outlined above under habitat restoration.

2. Transition Areas

BIO 18. Where development lies adjacent to the boundary of the River Corridor SMA a transition area shall be designed to lessen the impact of the development on the conserved area. Transition areas may be comprised of Open Area, natural or revegetated manufactured slopes, other planted areas, bank protection areas, and trails. Exhibits 2.6-4, 2.6-5, and 2.6-6 of the Resource Management Plan indicate the relationship between the River Corridor SMA and the development (disturbed) areas of the Specific Plan. The SMAs and the Open Area as well as the undisturbed portions of the development areas are shown in green. As indicated on the exhibits, on the south side of the River the River Corridor SMA is separated from development by the River bluffs, except in one location. The Regional River Trail will serve as transition area on the north side of the River where development areas adjoin the River Corridor SMA (excluding Travel Village).

BIO 19. The following are the standards for design of transition areas:

- In all locations where there is no steep grade separation between the River Corridor and development, a trail shall be provided along this edge.

- Native riparian plants shall be incorporated into the landscaping of the transition areas between the River Corridor SMA and adjacent development areas where feasible for their long-term survival. Plants used in these areas shall be those listed on the approved plant palette (Specific Plan Table 2.6-2 of the Resource Management Plan[Recommended Plants for Transition Areas Adjacent to the River Corridor SMA]).

- Roads and bridges that cross the River Corridor SMA shall have adequate barriers at their perimeters to discourage access to the River Corridor SMA adjacent to the structures.

- Where bank stabilization is required to protect development areas, it shall be composed of ungrouted rock except at bridge crossings and other locations where public health and safety requirements necessitate concrete or other bank protection.

3. Grading Activities

BIO 20. The following guidelines shall be followed during any grading activities that take place within the River Corridor SMA:

- Grading perimeters shall be clearly marked and inspected by the project biologist prior to grading occurring within or immediately adjacent to the River Corridor SMA.

- The project biologist shall work with the grading contractor to avoid inadvertent impacts to riparian resources.

4. Long-Term Management Plan

BIO 21. Upon final approval of the Newhall Ranch Specific Plan, the Special Management Area designation for the River Corridor SMA shall become effective. The permitted uses and development standards for the SMA are governed by the Development Regulations, Chapter 3 of the Specific Plan.

BIO 22. Upon completion of development of all land uses, utilities, roads, flood control improvements, bridges, trails, and other improvements necessary for the implementation of the Specific Plan within the River Corridor, a permanent, non-revocable conservation easement shall be recorded over the River Corridor SMA.

BIO 23. The River Corridor SMA conservation easement shall be granted to the County of Los Angeles or to such other public or private entity, with the expertise to perform long-term conservation management, on which the County and the land owner agree.

BIO 24. The River Corridor SMA conservation easement shall prohibit grazing except as long-term resource management activity, and agriculture within the River Corridor and shall restrict recreation use to the established trail system.

BIO 25. The River Corridor SMA conservation easement shall be consistent in its provisions with any other conservation easements to State or Federal resource agencies which may have been granted as part of mitigation or mitigation banking activities.

BIO 26. Prior to the recordation of the River Corridor SMA conservation easement as specified in the measures defined above, the land owner shall provide a plan to the County for the permanent ownership and management of the River Corridor SMA, including any necessary financing. This plan may include the transfer of ownership of the River Corridor SMA to an entity agreeable to the County and the land owner. This entity may include the County, a public or private organization or agency, or a Newhall Ranch owner's association.

(2) High Country Special Management Area (SMA)

(a) Mitigation Requirements

Mitigation activities which may occur in the High Country SMA, either for impacts associated with the construction of Estate lots, trails or access roads, or for impacts identified during the subdivision process in other portions of the Specific Plan Area, include restoration of habitat and enhancement to existing habitat (see discussion below). Mitigation banking may be established as provided below. In addition, Salt Creek Canyon is a high priority area for riparian mitigation.

1. Mitigation Through Restoration

Two types of habitat restoration may occur in the High Country SMA: 1) riparian revegetation activities principally in Salt Creek Canyon; and 2) oak resource replacement in, or adjacent to, existing oak woodlands and savannas.

Mitigation requirements for riparian revegetation activities within the High Country SMA are the same as those for the River Corridor SMA and are set forth above.

Mitigation requirements for oak resource replacement are set forth in Specific Plan Section 2.6, paragraph 3b of the Oak Tree Replacement Program of the Resource Management Program.

2. Enhancement of Habitat

BIO 27. Removal of grazing from the High Country SMA except for those grazing activities associated with long-term resource management programs, is a principal means of enhancing habitat values in the creeks, brushland and woodland areas of the SMA. The removal of grazing in the High Country SMA is discussed below under (b) 4. Long Term Management. All enhancement activities for riparian habitat within the High Country SMA shall be governed by the same provisions as set forth for enhancement in the River Corridor SMA. Specific Plan Table 2.6-3 of the Resource Management Plan provides a list of appropriate plant species for use in enhancement areas in the High Country SMA.

3. Mitigation Banking

BIO 28. Mitigation banking activities for riparian habitats will be subject to State and Federal regulations and permits. Mitigation banking for oak resources, shall be conducted pursuant to the Oak Resource Replacement Program. Mitigation banking for elderberry scrub shall be subject to approval of plans by the County Forester.

(b) Management Requirements

1. Recreation and Access

The recreation opportunities presented by the High Country SMA are a major benefit of the SMA. However, recreational needs must be balanced with the preservation of the habitat values which are conserved in the SMA. Recreation and access will be governed by the following standards:

BIO 29. Access to the High Country SMA will be limited to day time use of the designated trail system.

BIO 30. No pets of any kind will be allowed within the High Country SMA, with the exception that equestrian use is permitted on established trails.

BIO 31. No hunting, fishing, or motor or trail bike riding shall be permitted.

BIO 32. The trail system shall be designed and constructed to minimize impacts on native habitats.

2. Transition/Fuel Modification Areas

Development areas are generally separated from the High Country SMA by steep slopes. Specific Plan Exhibit 2.6-7 of the Resource Management Program, Salt Creek Wildlife Corridor Land Use Perspective, illustrates that development adjacent to the Salt Creek Wildlife Corridor is significantly separated vertically from the corridor.

BIO 33. Transition from the development edge to the natural area shall be controlled by the standards of wildfire fuel modification zones as set forth in Specific Plan Section 2.6, paragraph 4 of the Resource Management Plan.

3. Grading Activities

BIO 34. Grading perimeters shall be clearly marked and inspected by the project biologist prior to impacts occurring within or adjacent to the High Country SMA.

BIO 35. The project biologist shall work with the grading contractor to avoid inadvertent impacts to biological resources outside of the grading area.

4. Long-Term Management

BIO 36. Upon final approval of the Newhall Ranch Specific Plan, the Special Management Area designation for the High Country SMA shall become effective. The permitted uses and development standards for the SMA are governed by the Development Regulations, Chapter 3.

BIO 37. Upon completion of development of all land uses, utilities, roads, flood control improvements, trails, and other improvements necessary for Planning Area PV-01 (the Visitor Center area), a permanent, non-revocable conservation easement shall be recorded over the High Country SMA. The conservation easement shall allow the permitted uses pursuant to Chapter 3, Development Regulation of the Specific Plan.

BIO 38. The High Country SMA conservation easement shall be granted to the County of Los Angeles, or to such other public or private entity with the expertise to perform long-term conservation management, on which the County and the land owner agree.

BIO 39. The High Country SMA conservation easement shall prohibit grazing within the High Country, except for those grazing activities associated with the long-term resource management programs and shall restrict recreation to the established trail system.

BIO 40. The High Country SMA conservation easement shall be consistent in its provisions with any other conservation easements to State or Federal resource agencies which may have been granted as part of mitigation or mitigation banking activities.

BIO 41. Prior to the recordation of the High Country SMA conservation easement as specified in the measures identified above, the land owner shall provide a plan to the County for the permanent ownership and management of the High Country SMA. This plan may include the transfer of ownership of the High Country SMA to an entity agreeable to the County and the land owner. This entity may be the County, a public or private organization, or a Newhall Ranch owner's association.

(3) Open Area

(a) Mitigation Requirements

BIO 42. Suitable portions of Open Area may be used for mitigation of riparian, oak resources, or elderberry scrub. Mitigation Requirements applicable to Open Area include:

- River Corridor SMA Mitigation Requirement [paragraph 2a (2)(a) of the Resource Management Plan]
  - Mitigation Through Restoration [2a (2)(a) of the Resource Management Plan]
  - Mitigation Banking [2a (2)(c) of the Resource Management Plan]
- High Country SMA Mitigation Requirement [2b (2) of the Resource Management Plan]
  - Mitigation Requirements [2b (2)(a) of the Resource Management Plan]
  - Enhancement of Habitat [2b (2)(b) of the Resource Management Plan]
  - Mitigation Banking [2b (2)(c) of the Resource Management Plan]

BIO 43. Mitigation Banking activities are permitted within Open Area. Mitigation banking activities for riparian habitats will be subject to State and federal regulations. Mitigation banking for oak resources shall be conducted pursuant to the Oak Resources Replacement Program. Plans for elderberry scrub mitigation banking shall be subject to approval by the County Forester.

(b) Management Requirements

BIO 44. Drainages with flows greater than 2,000 cfs will have soft bottoms. Bank protection will be of ungrouted rock except at bridge crossings and other areas where public health and safety considerations require concrete or other stabilization.

BIO 45. The precise alignments and widths of major drainages will be established through the preparation of drainage studies to be approved by the County at the time of subdivision maps which permit construction.

BIO 46. While Open Area is generally intended to remain in a natural state, some grading may take place, especially for parks, major drainages, trails, and roadways. Trails are also planned to be within Open Area.

BIO 47. At the time that final subdivision maps permitting construction are recorded, Open Area within that subdivision being recorded will be offered for dedication to the County. (Community Parks are intended to be public parks.)

(4) Oak Resources Replacement Program

BIO 48. Standards for the restoration and enhancement of oak resources within the High Country SMA and the Open Area include the following (oak resources include oak trees of the sizes regulated under the County Oak Tree Ordinance, southern California black walnut trees, Mainland cherry trees, and Mainland cherry shrubs:

- To mitigate the impacts to oak resources which may be removed as development occurs in the Specific Plan Area, replacement trees shall be planted in conformance with the oak tree ordinance in effect at that time.

- Oak resource species obtained from the local gene pool, if economically feasible, shall be used in restoration or enhancement.

- Prior to recordation of construction-level final subdivision maps, an oak resource replacement plan shall be prepared that provides the guidelines for the oak tree planting and/or replanting. The Plan shall be reviewed by the Los Angeles County Department of

Regional Planning and the County Forester and shall include the following: site selection and preparation, selection of proper species including sizes and plantings densities, protection from herbivores, site maintenance, performance standards, remedial actions, and a monitoring program.

- All plans and specifications shall follow County oak tree guidelines, as specified in the County Oak Tree Ordinance.

(5) Wildfire Fuel Modification

The Specific Plan Area is within the extreme and moderate fire hazard zones as identified in the Los Angeles County General Plan. The moderate fire hazard zone extends to those areas of Newhall Ranch where native brush can be found growing in its natural state. This is most common in the hillside areas. The extreme fire hazard zone includes high brush and woodlands, and all steep slopes regardless of vegetation (refer to EIR **Section 4.18, Fire Services and Hazards**, for a detailed description of on-site fire zones).

Development of Newhall Ranch will reduce the amount of native flammable vegetation present within the Specific Plan Area. Fire fighting capabilities will be provided by two fire stations on the Specific Plan site (see EIR **Figure 1.0-3, Land Use Plan**), other nearby stations, and a system of improved roads and an urban water system with fire flows as required by the County Fire Department. Existing and proposed off-site fire facilities will also serve the Specific Plan Area.

Property damage and public safety risks associated with wildfire are greatest where homes and other structures will be located adjacent to large open areas dominated by native vegetation. This condition will occur primarily in the southern portion of the Specific Plan site and where portions of the development area in the northwest section of Riverwood Village abut large natural open areas.

Access is currently provided to the Los Angeles County Fire Department for fire prevention control of the Specific Plan Area. Access will continue to be provided as the Specific Plan is implemented.

(a) Fuel Modification Requirements

BIO 49. To minimize the potential exposure of the development areas, Open Area, and the SMAs to fire hazards, the Specific Plan is subject to the requirements of the Los Angeles County Fire Protection District (LACFPD), which provides fire protection for the area. At the time of final

subdivision maps permitting construction in development areas that are adjacent to Open Area and the High Country SMAs, a wildfire fuel modification plan shall be prepared in accordance with the final modification ordinance standards in effect at that time and shall be submitted for approval to the County Fire Department.

BIO 50. The wildfire fuel modification plan shall depict a fuel modification zone the size of which shall be consistent with the County fuel modification ordinance requirements. Within the zone, tree pruning, removal of dead plant material and weed and grass cutting shall take place as required by the fuel modification ordinance.

BIO 51. In order to enhance the habitat value of plant communities which require fuel modification, fire retardant plant species containing habitat value may be planted within the fuel modification zone. Typical plant species suitable for Fuel Modification Zones are indicated in Specific Plan Table 2.6-5 of the Resource Management Plan. Fuel modification zones adjacent to SMA's and Open Areas containing habitats of high value such as oak woodland and savannas shall utilize a more restrictive plant list, which shall be reviewed by the County Forester.

BIO 52. The wildfire fuel modification plan shall include the following construction period requirements: (a) a fire watch during welding operations; (b) spark arresters on all equipment or vehicles operating in a high fire hazard area; (c) designated smoking and non-smoking areas; and (d) water availability pursuant to the County Fire Department requirements.

c. EIR Mitigation Measures

To further reduce impacts to biological resources that would result from Specific Plan implementation the following mitigation measures are proposed.

BIO 53. If at the time subdivisions permitting construction are processed, the County determines through an Initial Study that there may be rare threatened or endangered species on the property being subdivided, then a site specific survey shall be conducted to define the presence or absence of such species and any necessary mitigation measures shall be determined and applied.

BIO 54. Prior to development within or disturbance to occupied unarmored threespine stickleback habitat, a formal consultation with the USFWS and a Section 2081 Agreement with the CDFG shall occur.

BIO 55. Prior to development or disturbance within wetlands or other sensitive habitats permits shall be obtained from pertinent federal and state agencies and the Specific Plan shall conform with the specific provisions of said permits.

BIO 56. All lighting along the perimeter of natural areas shall be downcast luminaries with light patterns directed away from natural areas.

BIO 57. Where bridge construction is proposed and water flow would be diverted, blocking nets and seines shall be used to control and remove fish from the area of activity. All fish captured during this operation would be stored in tubs and returned unharmed back to the River after construction activities were complete.

BIO 58. To limit impacts to water quality the Specific Plan shall conform with all provisions of required NPDES permits and water quality permits that would be required by the State of California Regional Water Quality Control Board.

BIO 59. Prior to development within or disturbance to habitat occupied by species listed as endangered, a formal consultation with the USFWS and a Section 2081 Agreement with the CDFG shall occur.

BIO 60. If at the time subdivisions permitting construction are processed, the County determines through an Initial Study that there may be elderberry scrub vegetation on the property being subdivided, then a site specific survey shall be conducted to define the presence or absence of such habitat and any necessary mitigation measures shall be determined and applied.

BIO 61. If at the time subdivisions permitting construction are processed, the County determines through an Initial Study that there may be mainland cherry trees and/or mainland cherry shrubs on the property being subdivided, then a site specific survey shall be conducted to define the presence or absence of such habitat and any necessary mitigation measures shall be determined and applied.

BIO 62. When a map revision or Substantial Conformance determination on any subdivision map or Conditional Use Permit would result in changes to an approved oak tree permit, then the oak tree report for that oak tree permit must be amended for the area of change, and the addendum must be approved by the County Forester prior to issuance of grading permits for the area of the map or CUP being changed.

BIO 63. Riparian resources that are impacted by buildout of the Newhall Ranch Specific Plan shall be restored with similar habitat at the rate of one acre replaced for each acre lost.

d. Cumulative Mitigation Measures

When viewed individually, it may be possible for each of the proposed projects which contribute to the cumulative loss of habitat and other impacts described above to mitigate potential project-specific significant impacts through the implementation of appropriate mitigation. However, neither implementation of the Newhall Ranch Specific Plan nor any other similar large scale project proposed on the edge of the existing urban environment can mitigate from a biological perspective the permanent conversion of large blocks of open area. As such, there are no known mitigation measures available to reduce the level of the identified cumulative impacts.

V. REFERENCES

Atwood, J.L., 1980. The United States Distribution of the California Black-tailed Gnatcatcher. Western Birds 11:65-78.

Baskin, Jonathan N. and T. R. Haglund, 1992. Report of Fish Survey of Santa Clara River Stream Crossings. Prepared for Newhall Land and Farming Company. San Marino Environmental Associates. May.

Baskin, Jonathan N. and T. R. Haglund, 1993. Field Report on Activities Associated with Santa Clara River Stream Diversions by Newhall Land and Farming Company, 12 February 1993. Prepared for Newhall Land and Farming Company. San Marino Environmental Associates. March 31.

Behler, John L., and F. Wayne King, 1979. The Audubon Society Field Guide to North American Reptiles and Amphibians. Alfred A. Knopf, New York.

Brown, T., 1983. Tom Brown's Field Guide to Nature Observation and Tracking. Berkley Books, New York.

Brown-Berry, P., 1992. Biology and Management of Bats in Southern California. Symposium of July 17 and 18, Redlands, California.

Burt, W.H. and R.P. Grossenheider, 1976. A Field Guide to the Mammals of North America North of Mexico. (Third Edition). Houghton Mifflin Co. Boston, MA.

California Burrowing Owl Consortium, 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines. Unpublished report.

California Department of Fish and Game (CDFG), 1991. Fish and Game Code, State of California Resources Agency, Sacramento, California.

California Natural Diversity Data Base (CNDDB), 1995. Records of Occurrence in Computer Report Format for USGS 7.5-minute Quadrangle Maps: Simi Valley East, Val Verde, Newhall, and Oat Mountain. August.

California Regional Water Quality Control Board, Los Angeles Region, 1994. Draft Water Quality Control Plan (Basin Plan) [for the] Los Angeles Region (4). Monterey Park, California. California Regional Water Quality Control Board. June 13.

Dames & Moore, 1993. Biological Resources of the Upland Areas of the West Ranch. Prepared for The Newhall Land and Farming Company. July.

Emmel, T.C. and J.F. Emmel, 1973. The Butterflies of Southern California. Natural History Museum of Los Angeles County, Science Series: 26:1-148.

Ehrlich, Paul R., David S. Dobkin, and Darryl Wheye, 1988. The Birder's Handbook: A Field Guide to the Natural History of North American Birds. Simon and Schuster, New York.

ERC Environmental and Energy Services Co. (ERCE), 1990. Phase I Report: Amber Ridge California Gnatcatcher Study. Prepared for: Weingarten, Siegel, Fletcher Group, Inc.

Feeney, L., 1992. "Site Fidelity in Burrowing Owls." Unpublished paper presented to Raptor Research Annual Meeting, November 1992. Seattle, Washington.

Garth, J.S. and J.W.Tilden, 1986. California Butterflies. California Natural History Guides: 51. University of California Press. Berkeley, California.

Garrett, Kimball and Jon Dunn, 1981. Birds of Southern California: Status and Distribution. Artisan Press. Los Angeles, California.

Girard, C., 1854. Descriptions of new fishes, collected by Dr. A.L. Heermann, naturalist attached to the survey of the pacific railroad route, under Lieut. R. S. Williamson, U.S. A. Proc. Acad. Natur. Sci. Philadelphia 7:129-140.

Greaves, J., 1996. Biologist. Personal communication to Impact Sciences, Inc., via Zev Labinger.

Guthrie, Daniel A, 1988. Status of the Least Bell's Vireo Along the Santa Clara River and its Tributaries Near Valencia, California, Spring 1988. Prepared for Valencia Company and Sikand Engineering. Joint Science Department Claremont Colleges. June 8.

Guthrie, Daniel A, 1989. Status of the Least Bell's Vireo Along the Santa Clara River and its Tributaries Near Valencia, California, Spring 1989. Prepared for Valencia Company. Joint Science Department Claremont Colleges. July 5.

Guthrie, Daniel A., 1990. Bird Surveys Along the Santa Clara River and its Tributaries Near Valencia, California, 1990. Prepared for Valencia Company. Joint Science Department Claremont Colleges. July 5.

Guthrie, Daniel A., 1992a. Bird Surveys Along the Santa Clara River and its Tributaries Near Valencia, California, 1992. Prepared for Valencia Corporation. Joint Science Department Claremont Colleges. July 31.

Guthrie, Daniel A., 1992b. Bird Surveys at Two Proposed Pipeline Crossings of the Santa Clara River. W.M. Keck Science Center. August 3.

Guthrie, Daniel A., 1993. Bird Surveys Along the Santa Clara River, Castaic Creek Downstream to Just Below Newhall Ranch. Prepared for The Newhall Land and Farming Company. W.M. Keck Science Center. August 4.

Guthrie, Daniel A., 1994. Bird Surveys Along the Santa Clara River and its Tributaries Near Valencia, California, 1994. Prepared for Valencia Corporation. W.M. Keck Science Center. July 5.

Guthrie, Daniel A., 1995a. Bird Surveys Along the Santa Clara River, Castaic Creek Downstream to Just Below Newhall Ranch. Prepared for The Newhall Land and Farming Company. W.M. Keck Science Center.

Guthrie, Daniel A., 1995b. Bird Surveys Along the Santa Clara River and its Tributaries Near Valencia, California, 1995. Prepared for Valencia Corporation. W.M. Keck Science Center. July 12.

Haglund, Thomas R., 1989. Current Status of the Unarmored Threespine Stickleback *(Gasterosteus aculeatus williamsoni)* Along Portions of the Santa Clara River Drainage. Prepared for Newhall Land and Farming Company. University of California, Los Angeles. May 1.

Haglund, Thomas R., 1992. Sensitive Aquatic Species Survey of Alternative Pipeline Corridors, Conducted for Dames and Moore 25 July, 1992. San Marino Environmental Associates. August 15.

Haglund, Thomas R. and Jonathan N. Baskin, 1995. Final Report, Sensitive Aquatic Species Survey, Santa Clara River and San Francisquito Creek, Newhall Land and Farming Company Property, Los Angeles County, California. Prepared for Valencia Company. San Marino Environmental Associates. December.

Halfpenney, J. and Biesiot, 1986. A Field Guide to Mammal Tracking in Western America. Johnson publishing Company, Boulder, CO.

Hanes, Ted L., Richard D. Friesen, and Kathy Keane, 1989. Alluvial Scrub Vegetation in Coastal Southern California. USDA Forest Service Gen. Tech. Rep. PSW-110.

Hall, E. Raymond, 1981. The Mammals of North America. Second Edition, Volume 2. John Wiley and Sons, New York.

Hayes, Marc P., and M. R. Jennings, 1988. Habitat Correlates of the California Red-legged Frog (*Rana aurora draytonii*) and the Foothill Yellow-legged Frog (*Rana boylii*): Implications for Management. In: Management of Amphibians, Reptiles, and Small Mammals in North America.

Henrickson, J. and D. Guthrie, 1988. Biological Resources along those Portions of the Santa Clara River, South Fork of the Santa Clara River, San Francisquito Creek and Castaic Creek Controlled by Newhall Land and Farming Company. Prepared for The Newhall Land and Farming Company.

Hickman, James C., ed., 1993. The Jepson Manual, Higher Plants of California. University of California Press, Berkeley. 1,400 pages.

Holland, Robert F., 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. California Department of Fish and Game. 156 pages.

Jennings, Mark R., 1988. Natural History and Decline of Native Ranids in California. In: H. P. De Lisle, P. R. Brown, B. Kaufman, and B. H. McGurty (eds.). Proceedings of the Conference on California Herpetology. Southwestern Herpetologists Soc.

Jordan, D.S. and C.L. Hubbs, 1925. Record of fishes obtained by David Starr Jordan in Japan, 1922. Mem. Carnegie Mus. 10:93-346.

Katibah, E.F., 1984. A Brief History of Riparian Forests in the Central Valley of California. Nongame Heritage Program, California Department of Fish and Game, Sacramento. October.

Los Angeles County Department of Regional Planning, 1987. Hillside Design Guidelines. December.

Mattoni, Rudi, 1990. Butterflies of Los Angeles. The Center for the Conservation of Biodiversity/Lepidoptera Research Foundation, Inc. Beverly Hills, California.

Moyle, P.B., 1976. Inland Fishes of California. University of California Press, Berkeley, California.

National Geographic Society, 1983. Field Guide to the Birds of North America. National Geographic Society (First Edition). Washington, D.C.

Noss, R.F., 1991. Landscape Connectivity: Different Functions at Different Scales. In: Landscape Linkages and Biodiversity. W.E. Hudson (ed.), Island Press, Washington, D.C.

Page, Lawrence M. and Brooks M. Burr, 1991. A Field Guide to Freshwater Fishes, North America, North of Mexico. Houghton Mifflin Company, Boston, Massachusetts.

Regan, C.T., 1909. The Species of Three-spined Sticklebacks (*Gasterosteus*). Ann. Mag. Nat. Hist., Ser. 8, 4:435-437.

RECON, 1987. Home Range, Nest Site, and Territory Parameters of the Black-tailed Gnatcatcher *Polioptila melanura californica* Population on the Rancho Santa Fe Highlands Study Area. Unpublished Report (#R-1714).

RECON, 1990. Comprehensive Species Management Plan for the Least Bell's Vireo. Prepared for the San Diego Association of Governments.

RECON, 1993. Draft River Management and Resource Conservation Plan for the Newhall Ranch Property, Los Angeles/Ventura County, California. Prepared for The Newhall Land and Farming Company, Valencia, California. December.

Rich, T., 1984. Monitoring Burrowing Owl Populations: Implications of Burrow Re-use. Wildlife Society Bulletin 12:178-180.

Robbins, Chandler S., Bertel Brunn, and Herbert S. Zim, 1983. Birds of North America: A Guide to Field Identification. Golden Press, New York.

Roest, A.I., 1980. Mammology Manual. Biology Science Department, Cal-Poly State University, San Luis Obispo, California.

Russell, Kenneth R., 1978. *Mountain Lion*. Chapter 14 in: Big Game of North America: Ecology and Management. Schmidt and Gilbert eds. Stackpole Books.

Ryan, Mark R., 1968. Mammals of Deep Canyon, Colorado Desert, California. The Desert Museum, Palm Springs, California.

Rutherford, Constance, 1995. Botanist, United States Fish and Wildlife Service. Personal communication to Impact Sciences, Inc.

Sloan, Allan J., 1964. Amphibians of San Diego County. Occasional Papers of the San Diego Society of Natural History: 13.

State of California, 1986. Mammalian Species of Special Concern in California. Department of Fish and Game.

State of California, 1992. Bats of Arizona: Species Accounts. In: Biology and Management of Bats in Southern California. Handbook presented at Wildlife Society symposium of July 17 and 18, 1992. Redlands, California.

Skinner, Mark W. and Bruce M. Pavlik, (eds.), 1994. California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California. California Native Plant Society Special Publication No. 1 (Fifth Edition). February. 338 pages.

Stebbins, Robert C., 1985. A Field Guide to Western Reptiles and Amphibians. (Second Edition, revised). Houghton Mifflin Co. Boston, MA.

Sweet, Samuel S., 1992. Initial Report on the Ecology and Status of the Arroyo Toad (*Bufo microscaphus californicus*) on the Los Padres National Forest of Southern California, with Management Recommendations. Contract Report to USDA Forest Service, Los Padres National Forest. Goleta, California. Revised March 1992.

Thomas, J.W. et. al., 1990. A Conservation Strategy for the Northern Spotted Owl. U.S.D.A. Forest Service, U.S.D.I. Bureau of Land Management, Fish and Wildlife Service, and National Park Service, Portland, Oregon.

U.S. Army Corps of Engineers (ACOE), 1986. Part II, Department of Defense, Corps of Engineers, Department of the Army. 33 CFR Parts 320 through 330, Regulatory Programs of the Corps of Engineers, Final Rule. Federal Register. Vol. 51, No. 219. November 13.

U.S. Fish and Wildlife Service (USFWS), 1993a. Endangered and Threatened Wildlife and Plants: Determination of Endangered Status for the Arroyo Southwestern Toad; Proposed Rule. Federal Register, 50CFR Part 17. Vol. 58. August 3.

U.S. Fish and Wildlife Service (USFWS), 1993b. Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Coastal California Gnatcatcher. Federal Register, 50CFR Part 17. Vol. 58, No. 59. March 30.

U.S. Fish and Wildlife Service (USFWS), 1993c. Endangered and Threatened Wildlife and Plants: Determination of Endangered Status for the California Red-legged Frog; Proposed Rule. Federal Register, 50CFR Part 17. Vol. 58. August 3.

U.S. Fish and Wildlife Service (USFWS), 1993d. Draft Recovery Plan for the Desert Tortoise (Mojave Population). Prepared for Regions 1, 2, and 6 of the U.S. Fish and Wildlife Service; Region 1 - Lead Region, Oregon. April.

U.S. Fish and Wildlife Service (USFWS), 1994a. Endangered and Threatened Wildlife and Plants: Determination of Endangered Status for the Arroyo Southwestern Toad; Final Rule. Federal Register, 50CFR Part 17. Vol. 59, No. 241. December 16.

U.S. Fish and Wildlife Service (USFWS), 1994b. Notification of Emergency Rule and Proposal to List the Pacific Pocket Mouse as Endangered. Federal Register, 50CFR Part 17. Vol. 59, No. 23. February 3.

U.S. Fish and Wildlife Service (USFWS), 1995. Endangered and Threatened Wildlife and Plants: Determination of Endangered status for the Southwestern Willow Flycatcher; Final Rule. Federal Register, 50CFR Part 17. Vol. 60, No. 38. March 29.

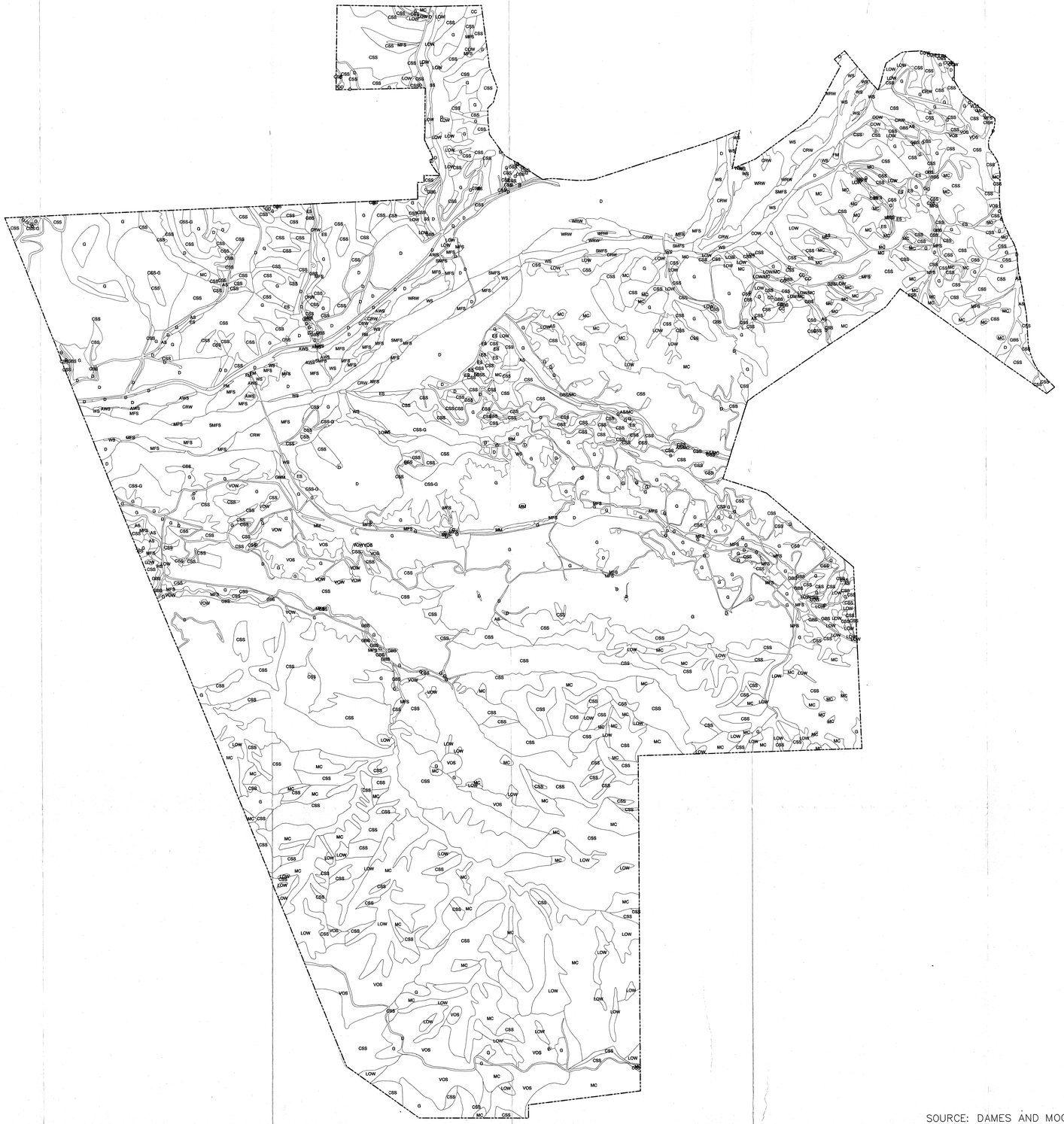
U.S. Fish and Wildlife Service (USFWS), 1995. Least Bell's Vireo Working Group, meeting held at U.S. Fish and Wildlife Service field office, Carlsbad, California. Personal communication. January 25.

U.S. Fish and Wildlife Service (USFWS), 1996a. Endangered and Threatened Wildlife and Plants: Review of Plant and Animal Taxa That Are Candidates for Listing as Endangered or Threatened Species. Federal Register, 50CFR Part 17. Vol. 61, No. 40. February 28.

U.S. Fish and Wildlife Service (USFWS), 1196b. Endangered and Threatened Wildlife and Plants: Determination of Threatened Status for the California Red-legged Frog; Final Rule. Federal Register. 50CFR Part 17. Vol. 61, No. 101. May 23.

Zeiner, David C., William F. Laudenslayer, Jr., and Kenneth E. Mayer, (eds.), 1988. California's Wildlife: Volume 1; Amphibians and Reptiles. California Statewide Wildlife Habitat Relationships System. California Department of Fish and Game. Sacramento.

Zeiner, David C., William F. Laudenslayer, Jr., Kenneth E. Mayer, and Marshall White, (eds.), 1990. California's Wildlife: Volume III; Mammals. California Statewide Wildlife Habitat Relationships System. California Department of Fish and Game. Sacramento. April.



SOURCE: DAMES AND MOORE, RECON.

NEWHALL RANCH

Prepared For: Newhall Ranch Company

L E G E N D

UPLAND HABITAT

G	GRASSLAND
CC	CHAMISE CHAPARRAL
MC	MIXED CHAPARRAL
GBS	GREAT BASIN SCRUB
GBS-MC	GREAT BASIN SCRUB / MIXED CHAPARRAL
CSS	COASTAL SAGE SCRUB
CSS-G	COASTAL SAGE / GRASSLAND
ES	ELDERBERRY SCRUB
LOW	COAST LIVE OAK WOODLAND
LOW-MC	COAST LIVE OAK WOODLAND / MAINLAND CHERRY
VOW	VALLEY OAK WOODLAND
VOS	VALLEY OAK SAVANNAH

RIPARIAN / WETLANDS HABITAT

AS	ALLUVIAL SCRUB
AS-MC	ALLUVIAL SCRUB / MIXED CHAPARRAL
AWS	ARROW WEED SCRUB
SS	SCALEBROOM SCRUB
MFS	MULE FAT SCRUB
SMFS	SUCCESSIONAL MULE FAT SCRUB
WS	SOUTHERN WILLOW SCRUB
COW	COTTONWOOD / OAK WOODLAND
CRW	SOUTHERN COTTONWOOD WILLOW RIPARIAN FOREST
WRW	SOUTHERN WILLOW RIPARIAN WOODLAND
MM	MESIC MEADOWS
P	POND
FM	VALLEY FRESHWATER MARSH
D	DEVELOPED / DISTURBED AREAS

NORTH

English 0 1000' 2000'

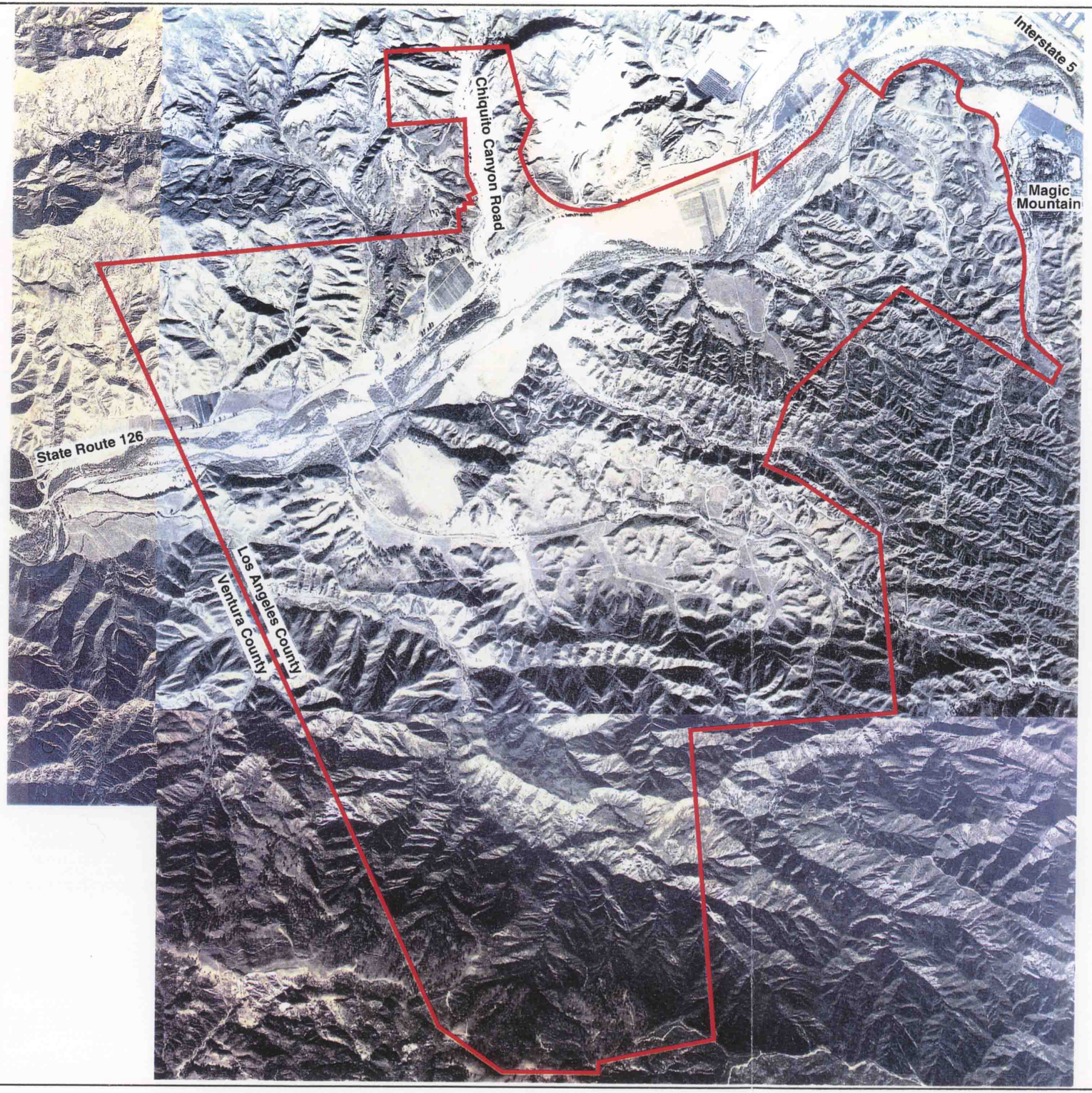
Metric 0 225m 450m 900m

Computer Mapping by FORMA Systems

FIGURE 4.6-1

EXISTING VEGETATION/HABITAT

APPENDIX A
Color Aerial Photograph of the Site



NEWHALL RANCH™
Newhall Ranch Company

SCALE:

100 Acres

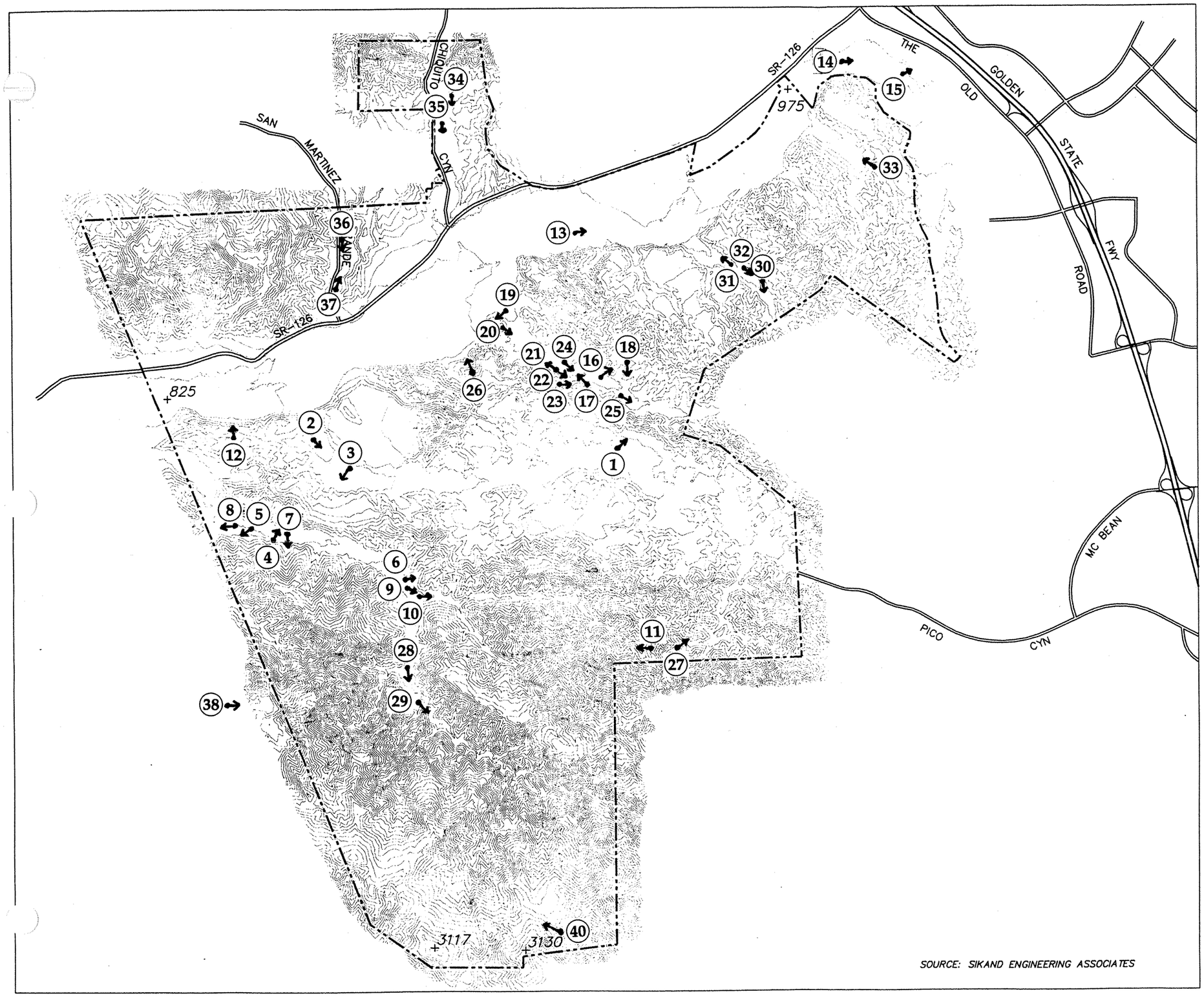
IMPACT SCIENCES INC

English 0 1000' 2000'

Metric 0 450m 900m

AERIAL PHOTOGRAPH

APPENDIX B
Color Site Photographs

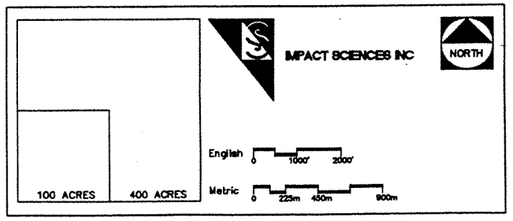


NEWHALL RANCH
Newhall Ranch Company

L E G E N D

TOPOGRAPHIC ELEVATION CONTOUR LINES (50 FOOT INTERVALS)

(38) PHOTO # AND LOCATION



PHOTOGRAPH KEY MAP

DRAFT 4/95

Photograph Key Map for Newhall Ranch

Photo #	Photograph Description
1	Geologic formation, Potrero Canyon
2	Lower Potrero Canyon, looking south
3	Lower Potrero; Valley oak and grassland.
4	Salt Creek Canyon (creek in foreground, scrub oak, rock formation in background)
5	Salt Creek (water in creek)
6	Salt Creek Canyon; Coastal sage scrub
7	Salt Creek Canyon; Coastal sage scrub, Great Basin scrub, grassland
8	Mouth of Salt Creek Canyon
9	Salt Creek/ Grave Canyon
10	Grave Canyon/ Upper Salt Creek; Coastal sage scrub
11	Upper Grave Canyon; looking west
12	Santa Clara River (sloping flat ag. field in distance)
13	Santa Clara River; Cottonwood/willow
14	Santa Clara River (in river)
15	Santa Clara River; Cottonwood/willow riparian forest
16	Long Canyon; Geologic formation
17	Long Canyon; Mainland Cherry/Oak woodland
18	Upper Long Canyon; Coastal sage scrub (oil rig to right)
19	Lower Long Canyon; Oak woodland (with cows)
20	Long Canyon, looking south
21	Long Canyon, drainage course
22	Long Canyon, drainage course
23	Upper Long Canyon, looking south
24	Long Canyon; Mainland cherry/Oak woodland
25	Upper Long Canyon, looking south
26	View north across Onion Field
27	Upper Via Canyon
28	Rawhide Canyon (oak on left, mountain in background)
29	Rawhide Canyon (drainage, oak tree)
30	Upper Lion (creek bed)
31	Lion Canyon; Mainland cherry in bloom.
32	Lion Canyon; Mainland cherry/Oak woodland
33	Middle Canyon; looking north
34	Chiquito Canyon; looking south
35	Chiquito Canyon (dry creek, rock formation in background)
36	San Martinez Grande Canyon; looking south
37	San Martinez Grande Canyon; looking north
38	High Country; Santa Susana Mountains, geologic formation (picture taken from off-site but rock formation may be on the site on the western boundary)
39	California walnut (off-site to the west on way to High Country; not shown on map)
40	High Country, Santa Susana Mountains; Valley Oak Savanna

Photo 1.

Photo 2.

Photo 3.

Photo 4.

Photo 5.

Photo 6.

NEWHALL RANCH™
Newhall Ranch Company

Photo 7.

Photo 8.

Photo 9.

Photo 10.

Photo 11.

Photo 12.

Photo 13.

Photo 14.

Photo 15.

Photo 16.

Photo 17.

Photo 18.

Photo 19.

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Photo 21.

Photo 22.

Photo 23.

Photo 24.

Photo 25.

Photo 26.

Photo 27.

Photo 28.

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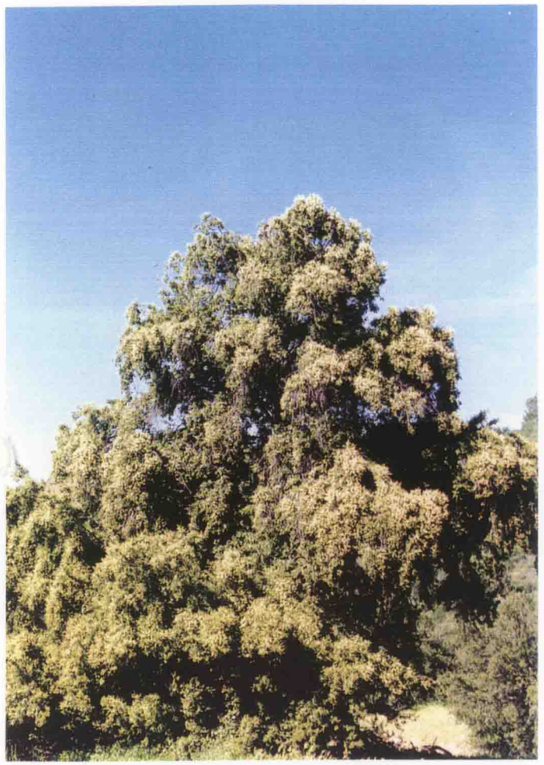


Photo 31.

Photo 32.

Photo 33.

Photo 34.

Photo 35.

Photo 36.

Photo 37.

Photo 38.

Photo 39.

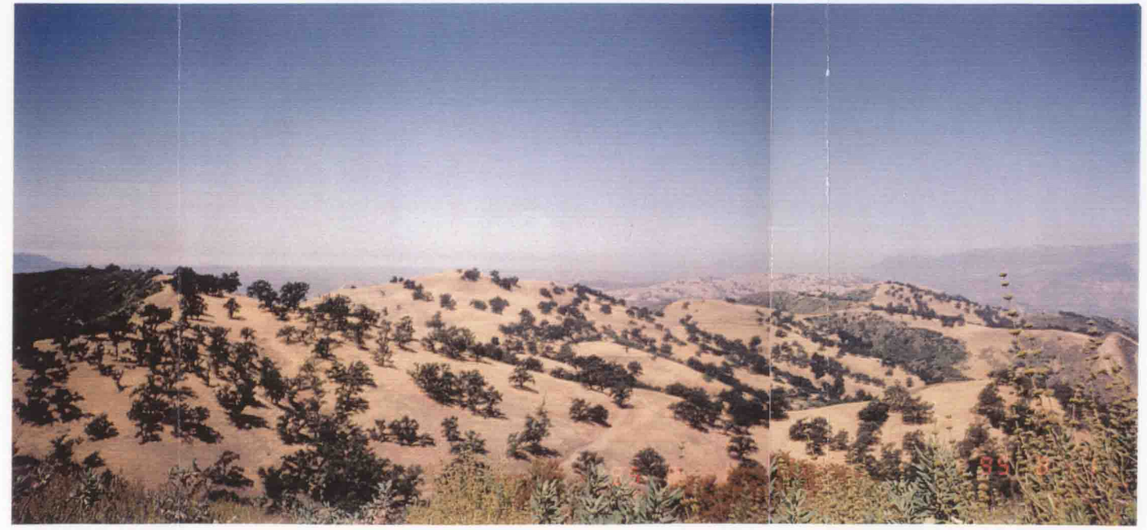
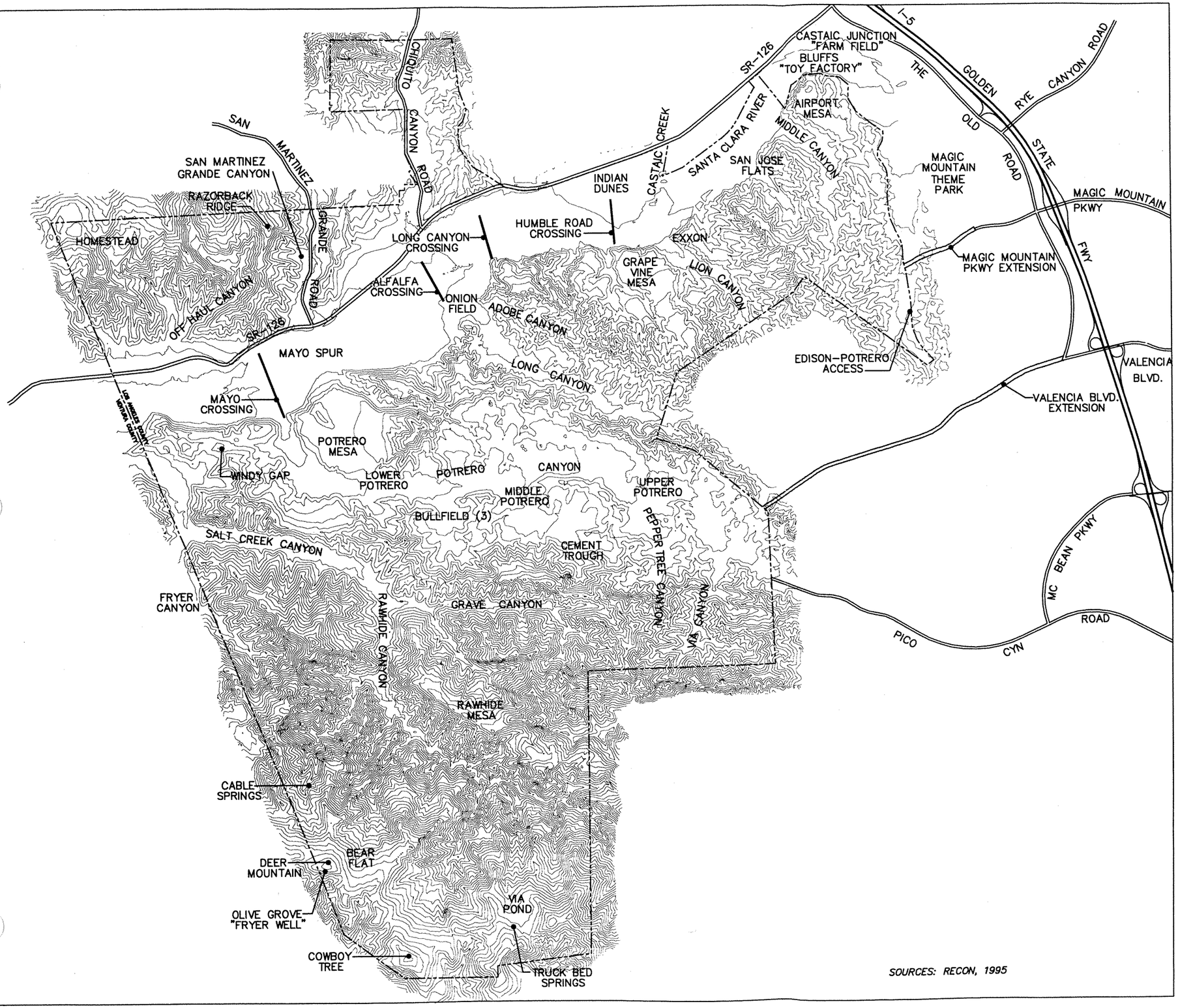


Photo 40.

APPENDIX C
USGS Topographic Map

Loma Verde
TEMASCAL
Santa Felicia
Hathaway Ranch
Oak
Lechler Ranch
Lechler Canyon
Hasley Canyon
Romero
Sloan
Stanley Ranch
Val Verde
San Martinez Chiquito
Holser Canyon
RAMONA OIL FIELD
HOLSER OIL FIELD
San Martinez Grande
Black Ranch
Water Tanks
DEL VALLE OIL AND GAS FIELD
Del Valle
Mayo Spur
SANTA CLARA RIVER
SAN FRANCISCO
Castaic
CASTAIC VALLEY
Sulphur Springs
Charlie Canyon
Tapia Canyon
Wayside Canyon
WAYSIDE HONOR RANCHO
Oil Wells
Valencia
Castaic Junction
Newhall Ranch
CASTAIC JUNCTION OIL FIELD
Oil Tanks
Substation
San Francisquito
Dry Canyon
Bouquet Canyon
Rancho Santa Clarita
Bouquet Junction
Saugus School
Pardee
Saugus
Bonelli Ranch
Soledad Canyon
ANGELES NATIONAL FOREST
Spillway
Potrero Canyon
NEWHALL POTRERO
Salt Canyon
SANTA SUSANA MOUNTAINS
LOS ANGELES CO
VENTURA CO
OAK RIDGE
Tapo Canyon
Iron Trough Canyon
Gillibrand Canyon
Windmill Canyon
El Toro
La Quinta Ranch
Sulphur Canyon
Pico Canyon
Pico
Sand Rock Peak
Lyon Canyon
Towsley Canyon
Wiley Canyon
Rice Canyon
East Canyon
Weldon Canyon
Circle J Ranch
Placerita
Newhall
Hart School
Radio Range Sta
Vista Valencia
Golf Course
Historic Refinery
SIMI
Tapo Ranch
Chivo Canyon
Las Llajas
Marr Ranch
Valley View Jr High Sch
Township Sch
Rocky Peak
WHITE OAKS PARK
Hummingbird Ranch
SIMI VALLEY FREEWAY
Simi Valley High Sch
Santa Susana
Santa Susana Airport
Trailer Park
Arroyo Simi
Santa Susana Knolls
Santa Susana County Park
Pioneer Pass
Chatsworth Pk
Santa Susana Pass
OAT MOUNTAIN
Mormon Canyon
Browns Canyon
Devil Canyon
Limekiln Canyon
Aliso Canyon
Horse Flats
Mission Point
Bee Canyon
Bull Canyon
EX MISSION DE SAN FERNANDO
Fern Ann Falls
Deer Lake Highlands
Twin Lakes
Garden of the Gods
Stony Point
Lookout Gates
Chatsworth
Devonshire
Granada Hills
Mason Park
Oakwood Cem
Chatsworth Reservoir

APPENDIX D
Topography and Place Names



SOURCES: RECON, 1995

NEWHALL RANCH™
Newhall Ranch Company

L E G E N D

100 ACRES
400 ACRES

IMPACT SCIENCES INC

NORTH

English 0 1000' 2000'

Metric 0 225m 450m 900m

TOPOGRAPHY AND PLACE NAMES

8/25/95

APPENDIX E
Dames & Moore Biological Survey Results

BIOLOGICAL RESOURCES OF THE UPLAND AREAS OF THE WEST RANCH

Prepared for:

Newhall Land and Farming Company
Planning Department
Valencia, California

Prepared by:

Dames & Moore
Santa Barbara, California

July, 1993

BIOLOGICAL RESOURCES OF THE UPLAND AREAS OF THE WEST RANCH

Prepared for:
Newhall Land and Farming Company
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Valencia, CA 91355

Prepared by:
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Suite 160
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July 1993

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VEGETATION TYPES OF THE WEST RANCH . . . . . Maps 1-5 (oversized figures that accompany this report)

1.0 INTRODUCTION

This report presents the results of biological resources studies conducted in the upland areas on the West Ranch holdings of the Newhall Land and Farming Company (the Company). It does not include specific information about the biological resources in aquatic and riparian habitats associated with the Santa Clara River. The Company requested that Dames & Moore provide descriptive information on the distribution of vegetation types and associated wildlife occurring on the West Ranch. The potential for rare plant occurrence was also an objective of the study. The purpose of this report is to provide the Company with information on sensitive species and habitats which can be used in planning efforts.

Field studies were conducted in the spring and summer of 1992. As such, this report presents the conditions of the vegetation types and wildlife habitats observed at that time. Information provided in this report on the status of sensitive species is current as of June 1993. It is important to note that processes such as vegetative succession, climatic trends, and other natural and human-caused disturbances, are dynamic phenomena which could potentially alter the vegetative features and habitat conditions that are described in this report over time. In addition, the sensitivity status of species are periodically reevaluated and reclassified by governmental resource agencies. These considerations should be understood by Company personnel during review of this report during any constraints analysis process.

2.0 METHODS AND STUDY AREA

2.1 SURVEYS

Dames & Moore biologists Thomas Olson, Melinda Trask, and Donald Mitchell, and subcontracting biologist Zev Labinger, conducted the field studies. The study area included the "upland" portion of the West Ranch located to the north and south of the Santa Clara River floodplain. The riparian vegetation and habitats of the floodplain were not surveyed per the agreed-upon scope of work. The following studies were conducted:

(1) Delimiting the boundaries of vegetation types and land uses on 1"=400' feet scale base maps from aerial photographs and reconnaissance field surveys to accessible portions of the West Ranch. The minimum mapping unit on the maps was about one acre. Five oversized figures (Map 1 through Map 5) accompanying this report show the distribution of vegetation types.

(2) Rare plant surveys (see Table 1) which were conducted simultaneously with the vegetation mapping effort. The most intensive survey coverage for rare plants occurred on: 1) the ridge areas of the Santa Susana Mountains near the southern boundary of the property; 2) upland areas south of San Jose Flat; and 3) most of the major canyons, including Lion, Upper Potrero, Middle Potrero, Lower Potrero, Long, Adobe, Salt Creek, and Rawhide. Table 1 lists sensitive plants with potential to occur in the study area. During field surveys conducted for sensitive plants and to assist in vegetation mapping, a list was compiled of all plant species observed (Table 2).

(3) Two surveys in April and May 1992 for common and sensitive species with emphasis on birds and sensitive species. Sensitive wildlife species with potential to occur on the West Ranch are described in Table 3.

(4) Two nights of small mammal trapping and scent-station monitoring study (28, 29 May 1992).

(5) Spotlight surveys during one night (28 May 1992).

(6) Incidental wildlife species observations made during all field surveys. Table 4 includes a list of wildlife species observed during field surveys.

2.2 SENSITIVE SPECIES

Classifications of species considered as "sensitive" for this report are described in the footnotes for Table 1 (sensitive plant species) and Table 3 (sensitive wildlife species).

3.0 RESULTS

3.1 VEGETATION AND WILDLIFE HABITATS

Twenty-four vegetation types were identified on the West Ranch (see the oversized figures). The general physiognomy (structure and appearance) of each vegetation type and the general characteristics of the particular land use are described below. The dominant plant species associated with each vegetation type are also noted. In addition, the different vegetation types are generally evaluated in terms of their suitability as habitat for common and sensitive wildlife species. One consideration for assessing wildlife habitat was the amount of plant biomass available to provide wildlife with valuable resources such as food (e.g., fruits, seeds, browse, insect populations), "escape cover" (e.g., protection from predators), and reproductive effort components (e.g., nest sites, singing perches). Vegetation types with relatively more biomass also tend to provide more structural diversity and vertical layering of wildlife habitat components. Therefore, the amount of biomass present in one vegetation type relative to others is included in the discussions below.

Several vegetation types with similar structure were combined to indicate wildlife species observed, as described in Table 4. The combined wildlife habitats (and vegetation types comprising the combinations) included in Table 4 are:

Wildlife habitat	Vegetation Types
Coastal sage scrub	Sparse coastal sage scrub, dense coastal sage scrub
Chaparral	Chamise chaparral, mixed chaparral
Great Basin scrub	Great Basin scrub
Oak woodland/savanna	Live oak woodland, valley oak woodland, valley oak savanna, cottonwood/oak woodland
Elderberry scrub	Elderberry scrub
Grassland	Grassland
Ruderal	Ruderal

Wildlife habitat	Vegetation Types
Riparian scrub/Alluvial scrub	Mulefat scrub, willow scrub, arrowweed scrub, alluvial scrub, scalebroom (*Lepidospartum*) scrub
Cottonwood woodland	Cottonwood woodland
Mesic meadow	Mesic meadow
Freshwater marsh	Freshwater marsh
Pond	Pond
Disturbed	Disturbed areas
Agricultural land	Agricultural land
Ornamental plantings	Ornamental plantings

3.1.1 Native/Natural Habitats

3.1.1.1 Sparse Coastal Sage Scrub

Sparse coastal sage scrub is a shrubland vegetation type (i.e., a "scrub"). Sparse coastal sage scrub occurs in hilly terrain throughout the West Ranch mostly on drier south-facing slopes. This vegetation type also occurs in areas that appear to have burned within the past decade. Extensive tracts of sparse coastal sage scrub occur in the hills located north of Route 126, the slopes above Potrero, Salt Creek and Long canyons, and in the vicinity of Magic Mountain Amusement Park (Magic Mountain) (see the oversized figures). Dominant plant species are coastal sagebrush (*Artemisia californica)*, gray sage (*Salvia leucophylla*), deerweed (*Lotus scoparius*), California encelia (*Encelia californica*), and California buckwheat (*Eriogonum fasciculatum*). Although these species dominate sparse coastal sage scrub, they account for less than 50 percent cover; hence, these areas are referred to as "sparse". Grasses, herbs and/or bare ground occur on the remaining ground surface area. The only rare plant species which was observed on the West Ranch occurred within this vegetation type: Peirson's morning glory (*Calystegia peirsonii*) (see Table 1). This species was observed scattered throughout hilly areas above Salt Creek Holding, Dead End Canyon, Lion Canyon, and Middle Potrero Canyon.

In recent years, additional populations of Peirson's morning glory have been located in the region. Some of the populations have been relatively large, represented by thousands of plants (Hendrickson, personal communication, 1993).

Sparse coastal sage provides a moderate level of biomass to support bird and terrestrial mammal species. The relatively open characteristics of the vegetation would provide foraging opportunities for raptors which prey on exposed small animal species (e.g., rabbits, mice, kangaroo rats, snakes, lizards, etc.). The sparsity of the vegetation would be less restrictive on the movements of regional wildlife species (e.g., deer [*Odocoileus hemionus*], coyote [*Canis latrans*], bobcat [*Lynx rufus*]) than denser vegetation types. Wildlife species observed during 1992 surveys in this vegetation type included western whiptail (*Cnemidophorus tigris*), California quail (*Callipepla californica*), rock wren (*Salpinctes obsoletus*), and Pacific kangaroo rat (*Dipodomys agilis*). Rufous-crowned sparrow (*Aimophila ruficeps canescens*), a species closely associated with coastal sage scrub, was observed at several locations, including south of Airport Mesa, west of Grape Vine Mesa, near Potrero Mesa, and in Dead End, Long, and Lion canyons. Loggerhead shrike (*Lanius ludovicianus*), a Category 2 candidate for listing as a federal endangered or threatened species, was observed foraging around coastal sage scrub and chaparral on Bee Flat and in Potrero Canyon.

3.1.1.2 Dense Coastal Sage Scrub

Extensive tracts of dense coastal sage occur throughout the West Ranch in hilly terrain on north-facing slopes of the Santa Susana Mountains and within several canyons (e.g., Rawhide, Grave, Via, Dead End canyons), and in the vicinity of Magic Mountain. The relatively moister regime of these areas compared to sparse coastal sage areas promotes a more dense growth of scrub vegetation. The denser growth also indicates that the vegetation is at or near a mature stage of development and that these areas have probably not burned in several decades. Coastal sage scrub dominants (coastal sagebrush, gray sage, deerweed, California encelia, and California buckwheat) occupy more than 50 percent of the areal cover. Herbs and grasses provide a sparse understory.

Dense coastal sage has more biomass than sparse coastal sage scrub and can potentially support somewhat higher numbers of birds. However, this habitat would probably not be utilized to a great extent by most raptor species because of escape cover for potential prey species. The density of the vegetation and the associated rugged terrain probably limit large mammal movements. Evidence of wildlife movements within areas of dense scrub was mostly apparent on dirt roads and along watercourses. Wildlife species known or expected to occur in this

habitat include side-blotched lizard (*Uta stansburiana*), greater roadrunner (*Geococcyx californianus*), scrub jay (*Aphelocoma coerulescens*), and brush mouse (*Peromyscus boylii*). The San Diego desert woodrat (*Neotoma lepida intermedia*), a Category 2 candidate for listing as a federally threatened or endangered species, was trapped in coastal sage scrub mixed with other vegetation types at Trap Sites 4 and 6 (see Section 3.2.1). Those trap sites were located in Bee Flat and Salt Creek Canyon, respectively.

3.1.1.3 Chamise Chaparral

Chamise chaparral is a shrubby vegetation type which consists of relatively homogeneous stands of chamise (*Adenostoma fasciculatum*). Chamise chaparral occurs as a few small patches in the hilly terrain located north of Potrero Canyon. Generally, it occurs on dry, impoverished mineral soil types.

Although chamise chaparral vegetation may achieve a relatively high density and biomass, chamise is not a highly valuable resource plant for wildlife species. This vegetation provides habitat for a relatively low to moderate diversity of reptiles, birds, and small mammals. Some species observed in this habitat during the 1992 surveys included side-blotched lizard, western fence lizard (*Sceloporus occidentalis*), California quail, ash-throated flycatcher (*Myiarchus cinerascens*), blue-gray gnatcatcher (*Polioptila caerulea*), and several species of mammals, such as coyote, bobcat, and deer mouse (*Peromyscus maniculatus*).

3.1.1.4 Mixed Chaparral

Mixed chaparral is a dense, woody vegetation type that occurs in the hilly terrain located north and south of Potrero Canyon. Extensive tracts occur to the southeast and southwest of Grape Vine Mesa. Shrubby plants in the genera *Ceanothus*, *Rhus*, and *Salvia* provide most of the biomass. Other dominants include chamise and toyon (*Heteromeles arbutifolia*). Altogether, these species account for more than 50 percent cover. Herbs and grasses occur as a sparse understory or are restricted to edges and openings.

The composition of mixed chaparral includes many shrub species that produce berries and seeds that are consumed by birds and mammals. However, most of the mixed chaparral on the West Ranch occurs on areas of rugged terrain; this is likely to restrict mammal densities and movements to the vicinities of arroyos and dirt roads. Raptors are not likely to extensively utilize this habitat for foraging purposes due to the high level of escape cover afforded prey species. The species composition of wildlife that utilize this habitat would be similar to that of

chamise chaparral. San Diego desert woodrat was trapped at Trap Site 2 in Lion Canyon in a mix of chaparral, Great Basin scrub, and scalebroom (*Lepidospartum*) scrub.

3.1.1.5 Great Basin Scrub

Great Basin scrub consists of relatively homogeneous stands of *Artemisia tridentata* which occur within arroyos and on upper floodplain terraces adjacent to riparian areas. Great Basin scrub mostly occurs as a transitional vegetation type between riparian and sage scrub types. Great Basin scrub occurs adjacent to the Santa Clara River and within Salt Creek, Long, and Lion canyons. The distinctive gray coloration of the foliage makes this vegetation type easily distinguishable from scrub and chaparral vegetation.

The fauna of Great Basin scrub habitat is similar to that of sage scrub habitats, but with some species that also utilize riparian zones, particularly birds. In addition to habitat provided, Great Basin scrub in the study area occurs within movement corridors. Among those observed during surveys were house wren (*Troglodytes aedon*), Bewick's wren (*Thryomanes bewickii*), phainopepla (*Phainopepla nitens*), and rufous-sided towhee (*Pipilo erythrophthalmus*).

3.1.1.6 Live Oak Woodland

Live oak woodland consists of open and closed canopy woodland with coast live oak (*Quercus agrifolia*) as the dominant species. Live oak woodland occurs within several unnamed canyons in the Santa Susana Mountain portion of the West Ranch and within several canyons and arroyos located in hilly terrain located north of Potrero Canyon. Based upon site characteristics which influence vegetation growth (e.g., exposure, soil profile, soil moisture regime, slope, drainage) the understory components consist of scrub, chaparral, and riparian scrub vegetation type.

Oak woodlands provide valuable resources and habitat for as many as 60 species of mammals and 110 species of birds in California. Acorns are high in caloric value and easily obtained by wildlife species. Oaks provide browse and serve as habitat for insects which are preyed upon by insectivorous birds and mammals. The dense foliage provides thermal cover for roosting and nesting birds and escape cover for prey species. Cavities in limbs and trunks are used as nest sites by birds and den sites by small mammals. Understory components contribute to the overall biomass and can increase the overall wildlife habitat value of oak woodlands.

The oak woodlands on the West Ranch can be considered "edge habitats" because they occur as relatively limited areas within larger blocks of scrub vegetation. Edge habitats are areas

where there is a great amount of interfacing between two or more different vegetation types. Such areas are synergistic with regard to the production and availability of resources for wildlife species due to the greater diversity of plant species per unit area. Oak woodlands and their edge areas provide habitat for a relatively high diversity of wildlife species on the West Ranch. Among those observed during the 1992 field surveys were western fence lizard, American kestrel (*Falco sparverius*), mourning dove (*Zenaida macroura*), northern flicker (*Colaptes auratus*), and mountain lion (*Felis concolor* - tracks only). Several raptors were observed foraging over this habitat including black-shouldered kite (*Elanus caeruleus*) and red-tailed hawk (*Buteo jamaicensis*).

3.1.1.7 Valley Oak Woodland

Valley oak woodland consists of open and closed canopy woodland with valley oak (*Quercus lobata*) present as the dominant species. Valley oak woodland achieves its greatest extent within lower Rawhide Canyon and Via Canyon. The discussion concerning live oak woodland above also generally pertains to valley oak woodland with regard to understory components and utilization as wildlife habitat. Wildlife species that occur in valley oak woodland on the west Ranch are similar to those in live oak woodland.

3.1.1.8 Valley Oak Savanna

Savannas are stands of relatively widely-spaced trees within grassland. Valley oak savanna occurs on extensive areas within Lower Potrero Canyon and along the ridgeline of the Santa Susana Mountains between Bear Flat and Via Pond. Many of the valley oaks observed in these areas are very large, old trees.

The wildlife habitat values of valley oak savanna are similar to that described above for oak woodlands except that the former has lower overall biomass due to the presence of a grassland understory. As such, the density and diversity of breeding birds is expected to be lower than that of oak woodland. Foraging opportunities for raptors and terrestrial predators are high in savanna vegetation types because of the open physiognomic characteristics. Species observed foraging during the 1992 field surveys included red-tailed hawk, black-shouldered kite, turkey vulture (*Cathartes aura*), and American kestrel. Grassland adapted species were observed in valley oak savanna, including Brewer's blackbird (*Euphagus cyanocephalus*), goldfinches, and California ground squirrel (*Spermophilus beecheyi*).

3.1.1.9 Elderberry Scrub

Elderberry scrub consists of thickets dominated by Mexican elderberry (*Sambucus mexicana*). Elderberry scrub occurs mostly in association with riparian and scrub vegetation types on that portion of the West Ranch located north of Potrero Canyon adjacent to the Santa Clara River.

Several bird and mammal species use the berries and foliage of Mexican elderberry as resources. Elderberry scrub provides habitat for a fauna that is similar to that found in sage scrubs and mixed chaparral. This habitat provides a moderate amount of cover to about eight to ten feet in height. At ground level, there are scattered openings and a variable amount of bare ground. Among the species observed in elderberry scrub during the 1992 field surveys were coachwhip (*Masticophis flagellum*), mourning dove, black-chinned hummingbird (*Archilochus alexandri*), Anna's hummingbird, and black phoebe (*Sayornis nigricans*).

3.1.1.10 Cottonwood/Oak Woodland

Cottonwood/oak woodland is a late successional woodland that occurs at the interface of riparian areas with upland habitats. Cottonwood/oak woodland occurs on the upland portions of the West Ranch on higher elevation terraces along the Santa Clara River and at the mouth of an unnamed canyon located south of Airport Mesa near Magic Mountain. This vegetation type represents a successional trend of coast live oak replacing Fremont's cottonwood (*Populus fremontii*) on a site. The trend reflects a gradual transition of soil conditions from a wetter to a drier regime.

Cottonwood/oak woodland provides habitat for a variety of wildlife species because of the oak resource and because it functions as edge habitat. The vertical layering of cover provides a greater diversity of habitats for breeding birds. Among those known or expected to breed in this habitat are American kestrel, acorn woodpecker (*Melanerpes formicivorus*), other species of woodpeckers (*Picoides pubescens*, *P. villosus*, *P. nuttallii*), plain titmouse (*Parus inornatus*), and white-breasted nuthatch (*Sitta carolinensis*).

3.1.1.11 Grassland

Grasslands are dominated by non-native grasses, including *Bromus*, *Avena*, *Hordeum*, and *Festuca*. A major component of the grassland flora is provided by several native and non-native herb species including doveweed (*Eremocarpus setigerus*), common cryptantha (*Cryptantha intermedia*), purple owl's clover (*Orthocarpus purpurascens*), red-stemmed filaree (*Erodium cicutarium*), short-pod mustard (*Brassica geniculata*), wild radish (*Raphanus sativa*), cheeseweed

(*Malva parviflora*), and London rocket (*Sisymbrium irio*). Grasslands are most widespread within Potrero, Salt Creek and Long canyons, and on the crest of the Santa Susana mountains. Grasslands also occur within the unnamed canyon located south of Airport Mesa, and on Grape Vine Mesa.

The potential utilization of grasslands within the corridor for native wildlife species has been somewhat reduced by disturbances associated with cattle grazing and agriculture. Grasslands on the West Ranch are (together with sparse coastal sage scrub) primary foraging areas for raptors and loggerhead shrike. Among those observed during the 1993 field surveys were two sensitive species (black-shouldered kite and Cooper's hawk, *Accipiter cooperii*), as well as turkey vulture, red-tailed hawk, and red-shouldered hawk (*Buteo lineatus*). Large flocks of tricolored blackbirds (*Agelaius tricolor*) were observed in grassland in Potrero Canyon and on a terrace north of the Mayo Crossing. Raptors forage for small mammals which occur in grasslands at varying densities. Numerous sightings were made of California ground squirrel and desert cottontail (*Sylvilagus audubonii*).

3.1.1.12 Ruderal Vegetation

Ruderal plants are native and non-native herb and grass species that are well adapted for germination, growth and reproduction under disturbed soil conditions. Areas that are dominated by an association of these "weed" species are referred to as ruderal. Ruderal areas may be fallow agricultural lands, disturbed grasslands or scrublands, and other areas cleared for human use that have grown over with weeds. Ruderal areas within floodplains generally are replaced by a pioneer riparian flora such as mulefat scrub (mulefat scrub); however, ruderals tend to persist on upland sites by outcompeting native herb species. Ruderal lands occur around the Newhall Potrero Oilfield and the Castaic Junction Oilfield.

Areas with ruderal vegetation are of limited use to wildlife on the West Ranch because the native plant species that provide resources are mostly absent. However, some species have adapted well to disturbed conditions, including western fence lizard, California ground squirrel, and house finch. Loggerhead shrikes were observed foraging around ruderal areas near Bee Flat.

3.1.1.13 Mulefat Scrub

Mulefat scrub is an early successional riparian scrub dominated by mulefat (*Baccharis glutinosa*). Mulefat is a pioneer species on sites with periodically inundated or saturated soils. Typical habitat includes the banks of permanent watercourses, intermittent watercourses, recently

formed terraces within a floodplain, seasonally ponded areas, ground with a water table near the surface, drainage ditches, and seeps. Mulefat scrub can be maintained on a site by a cycle of frequent inundation and scouring, but generally will be replaced in time by other riparian shrub and tree species such as willows (*Salix* spp.) and cottonwoods (*Populus* spp.). Mulefat scrub occurs to some extent within all major and minor drainages on the West Ranch, including Potrero Creek and Salt Creek. Mulefat scrub occurs within these drainages in monotypic stands, and in association with willow scrub and sage scrub components. It is widespread along the adjacent Santa Clara River.

Mulefat scrub which occurs on upland portions of the West Ranch functions primarily as edge habitat, and is used principally as foraging habitat by birds. However, mulefat scrub is not very extensive and is considered suitable breeding habitat for a limited number of bird species. Raptors such as Cooper's hawk, and red-shouldered hawk, probably use mulefat scrub, as well as other riparian scrub and riparian woodland types, as foraging habitat. The arroyos and washes with mulefat scrub, as well as other riparian scrub and riparian woodland vegetation types (see below), function as movement corridors for mule deer, coyote, and other mammals.

3.1.1.14 Willow Scrub

Willow scrub is a mid-successional riparian scrub dominated by tree and shrub-like willow species (*Salix* spp.). The willow species on the West Ranch include arroyo willow (*Salix lasiolepis*), red willow (*S. laevigata*), and sandbar willow (*S. hindsiana*). These willows generally form thickets in conjunction with mulefat that largely exclude a herbaceous understory. Willow scrub generally replaces mulefat scrub on a site. Willow scrub occupies drainages within Potrero Canyon and Salt Creek Canyon.

The willow scrub on the West Ranch provides habitat for small birds and foraging raptors; utilization is similar to that described previously for mulefat scrub. However, willow scrub represents better nesting habitat for a variety of birds, such as black phoebe, house wren, Bewick's wren, and rufous-sided towhee.

3.1.1.15 Arrowweed Scrub

Arrowweed scrub is a riparian associated scrub type which consists of mostly homogeneous stands of arrowweed (*Pluchea sericea*). It occurs mostly along higher terraces above the Santa Clara River and forms a transitional vegetation type between more mesic riparian scrub areas and upland sage scrub and grassland areas. There are no sensitive species associations with

arrowweed scrub. It is probably utilized as habitat by a less diverse fauna than are mulefat scrub and willow scrub. Species observed included mourning dove, Anna's hummingbird, brown-headed cowbird (*Molothrus ater*), and desert cottontail.

3.1.1.16 Alluvial Scrub

Alluvial scrub is an association of shrubs occurring on alluvial materials within intermittent creeks, arroyos, and the drier terraces within large washes. Alluvial scrub occurs within some of the drier arroyos and washes located north of Potrero Canyon (i.e., Long and Lion canyons, the unnamed wash located below Airport Mesa, and the wash areas located south of Magic Mountain). This vegetation is typically found in association with Great Basin sage, scalebroom (*Lepidospartum squamatum*), Mexican elderberry, groundsel (*Senecio douglasii*), quail bush (*Atriplex lentiformis*), and squaw bush (*Rhus trilobata*). Some of these plant species provide food resources for birds and mammals. Wildlife species occurring in alluvial scrub are similar to those found in arrowweed scrub. Species known or expected to utilize this habitat include gopher snake (*Pituophis melanoleucus*), western fence lizard, side-blotched lizard, California quail, black phoebe, wrens, towhees, raccoon (*Procyon lotor*), gray fox (*Urocyon cinereoargenteus*), deer mouse, and kangaroo rats.

3.1.1.17 Scalebroom (*Lepidospartum*) Scrub

Scalebroom scrub (also known as *Lepidospartum* scrub) occurs in essentially the same types of arroyo and wash habitats as alluvial scrub, but is distinguishable by the more homogeneous stands of scalebroom. Because it is monotypic, there are fewer resources available to wildlife species and it is utilized by fewer wildlife species. Among wildlife species observed in this habitat were several western whiptails, potentially individuals of the coastal subspecies (*Cnemidophorus tigris multiscutatus*), a Category 2 federal candidate species.

3.1.1.18 Cottonwood Woodland

Extensive stands of cottonwood (*Populus fremontii*) occur adjacent to the Santa Clara River. In the study area, groups of a few to several trees occur within the upland portions of the West Ranch in the mouths of some side canyons located adjacent to San Jose Flat. In these areas the cottonwood woodland may also contain coast live oak as the woodland becomes transitional between mesic riparian to a drier upland habitat type (see cottonwood/oak woodland above).

Cottonwood woodlands provide foraging and nesting habitat for a diversity of bird species, as well as other wildlife species. During the 1993 field surveys, 30 species of birds and 6 species of mammals were observed in or flying over cottonwood woodland habitat. Sensitive species observed included black-shouldered kite and Cooper's hawk foraging overhead.

3.1.1.19 Mesic Meadow

Mesic meadows are areas in grasslands with seeps or springs that support one or more hydrophytic plant species. Dominant species include lizard tail (*Anemopsis californica*), curley dock (*Rumex crispus*), and spike rush (*Eleocharis* spp.). Mesic meadow habitat occurs within Potrero Creek in the Middle Potrero. Here, the slope of the topography may drop off at a sharper angle than the water table, thereby resulting in the seep. Mesic meadow habitat is of importance to some wildlife species because it may provide a drinking water source, breeding sites for amphibians (such as western spadefoot toads that breed in Potrero Canyon), and foraging habitat for raptors. During the 1993 field surveys, observations of wildlife at mesic meadow habitats included tree swallows (*Tachycineta bicolor*) and violet-green swallows (*Tachycineta thalassina*) foraging overhead, as well as American robins (*Turdus migratorius*), and red-winged blackbirds (*Agelaius phoeniceus*).

3.1.1.20 Freshwater Marsh

Freshwater marsh areas contain permanent and seasonal standing freshwater which support a flora dominated by hydrophytes and aquatic plants. This condition occurs along the Santa Clara River, but occurs at only one small location within the upland portion of the West Ranch (southwest of Airport Mesa). This location is adjacent to the riparian zone of the Santa Clara River. Subsequent to the Dames & Moore field surveys, it has been reported that this small area of freshwater marsh was washed out by high water flows of the Santa Clara River during the winter of 1993 (Gloria Glenn, Newhall Land and Farming Company, personal communication, 1993). Prior to its alteration, this habitat's floral elements included representatives of the genera *Carex* (sedges), *Scirpus* (bulrushes), and *Typha* (cattails). In general, freshwater marsh is important as wildlife habitat because it provides potential breeding habitat for California red-legged frog (*Rana aurora*) and southwestern pond turtle (*Clemmys marmorata pallida*), habitat for common and sensitive riparian/marsh associated birds and raptors, habitat for migratory waterfowl, and provides regional wildlife species with drinking water. Even before its removal by high flows, this habitat was very limited in extent within the West Ranch. As such, the occurrence of aquatic sensitive species such as red-legged frog and pond turtle was unlikely. The latter has potential to occur nearby in the Santa Clara River.

3.1.1.21 Pond

Artificial ponds occur in a few locations on the West Ranch and apparently serve as flood-control structures or water-holes for cattle. Ponds provide breeding habitat for amphibians such as frogs and toads. Western spadefoot toad (*Scaphiopus hammondii*), a species of special concern, and Pacific treefrog (*Hyla* [*Pseudacris*] *regilla*) tadpoles were observed in Via Pond and in a large pond in the Middle Potrero. Two-striped garter snakes (*Thamnophis hammondii*), a Category 2 candidate species for federal listing as threatened or endangered, were observed in Via Pond. In addition, waterfowl and shorebirds potentially occur on a seasonal basis at the ponds. The ponds also function as sources of water for regional wildlife species.

3.1.2 Developed Areas

3.1.2.1 Disturbed

For mapping purposes, areas of sparse vegetation cover (less than 20 percent) dedicated to oil production, residential use, industrial use, and roads, are designated as "D" on base maps. These areas generally have associated ruderal or grassland vegetation elements. Disturbed areas occur mostly in association with oilfields within Potrero Canyon, Long Canyon, and in the vicinity of Magic Mountain.

Disturbed areas are used by only a limited number of wildlife species because they provide little or no foraging habitat. However, deer, bobcat, coyotes, and other large mammals will use dirt roads and some other openings within the disturbed areas as movement corridors.

3.1.2.2 Agricultural

Areas dedicated to agricultural production include field crops and tree crops. Active and fallow agricultural areas occur adjacent to the Santa Clara River and in associated upland areas such as Potrero and Grape Vine mesas.

Agricultural areas are used by some bird and mammal species for foraging. However, the overall use by wildlife is low. Raptor species, particularly red-tailed hawks, are known to forage for small mammals, such as California ground squirrels in agricultural fields.

3.1.2.3 Ornamental Plantings

Landscaped areas and extensive plantings of non-native tree species such as eucalyptus (*Eucalyptus* spp.) and pepper tree (*Schinus molle*) occur mostly about occupied and abandoned residences, farm buildings, and as windrows of trees within agricultural areas. Ornamental plantings provide habitat for common bird species that normally occupy developed areas such as house finch (*Carpodacus mexicanus*), northern mockingbird (*Mimus polyglottos*), American crow (*Corvus brachyrhynchos*), and European starling (*Sturnus vulgaris*). Other species may use ornamental plantings as edge habitat, and raptors will sometimes nest within windrows. However, the overall diversity of wildlife utilizing ornamental plantings is relatively low.

3.2 WILDLIFE SURVEYS

To assess to potential occurrences of common and sensitive wildlife species, field surveys were conducted in April and May 1992. Survey efforts included small mammal trapping, monitoring of scent stations, spotlight survey, and general surveys. Results of those surveys follow.

3.2.1 Small Mammal Trapping

Live-trapping of small mammals was conducted at six trap sites during the nights of 28 and 29 May 1992. At each trap site, 10 standard-sized Sherman live traps were set and baited with rolled oats and bird seed. The total number of trap-nights per station was 20 (120 total trap-nights of effort overall). The trap sites included:

- Trap Site 1—Oak woodland and riparian scrub habitat in a drainage west of Grape Vine Mesa.

- Trap Site 2—Great Basin scrub, scalebroom (*Lepidospartum*) scrub, and chaparral along a dry wash in Lion Canyon.

- Trap Site 3—Oak woodland and coastal sage scrub in a small, unnamed drainage west of Lion Canyon.

- Trap Site 4—Coastal sage scrub bordered by disturbance (oil wells and pads) on Bee Flat.

- Trap Site 5—Great Basin scrub and mulefat scrub adjacent to coastal sage scrub and grassland in the Salt Creek Holding area.

- Trap Site 6—At edge of oak savanna, coastal sage scrub, and Great Basin scrub in Salt Creek Canyon.

During the trapping surveys, nine species of small mammals were captured (Table 5). The number of species trapped per site ranged from three at Trap Site 3 to five at Trap Sites 4, 5, and 6. The total number of individuals trapped per site varied from five (5 captures in 20 trap-nights = 25% success rate) at Trap Site 3 to 15 (75%) at Trap Sites 2 and 4. The overall trapping success for the six sites was 52% (62 captures in 120 trap-nights). Results of trapping indicated relatively moderate to high densities of small mammals in scrub habitats with adequate vegetation cover close to ground level. Trap Sites 1, 2, and 4 had dense vegetative cover up to approximately three to four feet. In contrast, Trap Sites 3, 5, and 6 (with relatively few captures) included habitats that were quite open at ground level.

Dominant small mammal species were deer mouse (*Peromyscus maniculatus*) and Pacific kangaroo rat (*Dipodomys agilis*). It is interesting to note that San Diego desert woodrats (*Neotoma lepida intermedia*) were trapped at Trap Sites 2 (in Great Basin scrub), 4 (coastal sage scrub), and 6 (coastal sage scrub). This is a Category 2 federal candidate for listing as threatened or endangered.

3.2.2 Scent Station Monitoring

At each trap site location, a scent station was established and monitored for two days (following the nights of 28 and 29 May 1992). General habitat descriptions for Scent Stations 1 through 6 are included in Section 3.2.1 (descriptions of trap sites).

Each scent station consisted of a levelled area, approximately one square meter in size, over which a layer of diatomaceous earth was smoothed. Bait (cat food and commercial trappers' lure) was placed in the center of each station in an attempt to lure predators onto the diatomaceous earth. The objective was to develop information about the occurrence of predators on the West Ranch based on tracks left in the diatomaceous earth. Results of the scent station monitoring are included in Table 6.

Predator tracks were observed at only two scent stations (coyote and bobcat at Station 4 and bobcat at Station 2). Other species' tracks observed at scent stations included desert cottontail,

kangaroo rat, California ground squirrel, and unidentified small rodent tracks. Although no tracks were observed at Scent Station 3, bobcat and mountain lion tracks were detected in mud nearby.

3.2.3 Spotlight Survey

A spotlight survey was conducted on 28 May 1992 from approximately 8:30 p.m. to 10:30 p.m. Two biologists made observations using 300,000-candlepower spotlights while driving slowly in a vehicle on dirt roads. The survey focused on the following areas: Rawhide Canyon, Salt Creek Canyon, Salt Creek Holding area, the upland areas south of Mayo Crossing, Potrero Mesa, and Potrero Canyon.

The number and diversity of wildlife observed were very low. No large mammals were positively identified, although unidentified green eyeshine was noted in Salt Creek Canyon. Other observations included:

- Western toad in Salt Creek Canyon
- Pacific treefrogs heard throughout Salt Creek Canyon
- Great horned owls (one adult, two young) in Potrero Canyon
- Common barn owl in Potrero Canyon.

3.2.4 General Surveys

General surveys were conducted for wildlife species and to evaluate wildlife habitats in April and May 1992. In addition, incidental observations of wildlife made during sensitive plant surveys and vegetation mapping were noted. Table 4 includes a list of all wildlife species detected by observations of individuals and/or sign. Although intensive surveys were not conducted throughout the study area, most major features (canyons, hillsides, ridges, ponds, drainages, etc.) were reviewed.

During the 1992 field surveys on the West Ranch, 100 wildlife species were detected, including 3 amphibians, 7 reptiles, 73 birds, and 17 mammals. Included among those species were the following sensitive species (see Section 3.3 and Table 4 for additional details):

- Western spadefoot toad
- California horned lizard

- Coastal western whiptail (several observations of western whiptail with indications that the coastal subspecies occurs throughout the region)
- Two-striped garter snake
- Black-shouldered kite
- Cooper's hawk
- Loggerhead shrike
- Tricolored blackbird
- San Diego desert woodrat

Observations made during the general surveys supported the information presented in Section 3.1. The numbers and diversity of wildlife, particularly birds, were high in oak woodland, oak savanna, cottonwood-oak woodland, riparian scrub, and cottonwood woodland. Abundance and diversity declined in coastal sage scrub, chaparral, Great Basin scrub, and elderberry scrub. Wildlife observations were lowest in grassland, ruderal, agriculture, and developed areas, and included species adapted to human-caused habitat alterations, such as western fence lizard, rock dove (*Columba livia*), common barn owl, European starling, and house finch. Coyote tracks were observed along dirt roads and on oil well pads, indicating use of those facilities as travel corridors. Grassland, and to some extent agricultural areas, provided foraging sites for raptors. The diversity of wildlife species at mesic meadows and ponds (Via Pond, pond in Potrero Canyon) was relatively low, however these areas represent infrequently occurring habitats that are used by species such as western spadefoot toad and two-striped garter snake.

3.3 SUMMARY OF SENSITIVE SPECIES OCCURRENCES

Classification of plants and wildlife considered as "sensitive" for this report are described in Section 2.2 and as footnotes to Tables 1 and 3. Species from lower priority lists (such as CNPS Lists 3 and 4) are not considered here nor are species of local concern without official designation.

3.3.1 Sensitive Plants

Of the 11 sensitive plants with potential to occur on the West Ranch, only one (Peirson's morning glory) was observed (Table 1). This species was noted at multiple locations on slopes within sparse coastal sage scrub. Those populations of plants were in relatively steep locations.

Areas on the West Ranch where Peirson's morning glory was observed included slopes near Salt Creek Holding, West Fork of Salt Creek near the Ventura County line, Middle Potrero, Adobe

Canyon, Red Rock Canyon, Lion Canyon, and Dead End Canyon. In addition, it could potentially occur in sparse coastal sage scrub north of Route 126.

Because the entire West Ranch was not intensively surveyed, other sensitive plants not observed could potentially occur in the study area. The species with the highest likelihood to occur is Pringle's yampah, which could occur in several areas of coastal sage scrub on the West Ranch. After a field review of the West Ranch, the remaining sensitive plant species were considered to have little or no likelihood of occurring (Table 1).

In addition to the sensitive plant species described above, it should be noted that valley oak trees occur within valley oak woodland and valley oak savanna habitats. This species is recognized by the state government as rare and declining species per Senate Concurrent Resolution 17. Valley oaks on the West Ranch occur primarily in Rawhide, Salt Creek, Via, and Lower Potrero canyons. As described in Section 3.1.1.8, many of the valley oaks are old, large trees.

3.3.2 Sensitive Wildlife

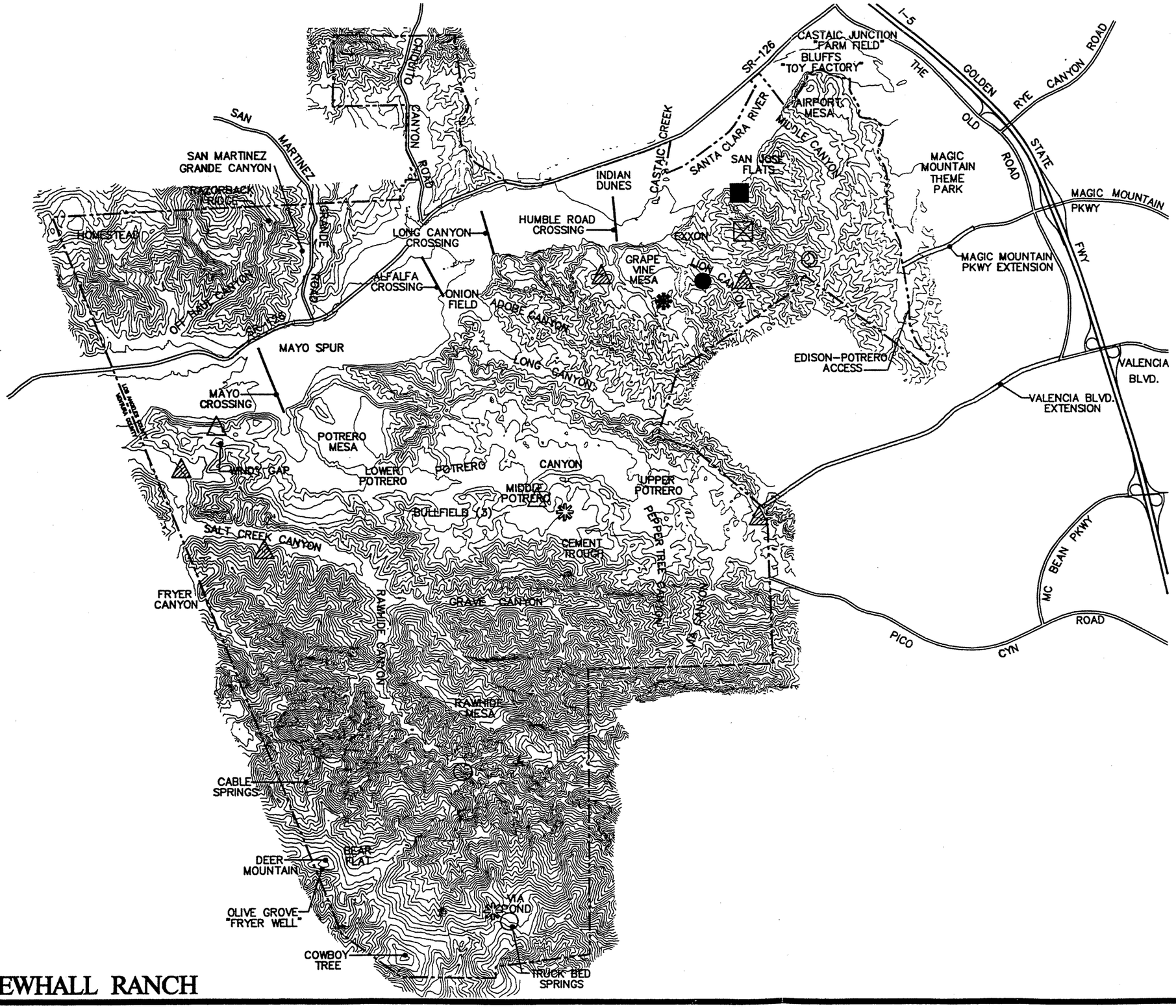
During 1992 field surveys, individuals or sign of nine sensitive wildlife species were observed, including (see Figure 1 for locations):

- *Western spadefoot toad*—Tadpoles and toadlets (small metamorphosed toads) were observed in and near Via Pond and a pond in Middle Potrero Canyon. The sizes of the tadpoles indicated at least three separate breeding events in 1992.

- *California horned lizard*—One individual observed in a canyon bottom near Grape Vine Mesa.

- *Coastal western whiptail*—Western whiptails were observed at several locations, primarily in areas dominated by coastal sage scrub, and in mixed habitat with coastal sage scrub present. Those individuals could have been the coastal subspecies, which is known from the region.

- *Two-striped garter snake*—Observed in two locations, including Via Pond and in Salt Creek within Rawhide Canyon.



LEGEND

- LOCATION OF SMALL ANIMAL TRAP SITE
- TRICOLORED BLACKBIRDS
- MOUNTAIN LION TRACKS
- COOPER'S HAWK
- BLACK-SHOULDERED KITE
- CALIFORNIA HORNED LIZARD
- RED-TAILED HAWK NEST
- WESTERN SPADEFOOT TOAD
- TWO-STRIPED GARTER SNAKE

SOURCE: DAMES AND MOORE, 1993

NEWHALL RANCH

FIGURE 1

SENSITIVE WILDLIFE

- *Black-shouldered kite*—One observed flying overhead between San Jose Flat and Dead End Canyon. Apparent nesting by this species nearby in the Santa Clara River.

- *Cooper's hawk*—One observed in same general area as the black-shouldered kite. Apparent nesting by this species in 1992 near the study area.

- *Loggerhead shrike*—Observed in Potrero Canyon and near Bee Flat. Because this species is relatively tolerant of human-caused changes, loggerhead shrikes could potentially occur elsewhere on West Ranch.

- *San Diego desert woodrat*—Individuals live-trapped at three locations, including: (a) Trap Site 2 - a combination of Great Basin scrub, scalebroom (*Lepidospartum*) scrub, and chaparral in Lion Canyon; (b) Trap Site 4 - coastal sage scrub adjacent to oilfield disturbance on Bee Flat; and (c) Trap Site 6 - oak savanna, coastal sage scrub, and Great Basin Scrub in Salt Creek Canyon.

- *Tricolored blackbird*—Flocks of approximately 20 and 50 were observed in Middle Potrero Canyon and north of Mayo Crossing, respectively.

Similar to conclusions regarding potential occurrence of sensitive plants, other sensitive wildlife species could occur on the West Ranch despite not being observed during field surveys. Intensive surveys were not conducted throughout all portions of the study area. Of the remaining 13 species of sensitive wildlife potentially occurring in upland areas of the West Ranch (Table 3), those with the highest likelihood include Bell's sage sparrow, golden eagle and American badger.

The potential occurrence of other species includes:

- *Southwestern pond turtle*—Unlikely, but possible occurrence in Via Pond. This species is known to travel over two miles between aquatic habitats (Hunt, personal communication, 1993). It potentially occurs in the Santa Clara River and tributaries.

- *Silvery legless lizard*—Possible occurrence in limited areas of sandstone-derived soils (Hunt, personal communication, 1993). This type of habitat occurs in Upper Potrero Canyon.

- *San Diego horned lizard*—Unlikely, but potential occurrence in coastal sage scrub and chaparral habitats. The West Ranch is within an area of intergradation between California and San Diego horned lizards. Some individuals observed in the region have exhibited characteristics of both subspecies (Hunt, 1993).

- *Prairie falcon*—Potential nesting habitat near Bee Flat, Long Canyon, and Salt Creek Canyon; however, occurs in the region primarily during winter and migration.

- *Burrowing owl*—No recent observations in the vicinity of West Ranch, but could possibly occur in grassland and oak savanna areas where California ground squirrel burrows are found.

- *Yellow warbler*—Unlikely occurrence in upland portions of West Ranch in oak woodland, oak/cottonwood woodland, and cottonwood woodland. Known occurrence in nearby riparian zone of the Santa Clara River.

- *Bat species*—Little is known about the distribution of bats. Appropriate roosting habitat for the pale big-eared bat (caves, abandoned buildings), as well as for California mastiff bat and spotted bat (rugged, rocky areas with crevices) appear to be somewhat limited in the study area.

- *Los Angeles pocket mouse*—the status of this species in the region is uncertain. None was captured during live-trapping surveys. There have been very few recent reports of this species west of the San Gabriel Valley and no known records from the Newhall area. The Los Angeles pocket mouse is unlikely to occur on the West Ranch.

4.0 LITERATURE CITED

California Department of Fish and Game (CDFG), 1993. List of rare, threatened, and endangered species in California.

California Natural Diversity Data Base (CNDDB), 1990. Computer search of data base files on sensitive, rare, threatened, and endangered species in the study area vicinity.

CNDDB, 1993. Computer search of data base files on sensitive, rare, threatened and endangered species in the study area vicinity.

Hendrickson, J., 1993. Personal communication. Independent botanical consultant.

Hunt, L.E., 1991. Personal communication. Herpetologist, University of California, Santa Barbara.

Hunt, L.E., 1993. Personal communication. Herpetologist, University of California, Santa Barbara.

Jennings, M.R., 1983. An annotated checklist of the amphibians and reptiles of California. California Fish and Game 69: 151-171.

Labinger, Z., 1992, Personal communication. Ornithologist, Goleta, CA.

Los Angeles Chapter of the National Audubon Society, 1991. Rare bird alert. Misc. data base.

Michael Brandman Associates (MBA), 1991. Preliminary environmental setting for the Westside Conveyance Project. Biological resources technical report. Prepared for Metropolitan Water District. February.

Munz, P.A., 1974. Flora of southern California. University of California Press, Berkeley.

Remsen, J.V., 1978. Bird species of special concern in California: an annotated list of declining or vulnerable bird species. California Department of Fish and Game, Administrative Report 78-1.

Smith, J.P., and K. Berg, 1988. Inventory of rare and endangered vascular plants of California. California Native Plant Society. Special Publications 1, 4th edition.

United States Fish and Wildlife Service (USFWS), 1991. Endangered and threatened wildlife and plants; review of plant taxa for listing as endangered or threatened. (List of federal candidate plants).

USFWS, 1992. Endangered and threatened wildlife and plants; animal notice of review. (List of federal candidate wildlife).

USFWS, 1993. Endangered and threatened wildlife and plants. Official list of federally threatened and endangered species.

Williams, D.F., 1986. Mammalian species of special concern in California. California Department of Fish and Game, Administrative Report 86-1.

TABLE 1

SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING ON THE WEST RANCH

Scientific Name[1]	Common Name	Status[2] Fed/State/CNPS	Growth Form[3]	Flowering Period	Habitat	Local Distribution[4]	Likelihood of occurrence on the West Ranch
Astragalus brauntonii	Braunton's milk vetch	C2/--/1B	PH	Feb.-June	Chaparral; limestone soils. 500-1500 ft.	Current records from vicinity of Thousand Oaks and Oak Park.	Low
Calystegia peirsonii	Peirson's morning-glory	C2/-/4	PH	May-June	Coastal sage scrub; dry slopes.	Northern base of San Gabriel Mtns. to Castaic Lagoon region.	Occurs on West Ranch; grassland-sparse coastal sage scrub interfaces
Centrostegia leptoceras	Slender-horned spineflower	FE/CE/1B	AH	April-June	Coastal sage scrub; sandy places, alluvial terraces. Below 2500 ft.	Historic occurrence in Newhall area. Presumed extinct in L.A. County.	Very unlikely
Chorizanthe parryi var. *fernandina*	San Fernando Valley spineflower	C3A/-/1A	AH	April-June	Coastal sage scrub; dry sandy places below 2500 ft.	Historic occurrence in the project area. Now presumed extinct.	Very unlikely
Delphinium parryi ssp. *blochmaniae*	Dune larkspur	--/--/1B	PH	April-May	Chaparral; clayey soils derived from Conejo volcanics; sand dunes.	Occurrence records from vicinity of Conejo Pass.	Unlikely
Dudleya multicaulis	Many-stemmed dudleya	C2/-/1B	PH	May-June	Coastal sage scrub, grasslands; rocky or clayey substrates. Below 2000 ft.	Known from locations both west and east of Simi Valley.	Unlikely
Dudleya blochmaniae ssp. *blochmaniae*	Blochman's dudleya	--/--/1B	PH	May-June	Coastal sage scrub; dry stony places; clayey and serpentine soils.	Coastal mountains, San Luis Obispo Co. to San Diego.	Unlikely
Harpagonella palmeri var. *palmeri*	Palmer's grappling hook	--/--/2	AH	March-April	Coastal sage scrub, grasslands; open places with clay soils below 1500 ft.	Historic occurrence in Los Angeles Co.	Unlikely

TABLE 1
(continued)

Scientific Name[1]	Common Name	Status[2] Fed/State/CNPS	Growth Form[3]	Flowering Period	Habitat	Local Distribution[4]	Likelihood of occurrence on the West Ranch
Hemizonia minthornii	Santa Susana tarplant	C2/CR/1B	S	July-Oct.	Chaparral, coastal sage scrub; Cretaceous sandstone outcroppings.	Santa Susana and Santa Monica mountains.	Unlikely
Mahonia nevinii	Nevin's barberry	C1/CE/1B	S	March-April	Coastal sage scrub; sandy and gravelly places below 2000 ft.	Two populations in upper San Francisquito Canyon.	Unlikely
Perideridia pringlei	Pringle's yampah	C3C/--/4	PH	April-June	Coastal sage scrub.	Northern Los Angeles, Kern, and Ventura counties.	Somewhat likely to occur in most areas of coastal sage scrub

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1 Scientific and common names follow Munz (1974) and Smith and Berg (1988).

2 Status information:
Federal (USFWS, 1991 and 1992):
FE = Federally listed, endangered—by the Director of the U.S. Fish and Wildlife Service (USFWS) pursuant to the Federal Endangered Species Act of 1973, as amended (ESA).
FT = Federally listed, threatened—by the Director of the U.S. Fish and Wildlife Service (USFWS) pursuant to the Federal Endangered Species Act of 1973, as amended (ESA).
PE = Taxa already proposed to be listed as endangered.
PT = Taxa already proposed to be listed as threatened.

The taxa in Categories 1 and 2 are considered by the USFWS as candidates for possible addition to the List of Endangered and Threatened Wildlife. The USFWS encourages their consideration in long-range environmental planning, such as in environmental impact analysis under the National Environmental Policy Act of 1969 (implemented at 40 CFR parts 1500-1508).

C1 = Taxa for which the USFWS has on file enough substantial information on biological vulnerability and threat(s) to support proposals to list them as endangered or threatened species. Proposed rules have not yet been issued because this action is precluded at present by other listing activity. Development and publication

of proposed rules on Category 1 taxa are anticipated, however, and the USFWS encourages other Federal agencies to give consideration to such taxa in environmental planning.

C2 = Taxa for which information now in the possession of the USFWS indicates that proposing to list as endangered or threatened is possibly appropriate, but for which conclusive data on biological vulnerability and threat are not currently available to support proposed rules. The USFWS emphasizes that these taxa are not being proposed for listing by this notice, and that there are no current plans for such proposals unless additional supporting information becomes available. Further biological research and field study usually will be necessary to ascertain the status of taxa in this category. It is likely that many will be found not to warrant listing, either because they are not threatened or endangered or because they do not qualify as species under the definitions of the ESA. The USFWS hopes that this notice will encourage necessary research on vulnerability, taxonomy, and/or threats for these taxa.

Taxa that once were considered for listing as threatened or endangered but are no longer under such consideration are included in Category 3. Taxa in Category 3 are not current candidates for listing. Such taxa are further divided into three subcategories to indicate the reason(s) for their removal from consideration:

C3A = Taxa for which the USFWS has persuasive evidence of extinction. If rediscovered, such taxa might acquire high priority for listing. At this time, however, the best available information indicates that the taxa in this subcategory, or the habitats from which they were known, have been lost.

C3B = Names that, on the basis of current taxonomic understanding (usually as represented in published revisions and monographs), do not represent distinct entities meeting the ESA's definition of "species"; it also includes vertebrate populations that do not meet this definition. Such supposed taxa could be reevaluated in the future on the basis of new information.

C3C = Taxa that have proven to be more abundant or widespread than previously believed and/or those that are not subject to any identifiable threat. If further research or changes in habitat indicate a significant decline in any of these taxa, they may be reevaluated for possible inclusion in Categories 1 or 2.

State (CDFG, 1991 and 1992):
Plant taxa are designated as endangered, threatened or rare by the Fish and Game Commission of the State of California. A state candidate species is one which the Fish and Game Commission has formally noticed as being under review by the CDFG for addition to the state list pursuant to Section 1904 (Native Plant Protection Act of 1977) and Sections 2074.2 and 2075.5 (California Endangered Species Act of 1984) of the Fish and Game Code. The legal protection afforded listed plants under the NPPA involves provisions that prohibit the taking of plants from the wild and a salvage requirement for landowners. If a landowner has been informed of the presence of a listed species on the property, the CDFG must be notified at least ten days in advance of any land use change that might affect the species or its habitat, thereby affording the CDFG an opportunity to conduct a salvage operation. Candidate species are also protected from taking under NPPA.

CE = State listed, endangered
CT = State listed, threatened
CR = State listed, rare
SCE = State candidate for listing as endangered
SCT = State candidate for listing as threatened
SCR = State candidate for listing as rare

TABLE 1
(concluded)

CNPS (Smith and Berg, 1988):
The CDFG has a policy of regarding all plant species on Lists 1A, 1B and 2 of the CNPS "Inventory of Rare and Endangered Vascular Plants of California" (Smith and Berg, 1988) as meeting the definitions of Section 1901, Chapter 10 (Native Plant Protection) of the Fish and Game Code and, therefore, eligible for state listing. The CDFG usually requests the inclusion of Lists 1A, 1B and 2 taxa in EIRs as necessary. Plants on CNPS Lists 3 and 4 which have no federal or state sensitivity status are not included in Table 1.

1A = Plants presumed extinct in California. The CNPS emphasizes the word "presumed" as opposed to an unequivocal term.
1B = Plants rare, threatened, or endangered in California or elsewhere.
2 = Plants rare, threatened, or endangered in California, but more common elsewhere.
3 = Plants about which additional information on distribution, endangerment, and taxonomic validity are needed—under review by the CNPS.
4 = Plants of limited distribution with vulnerability or susceptibility to threat which appears low at the present time—monitored by CNPS.

[3] Growth Form: AH = annual herb; PH = perennial herb; S = shrub; SS = succulent shrub; T = tree

[4] Local distribution information has been obtained from the following sources: species' range distribution from Munz, 1974; Michael Brandman Associates, 1991; CNPS (Smith and Berg, 1988); Dames & Moore, in-house database, 1991; CNDDB, 1990; and the results of the rare plant surveys conducted in 1991 and 1992 by Dames & Moore.

TABLE 2

PLANT SPECIES OBSERVED DURING 1992 FIELD SURVEYS

Scientific Name	Common Name	Growth Form[1]
Adenostoma fasciculatum	chamise	S
*Agrotis alba**	redtop	PG
*Amaranthus albus**	tumbleweed	AH
Ambrosia acanthicarpa	annual burweed	AH
Ambrosia psilostachya	western ragweed	PH
Amsinckia intermedia	fiddleneck	AH
Anemopsis californica	yerba mansa	PH
Artemisia californica	California sagebrush	S
Artemisia tridentata ssp. *parishii*	Great Basin sagebrush	S
Asclepias fascicularis	narrow-leaved milkweed	PH
Astragalus trichopodus var. *trichopodus*	Santa Barbara locoweed	PH
*Atriplex semibaccata**	Australian saltbush	PH
Atriplex lentiformis ssp. *breweri*	quail brush	S
Atriplex canescens	four-winged saltbush	S
*Avena barbata**	slender wild oats	AG
*Avena fatua**	wild oats	AG
Baccharis glutinosa	mulefat	S
Baccharis pilularis consanguinea	coyote bush	S
*Brassica geniculata**	short-pod mustard	PH
*Brassica nigra**	black mustard	AH
Brickellia californica	California brickellia	S
*Bromus tectorum**	downy brome	AG
*Bromus rubens**	red brome	AG
*Bromus mollis**	soft-chess brome	AG
*Bromus diandrus**	rip-gut brome	AG
Calandrinia ciliata var *menziesii*	red maids	AH
Calochortus clavatus ssp. *clavatus*	club-haired mariposa lily	PH
Calystegia peirsonii	Peirson's morning glory	PH
Camissonia bistorta	southern sun cups	AH
Camissonia boothii	Booth's evening primrose	AH
Castilleja affinis	indian paint brush	PH
Cercocarpus betuloides	birch-leaf mountain-mahogany	S
Chenopodium californicum	California goosefoot	PH
*Chenopodium ambrosioides**	Mexican-tea	AH
*Cirsium vulgare**	bull thistle	BH
Claytonia perfoliata	miner's lettuce	AH
*Convolvulus arvensis**	field bindweed	PV
*Conyza canadensis**	horseweed	AH
Corethrogyne filaginifolia	cudweed-aster	PH
Crassula erecta	Erect crassula	AH
Croton californicus	California croton	PH
Cryptantha intermedia	common cryptantha	AH
Cucurbita palmata	coyote melon	PV
Cucurbita foetidissima	calabazilla	PV

TABLE 2
(continued)

Scientific Name	Common Name	Growth Form[1]
Cuscuta californica	California dodder	PH
Datura meteloides	jimsonweed	PH
Descurainia pinnata	western tansy mustard	AH
Dichelostemma puchellum	blue dicks	AH
Distichlis spicata	salt grass	PG
Dudleya lanceolata	lance-leaved dudleya	PH
Eleocharis sp.	spikerush	PH
Elymus condensatus	giant wild rye	PG
Emmenanthe penduliflora	whispering bells	AH
Encelia californica	bush sunflower	S
Eremocarpus setigerus	dove weed	AH
Eriodictyon crassifolium	yerba santa	S
Eriogonum fasciculatum	California buckwheat	S
Eriogonum elongatum	elongate buckwheat	PH
*Erodium cicutarium**	red-stem filaree	AH
Erysimum capitatum	wall flower	AH
Eschscholzia californica	California poppy	AH
Eucalyptus spp.*	eucalyptus	T
Eucrypta chrysanthemifolia	common eucrypta	AH
Festuca myuros	rat-tail fescue	AG
Gilia angelensis	Angeles gilia	AH
Haplopappus squarrosus	sawtooth goldenbush	S
Haplopappus venetus ssp. *vernonioides*	coast goldenbush	S
Heteromeles arbutifolia	toyon	S
Heterotheca grandiflora	telegraph weed	AH
*Hordeum leporinum**	hare barley	AG
Juglans californica	California walnut	T
Keckiella cordifolia	heart-leaved penstemon	S
Lasthenia chrysostoma	common goldfield	AH
Layia sp.	tidy tips	AH
Lepidospartum squamatum	scalebroom	S
Leptodactylon californicum	pricky phlox	S
Lolium perenne ssp. *multiflorum**	Italian ryegrass	AG
*Lotus corniculatus**	bird's-foot lotus	PH
Lotus scoparius	deerweed	S
Lupinus hirsutissimus	stinging lupine	AH
Lupinus bicolor	annual lupine	AH
Lupinus succulentus	succulent lupine	AH
*Malva parviflora**	cheeseweed	AH
Marah fabaceus	California manroot	PV
*Marrubium vulgare**	horehound	PH
*Medicago polymorpha**	annual bur-clover	AH
Melica imperfecta	small-flowered melica	PG
*Melilotus indicus**	yellow sweet clover	AH
Mirabilis californica	wishbone bush	PH
*Nicotiana glauca**	tree tobacco	S
Opunita basilaris var. *ramosa*	beavertail cactus	S
Opuntia prolifera	coast cholla	S

TABLE 2
(continued)

Scientific Name	Common Name	Growth Form[1]
Opuntia littoralis var. *littoralis*	coastal prickly pear	S
Orthocarpus purpurascens	purple owl's clover	AH
Paeonia californica	California peony	PH
Penstemon centranthifolius	scarlet bugler	PH
Perezia microcephala	sacapellote	PH
Phacelia cicutaria	caterpillar phacelia	AH
Phacelia ramosissima var. *suffrutescens*	branching phacelia	PH
Pholistoma auritum	fiesta flower	AH
Plagiobothrys nothofulvus	popcorn flower	AH
Platanus racemosa	California sycamore	T
Platystemon californicus	cream cups	AH
Pluchea sericea	arrowweed	S
*Polypogon monspeliensis**	rabbit's-foot grass	AG
Populus fremontii	Fremont's cottonwood	T
Prunus ilicifolia	holly-leaved cherry	S
Quercus agrifolia	coast live oak	T
Quercus lobata	valley oak	T
*Raphanus sativus**	wild radish	AH
Rhamnus crocea	redberry	S
Rhus laurina	laurel sumac	S
Rhus trilobata	squaw bush	S
Rosa californica	California wild rose	S
*Rumex acetosella**	sheep sorrel	PH
*Rumex crispus**	curly dock	PH
Salix laevigata	red willow	T
Salix lasiolepis	arroyo willow	T
Salix hindsiana	sandbar willow	S
*Salsola iberica**	Russian thistle	AH
Salvia columbariae	chia	AH
Salvia mellifera	black sage	S
Salvia leucophylla	purple sage	S
Salvia apiana	white sage	S
Sambucus mexicana	Mexican elderberry	S
*Schinus molle**	Peruvian pepper-tree	T
*Schismus barbatus**	Mediterranean schismus	AG
Scirpus californicus	California bulrush	PH
Senecio douglasii	bush groundsel	S
*Silybum marianum**	milk thistle	AH
Sisymbrium irio	London rocket	AH
Solanum xantii	purple nightshade	S
*Sonchus oleraceus**	sow-thistle	AH
Stellaria media	common chickweed	AH
Stipa pulchra	purple needlegrass	PG
Tamarix sp.*	tamarisk	S
Toxicodendron diversilobum	poison oak	S
Trifolium tridentatum	tomcat clover	AH
Typha domingensis	slender cattail	PH
Urtica holosericea	stinging nettle	PH

TABLE 2
(concluded)

Scientific Name	Common Name	Growth Form[1]
Viola pedunculata	Johnny-jump-up	AH
*Xanthium strumarium**	cocklebur	AH
Yucca whipplei	our Lord's candle	S
Zauschneria cana	California fuchsia	PH

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1 Growth form: AG = annual grass; AH = annual herb; PG = perennial grass; BH = biennial herb; PH = perennial herb; PV = perennial vine; S = shrub; T = tree.

* Introduced or naturalized species.

TABLE 3

SENSITIVE WILDLIFE SPECIES POTENTIALLY OCCURRING ON THE WEST RANCH

Scientific Name	Common Name	Status Federal/State[1]	Habitat	Local Distribution[2]
AMPHIBIANS AND REPTILES				
Scaphiopus hammondi	Western spadefoot toad	FR/SSC	Vernal pools, ephemeral waterbodies.	Observed in a Potrero Canyon pond and in Via Pond (April, May 1992).
Clemmys marmorata pallida	Southwestern pond turtle	C2/SSC	Ponded water in permanent streams with dense vegetation.	Potential occurrence in the Santa Clara River. Unlikely, but possible occurrence at Via Pond.
Phrynosoma coronatum frontale	California horned lizard	--/SSC	Coastal sage scrub, chaparral; sandy washes.	Individual observed near Red Rock Canyon (May 1992).
Phrynosoma coronatum blainvillei	San Diego horned lizard	C2/SSC	Coastal sage scrub, chaparral; sandy washes.	Past occurrence in Placerita Canyon and other areas in Los Angeles County which are now mostly urbanized. Study area is in zone of intergradation between *P. c. frontale* and *P. c. blainvillei*.
Chemidophorus tigris multiscutatus	Coastal western whiptail	C2/--	Scrub and wash habitats with scattered open areas.	Several western whiptails observed in coastal sage scrub and Great Basin scrub on West Ranch. Could potentially have been this sensitive subspecies.
Anniella pulchra pulchra	Silvery legless lizard	--/SSC	In friable soils and under leaf litter in a variety of shrub and woodland habitats.	Potential to occur in areas with sandstone-derived soils within scrub, or oak woodland habitats, such as Upper Potrero Canyon.
Thamnophis hammondii	Two-striped garter snake	C2/--	Ponds, aquatic habitats	Two observed in Via Pond during surveys (May 1992). One observed in Salt Creek, within Rawhide Canyon (May 1992).
BIRDS				
Elanus caeruleus	Black-shouldered kite	--/CP	Grassland, riparian areas.	Uncommon resident of study area. One individual observed during survey. Recent observation of a pair in the Santa Clara River near the study area (May 1992).

TABLE 3
(continued)

Scientific Name	Common Name	Status Federal/State[1]	Habitat	Local Distribution[2]
Accipiter cooperii	Cooper's hawk	-/SSC	Oak woodland; riparian; grassland.	Uncommon resident of study area. Report of 1992 nesting near study area along Santa Clara River. Observed during May 1992 survey in the project area.
Aquila chrysaetos	Golden eagle	-/CP	Grassland; agriculture.	Potential occurrence in areas with combination of grassland and scrub habitat. No observations during survey.
Falco mexicanus	Prairie falcon	-/SSC	Grassland, scrub habitats.	Rare winter migrant. Potential nesting habitat in exposed cliffs in areas such as near Bee Flat, Long Canyon, Salt Creek Canyon.
Athene cunicularia	Burrowing owl	–/SSC	Grassland, sparse scrubland; occupies ground squirrel burrows.	Rare resident of study area vicinity. No recent or historic records nearby. No observations during survey.
Lanius ludovicianus	Loggerhead shrike	C2/SSC	Chaparral, coastal sage scrub, grassland.	Relatively common resident in study area, primarily at interfaces between grassland and scrub habitats, and in open areas. Observed during the May 1992 survey.
Dendroica petechia	Yellow warbler	-/SSC	Riparian woodland; oak woodland; conifer forest.	Known summer resident along the Santa Clara River. Unlikely, but possible occurrence in oak/ cottonwood woodland on West Ranch.
Amphispiza belli belli	Bell's sage sparrow	-/SSC	Dry coastal sage scrub; dense chaparral.	Potential to occur in study area, especially in chaparral areas in southern portion. None observed during survey.
Agelaius tricolor	Tricolored blackbird	C2/SSC	Breeds in freshwater marsh and other areas with cattails and bulrushes. Forages in agricultural fields, pastures.	Flocks observed in the study area in April and May 1992, primarily foraging in grazed grassland in Potrero Canyon and adjacent to Santa Clara River flood plain.
MAMMALS				
Plecotus townsendii pallescens	Pale big-eared bat	-/SSC	Many; roosts in caves and abandoned buildings.	Status unknown in study area. No known nesting or roosting habitat in the study area.
Eumops perotis californicus	California mastiff bat	C2/SSC	Many; rugged, rocky areas with crevices for roosting.	Status unknown in study area.

TABLE 3
(continued)

Scientific Name	Common Name	Status Federal/State[1]	Habitat	Local Distribution[2]
Euderma maculata	Spotted bat	C2/SSC	Roosts in rocky crevices, mines, caves, old buildings, and on coniferous trees.	Current status in study area unknown. Location of type collection in 1891 was mouth of Castaic Creek, 8 miles east of Piru (Hall, 1981).
Perognathus longimembris brevinasus	Los Angeles pocket mouse	C2/SSC	Grassland and coastal sage scrub; prefers fine sandy soils.	Potential occurrence in study area. None trapped in the project area during May 1992 survey.
Neotoma lepida intermedia	San Diego desert woodrat	C2/-	Scrub habitats.	Status unknown. Potential occurrence in study area.
Taxidea taxus	American badger	-/SSC	Grassland and oak woodland.	Uncommon resident. Potential occurrence, primarily in grassland and oak savanna habitats.

[1] Status:

Federal (USFWS 1992 and 1993):

Taxa that are federally listed and candidates for listing, pursuant to the Federal Endangered Species Act (ESA) of 1973, as amended, are presented in the Federal Register, 50 CFR 17.11.

FE = Federally listed, endangered
FT = Federally listed, threatened
FR = Taxa under review for federal listing or candidate status
PE = Taxa already proposed to be listed as endangered.
PT = Taxa already proposed to be listed as threatened.

The taxa in Categories 1 and 2 of this notice are considered by USFWS as candidates for possible addition to the List of Endangered and Threatened Wildlife. The USFWS encourages their consideration in long-range environmental planning, such as in environmental impact analysis under the National Environmental Policy Act of 1969 (implemented at 40 CFR parts 1500-1508).

C1 = Taxa for which the USFWS has on file enough substantial information on biological vulnerability and threat(s) to support proposals to list them as endangered or threatened species. Proposed rules have not yet been issued because this action is precluded at present by other listing activity. Development and publication of proposed rules on Category 1 taxa are anticipated, however, and the USFWS encourages other Federal agencies to give consideration to such taxa in environmental planning.

C2 = Taxa for which information now in the possession of the USFWS indicates that proposing to list as endangered or threatened is possibly appropriate, but for which conclusive data on biological vulnerability and threat are not currently available to support proposed rules. The USFWS emphasizes that these taxa are not being proposed for listing by this notice, and that there are no current plans for such proposals unless additional supporting information becomes available. Further biological research and field study usually will be necessary to ascertain the status of taxa in this category. It is likely that many will be found not to warrant listing, either because they are not threatened or endangered or because they do not qualify as species under the definitions in the Act. The USFWS hopes that this notice will encourage necessary research on vulnerability, taxonomy, and/or threats for these taxa.

Taxa that once were considered for listing as threatened or endangered but are no longer under such consideration are included in Category 3. Taxa in Category 3 are not current candidates for listing. Such taxa are further divided into three subcategories to indicate the reason(s) for their removal from consideration.

3A = Taxa for which the USFWS has persuasive evidence of extinction. If rediscovered, such taxa might acquire high priority for listing. At this time, however, the best available information indicates that the taxa in this subcategory, or the habitats from which they were known, have been lost.

TABLE 3
(concluded)

3B = Names that, on the basis of current taxonomic understanding (usually as represented in published revisions and monographs), do not represent distinct entities meeting the Act's definition of "species"; it also includes vertebrate populations that do not meet this definition. Such supposed taxa could be reevaluated in the future on the basis of new information.

3C = Taxa that have proven to be more abundant or widespread than previously believed and/or those that are not subject to any identifiable threat. If further research or changes in habitat indicate a significant decline in any of these taxa, they may be reevaluated for possible inclusion in Categories 1 or 2.

State

The official California listing of Endangered and Threatened animals is contained in the California Code of Regulations, Title 14, Section 670.5. A state candidate species is one that the Fish and Game Commission has formally noticed as being under review by the CDFG for addition to the state list. Fish and Game Code sections relating to fully protected animals state that fully protected birds (Section 3511), mammals (Section 4700), reptiles and amphibians (Section 5050), and fish (Section 5515), "or parts thereof, may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected (animal) and no such permits or licenses heretofore issued shall have any force or effect for any such purpose; except that the commission may authorize the collecting of such species for necessary scientific research and may authorize the live capture and relocation of such species pursuant to a permit for the protection of livestock. Legally imported fully protected (animals) or parts thereof may be possessed under a permit issued by the department."

SE = State listed, endangered
ST = State listed, threatened
SCE = Candidate for listing as endangered
SCT = Candidate for listing as threatened
SSC = CDFG "species of special concern."
CP = California fully protected animal

[2] Distribution information: Remsen, 1978; Hall, 1981; Dames & Moore, 1989; Williams, 1986; Los Angeles Chapter, National Audubon Society, 1990 Rare Bird Alert; Larry Hunt (personal communication, 1991, 1993); Zev Labinger (personal communication, 1992).

TABLE 4

WILDLIFE SPECIES OBSERVED
DURING 1992 SURVEYS AT THE WEST RANCH

Species		Type of Observation[1]	Habitat in which Observed[2]
Common Name	Scientific Name		
AMPHIBIANS AND REPTILES			
Western spadefoot toad	*Scaphiopus hammondi*	D	P
Western toad	*Bufo boreas*	D	P, G, FWM
Pacific treefrog	*Hyla (=Pseudacris) regilla*	D	P, G, FWM
California horned lizard	*Phryomsana coronatum frontale*	D	RS/AS
Western fence lizard	*Sceloporus occidentalis*	D	UPL, DEV
Side-blotched lizard	*Uta stansburiana*	D	UPL
Western whiptail	*Cnemidophorus tigris*	D	CSS, GBS
Coachwhip	*Masticophis flagellum*	D	CSS, ES
Gopher snake	*Pituophis melanoleucus*	D	RS/AS, CSS
Two-striped garter snake	*Thamnophis hammondii*	D	P,CW
Total species: 10			
BIRDS			
Turkey vulture	*Cathartes aura*	D-F	UPL, CW
Black-shouldered kite	*Elanus caeruleus*	D-F	CSS, OW/S, G, CW
Cooper's hawk	*Accipiter cooperii*	D-F	CW, G
Red-shouldered hawk	*Buteo lineatus*	D-F	CW, G, CSS, CH
Red-tailed hawk	*Buteo jamaicensis*	D, N	UPL, RS/AS, CW, A
American kestrel	*Falco sparverius*	D	OW/S, ES, RS/AS, CW
California quail	*Callipepla californica*	D, N	CSS, CH, GBS, G
Rock dove	*Columba livia*	D	DEV, R
Mourning dove	*Zenaida macroura*	D, N	OW/S, ES, RS/AS, CW, OP, A
Greater roadrunner	*Geococcyx californianus*	D	CSS, CH

TABLE 4
(continued)

Species		Type of Observation[1]	Habitat in which Observed[2]
Common Name	Scientific Name		
Common barn owl	*Tyto alba*	D	C, CW, DEV
Great horned owl	*Bubo virginianus*	D	OW/S, RS/AS, CW
White-throated swift	*Aeronautes saxatalis*	D-F	CSS, CH
Black-chinned hummingbird	*Archilochus alexandri*	D	RS/AS, CSS, CH, ES
Costa's hummingbird	*Calypte costae*	D	RS/AS, ES
Anna's hummingbird	*Calypte anna*	D	RS/AS, CSS, CH, ES
Northern flicker	*Colaptes auratus*	D	CH, OW/S, CW
Acorn woodpecker	*Melanerpes formicivorus*	D	OW/S, CW
Downy woodpecker	*Picoides pubescens*	D	OW/S
Hairy woodpecker	*Picoides villosus*	D	OW/S
Nuttall's woodpecker	*Picoides nuttallii*	D	OW/S, RS/AS, CW
Western kingbird	*Tyrannus verticalis*	D	CSS, CH, OW/S
Cassin's kingbird	*Tyrannus vociferans*	D	CSS, CH, OP
Ash-throated flycatcher	*Myiarchus cinerascens*	D	CSS, CH, GBS
Western wood-pewee	*Contopus sordiduls*	D	OW/S, RS/AS
Black phoebe	*Sayornis nigricans*	D	ES, RS/AS, CW, OP
Pacific-slope flycatcher	*Empidonax difficilis*	D	CW, RS/AS
Tree swallow	*Tachycineta bicolor*	D-F	CSS, OW/S, G, MM, OP
Violet-green swallow	*Tachycineta thalassina*	D-F	CSS, OW/S, G, MM
Northern rough-winged swallow	*Stelgidopteryx serripennis*	D-F	CSS, CH, GBS, G
Cliff swallow	*Hirundo pyrrhonota*	D-F	CSS, CH, MM, P
Barn swallow	*Hirundo rustica*	D	CSS, CH, GBS
Scrub jay	*Aphelocoma coerulescens*	D	CSS, CH, R, DI, P
American crow	*Corvus brachyrhynchos*	D	CSS, G, R, DEV
Common raven	*Corvus corax*	D	OW/S, CSS, CH, G, DEV

TABLE 4
(continued)

Species		Type of Observation[1]	Habitat in which Observed[2]
Common Name	Scientific Name		
Wrentit	*Chamaea fasciata*	D	CSS, CH, ES
Plain titmouse	*Parus inornatus*	D	OW/S, CW
Bushtit	*Psaltriparus minimus*	D	OW/S, RS/AS, CW
House wren	*Troglodytes aedon*	D, N	ES, RS/AS, GBS
White-breasted nuthatch	*Sitta carolinensis*	D	OW/S, CW
Bewick's wren	*Thryomanes bewickii*	D, N	CW, RS/AS, GBS
Canyon wren	*Catherpes mexicanus*	D	CSS, CH
Rock wren	*Salpinctes obsoletus*	D	CSS, CH
Blue-gray gnatcatcher	*Polioptila caerulea*	D	CH, OW/S, CW
Western bluebird	*Sialia mexicana*	D	CSS, OW/S, CW
American robin	*Turdus migratorius*	D	OW/S, G, MM, A
Loggerhead shrike	*Lanius ludovicianus*	D	CSS, CH, G, R, OP
Northern mockingbird	*Mimus polyglottos*	D	OW/S, ES, CW, OP
California thrasher	*Toxostoma redivivum*	D	CSS, CH
Phainopepla	*Phainopepla nitens*	D	OW/S, GBS, RS/AS, CW
European starling	*Sturnus vulgaris*	D, N	OW/S, G, RS/AS, CW, OP
Hutton's vireo	*Vireo huttoni*	D	OW/S, CW
Orange-crowned warbler	*Vermivora celata*	D	OW/S, CW
Common yellowthroat	*Geothlypis trichas*	D	MM, FWM
Black-headed grosbeak	*Pheucticus melanocephalus*	D	OW/S, CW
Blue grosbeak	*Guiraca caerulea*	D, N	CSS, CH, OW/S, CW, ES
Lazuli bunting	*Passerina amoena*	D	OW/S, CW, RS/AS
Rufous-sided towhee	*Pipilo erythrophthalmus*	D	CSS, CH, GBS, RS/AS
California towhee	*Pipilo crissalis*	D	CSS, CH, GBS, ES
Song sparrow	*Melospiza melodia*	D	RS/AS, FWM, GBS

TABLE 4
(continued)

Species		Type of Observation[1]	Habitat in which Observed[2]
Common Name	Scientific Name		
Lark sparrow	*Chondestes grammacus*	D	G, CSS, CH
Rufous-crowned sparrow	*Aimophila ruficeps*	D, N	CSS, CH
Red-winged blackbird	*Agelaius phoeniceus*	D	G, MM, FWM
Tri-colored blackbird	*Agelaius tricolor*	D	G
Brewer's blackbird	*Euphagus cyanocephalus*	D	G, MM, A, DI
Brown-headed cowbird	*Molothrus ater*	D	G, OW/S, RS/AS, CW, MM
Northern oriole	*Icterus galbula*	D	OW/S, CW
Hooded oriole	*Icterus cucullatus*	D	OW/S, CW
House sparrow	*Passer domesticus*	D	R, DEV
American goldfinch	*Carduelis tristis*	D	CSS, CH, OW/S, ES
Lesser goldfinch	*Carduelis psaltria*	D	CSS, CH, GBS, OW/S, CW
Lawrence's goldfinch	*Carduelis lawrencei*	D	CSS, CH, OW/S
House finch	*Carpodacus mexicanus*	D	G, R, DEV
Total species: 73			
MAMMALS			
Raccoon	*Procyon lotor*	T	OW/S, RS/AS, CW, GBS
Coyote	*Canis latrans*	S, T	CSS, CH, OW/S, RW, GBS, DEV
Red/gray fox	*Vulpes fulva/Urocyon cinereoargenteus*	S	OW/S, RS/AS, DI
Bobcat	*Lynx rufus*	D, T	CSS, OW/S, RS/AS
Mountain lion	*Felis concolor*	T	OW/S
California ground squirrel	*Spermophilus beecheyi*	B, D	OW/S, G, GBS, DI, A
California vole	*Microtus californicus*	D	G
California pocket mouse	*Perognathus californicus*	D	CSS, RS/AS

TABLE 4
(continued)

Species		Type of Observation[1]	Habitat in which Observed[2]
Common Name	Scientific Name		
Brush mouse	*Peromyscus boylii*	D	GBS, CSS, OW/S, RS/AS
Pinyon mouse	*Peromyscus truei*	D	OW/S, RS/AS
Deer mouse	*Peromyscus maniculatus*	D	GBS, CSS, CH, OW/S, RS/AS, CW
Pacific kangaroo rat	*Dipodomys agilis*	B, D	CSS, CH, OW/S, RS/AS, CW
Heermann's kangaroo rat	*Dipodomys heermanni*	B, D	CSS, CH, OW/S
Dusky-footed woodrat	*Neotoma fuscipes*	D	OW/S, RS/AS, CW
San Diego desert woodrat	*Neotoma lepida intermedia*	D	CSS, CH
Desert cottontail	*Sylvilagus audubonii*	D	UPL, RS/AS, CW, MM, DEV
Mule deer	*Odocoileus hemionus*	D, S, T	UPL, RS/AS, CW, MM, A
Total species: 17			

1 Type of Observation: B = burrow; D = direct observation; D-F = direct observation in flight only; N = nest or nesting activity; S = scat; T = tracks.

2 Habitat in which Observed:
Native/Natural Habitats

UPL = Observed in all upland habitats (scrub, chaparral, woodland, savanna, grassland, ruderal)
CSS = Coastal sage scrub (includes dense and sparse coastal sage scrub)
CH = Chaparral (includes chamise and mixed chaparral)
GBS = Great Basin scrub
OW/S = Oak woodland/savanna (includes live oak woodland, valley oak woodland, valley oak savanna, and cottonwood/oak woodland)
ES = Elderberry scrub
G = Grassland
R = Ruderal
P = Pond
RS/AS = Riparian scrub/alluvial scrub (includes willow scrub, mulefat scrub, arrowweed scrub, alluvial scrub, and scalebroom scrub)
CW = Cottonwood woodland
MM = Mesic meadow
FWM = Freshwater marsh

TABLE 4
(continued)

Developed Areas

DEV = Observed in all types of developed disturbance
DI = Disturbed
A = Agricultural land
OP = Ornamental planting

TABLE 5

SMALL MAMMALS CAPTURED DURING LIVE-TRAPPING SURVEYS ON THE WEST RANCH[1]

Common Name	Scientific Name	Number Captured at Trap Site					
		1	2	3	4	5	6
California pocket mouse	*Perognathus californicus*				1	2	1
Pacific kangaroo rat	*Dipodomys agilis*	2	4	1	4	1	
Heermann's kangaroo rat	*Dipodomys heermanni*			2	3		
California vole	*Microtus californicus*						1
Deer mouse	*Peromyscus maniculatus*	7	8	1	6	1	2
Pinyon mouse	*Peromyscus truei*	2					
Brush mouse	*Peromyscus boylii*	2	1	1			
Dusky-footed woodrat	*Neotoma fuscipes*					3	2
San Diego desert woodrat	*Neotoma lepida intermedia*		2		1		1

1 Two nights (28, 29 May 1992) of live-trapping with 10 traps each night (20 trap-nights total per trap site).

TABLE 6

WILDLIFE SPECIES DETECTED
AT SCENT STATIONS ON THE WEST RANCH[1]

Common Name	Scientific Name	Tracks Observed at Scent Station Number					
		1	2	3	4	5	6
Coyote	*Canis latrans*				X		
Bobcat	*Lynx rufus*		X		X		
Desert cottontail	*Sylvilagus audubonii*	X					
Kangaroo rat	*Dipodomys* sp.	X	X				
California ground squirrel	*Spermophilus beecheyi*		X			X	X
Rodent tracks					X		X

[1] Scent stations monitored during nights of 28, 29 May 1992.

APPENDIX F
Resumes of Professional Staff

Eric Sakowicz
Principal

Mr. Sakowicz is a founding Principal of Impact Sciences, Incorporated. During his 20 years in the field, he has directly participated in the variety of tasks required as part of today's regulatory process. Specific tasks have included on-site technical investigations, environmental document preparation, physical and policy planning studies and permit processing. This variety of experience provides Mr. Sakowicz the ability to develop sound work plans and to establish informed direction.

During the past 15 years, Mr. Sakowicz has managed and has participated in the preparation of numerous Specific Plans of large size and/or technical complexity. Recent planning project's have included the Ormond Beach Specific Plan and EIR (City of Oxnard), the Rancho La Sierra Specific Plan and EIR (City of Riverside), the Wagon Wheel Specific Plan and EIR (City of Oxnard), the Hathaway Ranch Concept Plan (County of Los Angeles), and the California Springs Concept Plan (City of Lancaster). Each of these projects involved a land planning, environmental review and public participation element that were directed by Mr. Sakowicz.

Environmental Impact Reports managed by Mr. Sakowicz have included a variety of projects ranging from hillside residential projects, to restoration of the Los Angeles Grand Central Market. In addition to this range of project types, environmental reports managed by Mr. Sakowicz have occurred in large and small cities and counties throughout California.

Mr. Sakowicz has spoken before the League of California Cities, the American Planning Association, the California State University System and a variety of local organizations and boards. Mr. Sakowicz has also served as planning commission chairman for the City of Fillmore and serves on several design review committees. He is a member and past Secretary of the Association of Environmental Professionals and is a member of the Society of Wetland Scientists.

Mr. Sakowicz graduated with a Bachelor of Science degree in Fisheries Biology from California State University, Humboldt. Prior to forming Impact Sciences, Inc., his work history included staff positions with Teledyne Geotronics, Dames & Moore, the County of Santa Barbara; and was Vice President of Environmental Projects at Envicom Corporation.

Brian W. Arnold
Director of Biological Services

Mr. Arnold serves as Director of Biological Services for Impact Sciences, Inc. In that capacity, he is responsible for directing the biological resources staff, and managing the quality control program for the firm's biological resources capability.

During the past nine years as an environmental consultant, Mr. Arnold has provided endangered species expertise, biological resources consultation, project management, and construction monitoring for a wide range of project types throughout California, such as pipeline and transmission line projects, energy projects, transportation and residential development projects, and landfill and facility siting studies. He is involved in data collection and analysis of impacts to biological resources. He prepares reports, develops mitigation monitoring plans and permitting strategies, and provides permitting assistance and negotiations for such projects. Mr. Arnold routinely provides regulatory compliance analyses with endangered species issues. He has held federal and state permits for scientific survey, collection, and handling of various wildlife species, including officially listed threatened and endangered species, and California species of special concern.

Mr. Arnold graduated with a Bachelor of Science degree in Zoology from the University of California, Santa Barbara. Prior to joining Impact Sciences, Inc., Mr. Arnold had been employed with two environmental consulting firms. He was at Dames & Moore for seven years, most recently as a senior biologist. In addition, he served as a senior biologist at RECON. During this period, he directed a group of up to 15 biologists and managed several large scale biological resources investigations, often for highly visible or controversial projects. In addition, during a seven year period Mr. Arnold worked as a contract biological research specialist for the National Park Service, the National Marine Fisheries Service, the United States Marine Mammal Commission, and UCSB.

While with Dames & Moore, Mr. Arnold was involved with over 140 projects, including the following three examples. He managed a project to develop a sensitive wildlife species database and map the vegetation (especially coastal sage scrub) of the entire County of Orange, using a Geographic Information System (GIS) in support of several subregional Natural Community Conservation Planning (NCCP) efforts. These NCCP efforts focused on coastal sage scrub vegetation-dependent wildlife species such as the coastal California gnatcatcher and coastal populations of San Diego cactus wren.

Mr. Arnold directed the biological investigations and a large team of biologists in an evaluation of threatened and endangered plant and wildlife species populations in a 3,000 square mile area in support of the multi-species Kern County Valley Floor Habitat Conservation Plan (HCP).

Mr. Arnold directed the biological investigations for an Environmental Assessment prepared in support of an ordnance clearance project at the 2,600 acre Mission Trails Regional Park in San Diego for the U.S. Army Corps of Engineers, including preparation of a Biological Assessment document for a Section 7 consultation with the U.S. Fish and Wildlife Service. Issues included endangered species habitat and vernal pools.

Mr. Arnold managed a construction monitoring project for the 9.5-mile Mobil 17 Z Pipeline project, an ancillary pipeline delivering natural gas from the Mojave-Kern River Pipeline through endangered plant and wildlife species habitat in Kern County. He was responsible for development and implementation of a mitigation plan and a mitigation monitoring plan, as well as development and presentation of an endangered species training program to construction workers.

Mr. Arnold has extensive experience as a field biologist, primarily in the areas of mammology, herpetology, and ornithology. He has conducted nearly 37,000 trap-nights of small mammal trapping effort in fourteen California counties, resulting in 5,500 captured and released animals, including over 650 kangaroo rats in six species, and 340 pocket mice in four species. In addition, he has conducted thousands of trap-nights of medium-sized mammal trapping effort for fox, American badger, ringtail, and skunk. He has conducted focused habitat-based surveys for giant, Tipton and Stephens' kangaroo rats. Mr. Arnold has conducted thousands of pitfall trap-nights for reptiles and amphibians, resulting in the capture and release of hundreds of animals. He has conducted focused surveys for blunt-nosed leopard lizard, San Diego horned lizard, and orange-throated whiptail. Mr. Arnold has conducted numerous avian surveys, and conducted bird banding and nest monitoring studies with California gull, black phoebe, and white-crowned sparrow. He has conducted focused surveys for California gnatcatcher, LeConte's thrasher, least Bell's vireo, southwestern willow flycatcher, California spotted owl, and light-footed clapper rail. He has also monitored turkey vulture roosts during nearby construction activities, and has monitored gray whale migration and pinniped haul-out patterns during nearby offshore construction activities.

Mr. Arnold is a member of the American Society of Mammalogists, local chapters of The Wildlife Society, and the California Native Plant Society.

Personnel Associated with the Project and Proof of Permits

A. Statement of Qualifications for RECON Biologists

Gerry Scheid, Senior Biologist (Project Manager; Botantist)

Since 1979, Mr. Scheid has conducted biological and botanical surveys in the states of California and Arizona. His biological work has dealt primarily with surveys for sensitive, rare, and endangered species; vegetation mapping; assessing project-related impacts to biological resources; and working with clients and agencies to prepare mitigation recommendations. Mr. Scheid prepares revegetation programs and conducts restoration monitoring for wetland and upland habitats. He conducts jurisdictional wetland delineations and prepares applications for federal 404 permits for compliance with the Clean Water Act and state 1600-1603 Streambed Alteration Agreements to comply with Fish and Game Code. Mr. Scheid is experienced with Section 7 consultations with the U.S. Fish and Wildlife Service (USFWS) per the Endangered Species Act.

Education/Certifications:

Master of Science, Ecology, San Diego State University, 1986.

Bachelor of Science, Biology, Arizona State University, 1979.

Basic Wetland Delineation Workshop, Wetland Training Institute 1989.

Wetland Delineation in Southern California, Certificate of Training; Huffman and Associates, 1994.

Certified Biologist for the Counties of San Diego and Riverside.

Certified Ecologist, Ecological Society of America.

Permits:

U.S. Fish and Wildlife Service 10(a)(1)(A) Permit #PRT-797665 for Riverside Fairy Shrimp

U.S. Fish and Wildlife Service 10(a)(1)(A) Permit #PRT-797665 for California Gnatcatcher (authorized to work under direct supervision of another permittee)

U.S. Fish and Wildlife Service Desert Tortoise Handling Permit to Biological Opinion (1-6-92-F-39) for Eagle Mountain Landfill

Memorandum of Understanding with the California Department of Fish and Game Related to Desert Tortoise at Eagle Mountain Landfill

California Department of Fish and Game Scientific Collector's Permit (#2910)

California Department of Fish and Game Scientific Collector's Permit for Rare and Endangered Plant Species

Rick Eisenbart, Biologist (Project Zoologist)

Mr. Eisenbart has extensive experience in natural communities in the southwestern United States, specifically the states of California, Nevada, and Idaho. He has worked for both the private and public sectors, performing zoological studies on sensitive and endangered species and their habitats. Though knowledgeable of birds and mammals, Mr. Eisenbart specializes in reptiles and amphibians and has extensive experience in identifying rare, sensitive, and endangered species. Mr. Eisenbart is experienced in coordinating biological studies with agencies such as the California Department of Fish & Game (CDFG), U.S. Fish & Wildlife Service (USFWS), and the U.S. Department of the Interior Bureau of Land Management (BLM). His biological expertise in desert areas as well as coastal southern California is a great asset for habitat management planning for development projects in the Southwest. Mr. Eisenbart also has experience in the preparation of habitat restoration plans for wetland and terrestrial habitats of western San Diego County.

Education/Certifications:

Bachelor of Science in Environmental and Systematic Biology, 1989, California Polytechnic State University, San Luis Obispo.

Certified Associate Ecologist, Ecological Society of America.

Certified by the Bureau of Land Management to Conduct Surveys for Flat-tailed Horned Lizard.

Permits:

U.S. Fish and Wildlife Service 10(a)(1)(A) Permit #PRT-758168 for Stephens' Kangaroo Rat (currently can work under direct supervision of another permittee; permit to work alone pending).

U.S. Fish and Wildlife Service 10(a)(1)(A) Permit #PRT-777414 for California Gnatcatcher.

U.S. Fish and Wildlife Service Desert Tortoise Handling Permit pursuant to Biological Opinion (1-6-92-F-39) for Eagle Mountain Landfill.

Memorandum of Understanding (MOU) with the CDFG for Stephens' Kangaroo Rat (pending).

Memorandum of Understanding with the California Department of Fish and Game Related to Desert Tortoise at Eagle Mountain Landfill.

California Department of Fish and Game Scientific Collector's Permit (#0295).

Pete Famolaro, Biologist (Project Zoologist)

As an experienced field biologist, Mr. Famolaro is responsible for conducting botanical and zoological surveys, including directed surveys for rare and endangered species. He analyzes potential impacts to species and habitat that may result from proposed development and prepares technical reports that provide recommendations to alleviate these impacts. Mr. Famolaro is knowledgeable of both CEQA and NEPA and is skilled in vegetation mapping, mitigation monitoring, wetland delineation according to the U.S. Army Corps of Engineers methodologies, design and implementation of habitat restoration plans, and consultation with resource agencies (California Department of Fish and Game and U.S. Fish and Wildlife Service).

Education/Certifications:

Bachelor of Arts, Resource and Environmental Geography, Minor in Biology/Ecology, San Diego State University (SDSU), 1991. Postbaccalaureate study in Biology, SDSU, 1994.

Certified Associate Ecologist, Ecological Society of America (ESA).

Wetland Training Institute, Basic Wetland Delineation Course, 1993.

Permits:

U.S. Fish and Wildlife Service 10(a)(1)(A) Permit #PRT-797665 for Least Bell's Vireo Surveys and Nest Monitoring

U.S. Fish and Wildlife Service 10(a)(1)(A) Permit #PRT-797665 for California Gnatcatcher for Surveys and Nest Monitoring

U.S. Fish and Wildlife Service Desert Tortoise Handling Permit Pursuant to Biological Opinion (1-6-92-F-39) for Eagle Mountain Landfill

Memorandum of Understanding with the California Department of Fish and Game Related to Desert Tortoise at Eagle Mountain Landfill

California Department of Fish and Game Scientific Collector's Permit (#0293)

Julie Vanderwier, Senior Biologist (Project Botanist)

Ms. Vanderwier has over 15 years of experience in botanical analyses, field research, technical reports, and permit applications. She has a diverse background, having worked with the federal government, the University of California, public and private resource agencies, and the private sector. Ms. Vanderwier has considerable experience working with coastal and insular ecosystems in central and southern California.

Education/Certifications:

Master of Science, Biological Sciences (Plant Ecology and Taxonomy), California Polytechnic State University, San Luis Obispo, 1987.

Bachelor of Science, Biological Sciences (Field Biology), California Polytechnic State University, San Luis Obispo, 1977.

Certified as a Biologist for the Counties of San Diego and Riverside, California.

Certified Ecologist, Ecological Society of America.

Permits:

U.S. Fish and Wildlife Service 10(a)(1)(A) Permit #PRT-797665 for California Gnatcatcher Surveys

U.S. Fish and Wildlife Service 10(a)(1)(A) Permit #PRT-797665 for Riverside Fairy Shrimp

U.S. Fish and Wildlife Service Desert Tortoise Handling Permit to Biological Opinion (1-6-92-F-39) for Eagle Mountain Landfill

Memorandum of Understanding with the California Department of Fish and Game Related to Desert Tortoise at Eagle Mountain Landfill

California Department of Fish and Game Scientific Collector's Permit (#2909)

California Department of Fish and Game Scientific Collector's Permit for Rare and Endangered Plant Species

Jessa Netting, Biologist (Project Entomologist)

Ms. Netting has conducted biological resource surveys in many ecosystems including desert, coastal sage scrub, and chaparral, and has prepared documentation of the results. She has prepared revegetation plans for upland and riparian habitats and restoration plans for vernal pools. Her field experience has concentrated on southern California and Arizona. She coordinates with state and federal agencies, local jurisdictions, and clients concerning biological resources. In addition to her work at RECON, Ms. Netting has conducted extensive research on animal species including arthropods, amphibians, reptiles, birds, and mammals. She is a member of the following entomological organizations: Xerces Society and Lorquin Society.

Education/Certifications:

Bachelor of Science, Zoology, University of California at Davis, 1991.

Certified Associate Ecologist, Ecological Society of America.

Permits:

U.S. Fish and Wildlife Service 10(a)(1)(A) Permit #PRT-777414 for California Gnatcatcher (pending).

U.S. Fish and Wildlife Service 10(a)(1)(A) Permit #PRT-777414 for Riverside Fairy Shrimp.

U.S. Fish and Wildlife Service Desert Tortoise Handling Permit Pursuant to Biological Opinion (1-6-92-F-39) for Eagle Mountain Landfill.

Memorandum of Understanding with the California Department of Fish and Game Related to Desert Tortoise at Eagle Mountain Landfill.

California Department of Fish and Game Scientific Collector's Permit (#0294).

Bobbie Stephenson, Manager, Resources Group (Project Zoologist)

Ms. Stephenson has conducted biological surveys for sensitive, rare, and endangered species; assessed project-related impacts to biological resources; and conducted mitigation planning since 1981. Ms. Stephenson has also prepared revegetation plans and monitoring programs for the restoration of disturbed terrestrial habitats and has prepared permit applications for the California Department of Fish and Game (CDFG) and the U.S. Army Corps of Engineers (USACE). Her field experience includes chaparral, coastal sage scrub riparian, vernal pool, and other habitats in coastal southern California as well as desert projects in Arizona and California. She has extensive experience with sensitive species surveys, vegetation mapping, ecological resources evaluation, impact analysis, Section 401/404 for the Clean Water Act, Section 7 (Endangered Species Act) consultation with USFWS, and CDFG 1601-1603 Streambed Alteration Agreements.

Education/Certifications:

Master of Science, Biology, Botany emphasis, San Diego State University, 1985.

Bachelor of Science, Botany (minor in geology), San Diego State University, 1981.

Certified Biologist for the Counties of San Diego and Riverside.

Certified Ecologist, Ecological Society of America.

Permits:

U.S. Fish and Wildlife Service 10(a)(1)(A) Permit #PRT-797665 for Least Bell's Vireo Surveys

U.S. Fish and Wildlife Service 10(a)(1)(A) Permit #PRT-797665 for California Gnatcatcher Surveys

U.S. Fish and Wildlife Service Desert Tortoise Handling Permit to Biological Opinion (1-6-92-F-39) for Eagle Mountain Landfill

Memorandum of Understanding with the California Department of Fish and Game Related to Desert Tortoise at Eagle Mountain Landfill

California Department of Fish and Game Scientific Collector's Permit (#1329)

Mark Dodero, Biologist (Project Zoologist, Small Mammals)

As an experienced field biologist for over 17 years, Mr. Dodero is responsible for conducting botanical and zoological surveys, including directed surveys for rare and endangered species such as desert tortoise, coastal California gnatcatcher, and least Bell's vireo. He has had extensive small-mammal trapping experience, which includes tagging small mammals. Mr. Dodero also performs vegetation mapping of sensitive species habitats including the Stephens' kangaroo rat. He analyzes potential impacts to species and habitat which may result from proposed development and prepares technical reports which provide recommendations to alleviate these impacts. Mr. Dodero also prepares mitigation and monitoring plans for sensitive species.

Education/Certifications:

Master's Program, Systematic Botany, San Diego State University, 1988 to present.

Teaching Credential, Secondary Education, San Diego State University, 1985.

Bachelor of Science, Zoology, San Diego State University, 1983.

Associate of Arts, Life Science, San Diego City College, 1980.

Certified by Bureau of Land Management for flat-tailed horned lizard surveys, 1994.

Permits:

U.S. Fish and Wildlife Service 10(a)(1)(A) Permit #PRT-702631 for Least Bell's Vireo and California Gnatcatcher with State Parks (can work under direct supervision of another permittee).

U.S. Fish and Wildlife Service 10(a)(1)(A) Permit #PRT-777414 for California Gnatcatcher (pending).

U.S. Fish and Wildlife Service 10(a)(1)(A) Permit #PRT-758168 for Stephens' Kangaroo Rat (pending).

Memorandum of Understanding with the California Department of Fish and Game for Stephens' Kangaroo Rat (pending).

Memorandum of Understanding with CDFG for California Gnatcatcher, Least Bell's Vireo, Willow Flycatcher, and San Diego Cactus Wren.

California Department of Fish and Game Scientific Collector's Permit (#9359).

Terri Ayers, Biologist (Project Assistant)

Ms. Ayers is an experienced geographic information system (GIS) technician for ARC/INFO computer applications. Her responsibilities include mapping sensitive environmental resources and entering geographical information into a digital database system for the analysis of potential impacts upon sensitive resources and for applied land use planning. She has served as the supervising technician in the construction of numerous digital databases for large-scale environmental and planning applications. She also conducts field surveys for sensitive plant and animal species and has participated in the U.S. Fish and Wildlife Service (USFWS)-authorized demonstration on the proper methods for handling desert tortoise eggs and constructing artificial desert tortoise burrows.

Education/Certifications:

Master of Arts, San Diego State University, Geography with an emphasis in biogeography and GIS, expected 1995.

Bachelor of Arts, California State University, Geography, 1987.

Bachelor of Arts, California State University, Environmental Studies, 1984.

Permits:

U.S. Fish and Wildlife Service 10(a)(1)(A) Permit #PRT-797665 for California Gnatcatcher Surveys (authorized to work under direct supervision of another permittee)

APPENDIX G
Site Flora

Appendix G
Plant Species Observed on the Newhall Ranch Property

Scientific Name/Family	Common Name	Origin
Amaranthaceae Amaranth Family		
Amaranthus albus L.	Tumbleweed	I
Anacardiaceae Sumac or Cashew Family		
Rhus ovata Wats.	Sugar bush	N
Rhus trilobata Torrey & A. Gray	Skunkbrush	N
Schinus molle L.	Peruvian pepper tree	I
Toxicodendron diversilobum (Torrey & A. Gray) E. Greene	Western poison oak	N
Apiaceae Carrot Family		
Apium graveolens L.	Celery	I
Bowlesia incana Ruiz Lopez & Pavon	Bowlesia	N
Coriandrum sativum L.	Coriander, Cilantro	I
Lomatium utriculatum (Torrey & A. Gray) J. Coulter & Rose	Bladder parsnip	N
Sanicula bipinnata Hook. & Arn.	Poison sanicle	N
Apocynaceae Dogbane Family		
Apocynum cannabinum L.	Indian hemp	N
Asclepidaceae Milkweed Family		
Asclepias californica E. Greene	California or Round-hooded milkweed	N
Asclepias fascicularis Decne.	Narrow-leaf milkweed	N
Asteraceae Sunflower Family		
Acourtia microcephala DC.	Purple-head, Sacapellote	N
Ambrosia acanthicarpa Hook.	Annual bur-sage	N
Ambrosia psilostachya DC.	Western ragweed	N
Artemisia californica Less.	California sagebrush	N
Artemisia douglasiana	Mugwort	N
Artemisia dracunculus L.	Tarragon	N
Artemisia tridentata Nutt. ssp. *tridentata*	Big sagebrush	N
Baccharis emoryi A. Gray	Chaparral broom	N
Baccharis pilularis DC.	Coyote bush	N

Appendix G (con't.)
Plant Species Observed on the Newhall Ranch Property

Family/Scientific Name	Common Name	Origin
Asteraceae Sunflower Family (con't.)		
Baccharis salicifolia (Ruiz Lopez & Pavón) Pers.	Mule fat, seep-willow	N
Brickellia californica (Torrey & A. Gray) A. Gray	California brickellbush	N
Centaurea melitensis L.	Tocalote	I
Chaenactis glabriuscula DC. var. *glabriuscula*	Yellow pincushion	N
Chamomilla suaveolens (Pursh) Rydb.	Pineapple weed	I
Cirsium occidentale (Nutt.) Jepson var. californicum (A. Gray) Keil & C. Turner	California thistle	N
Cirsium vulgare (Savi) Ten.	Bull thistle	I
Cnicus benedictus L.	Blessed thistle	I
Conyza canadensis (L.) Cronq.	Horseweed	N
Coreopsis bigelovii (A. Gray) H.M. Hall	Desert coreopsis	N
Cotula australis (Sieber) Hook.f.	Australian brass-buttons	I
Cotula coronopifolia L.	Brass-buttons	I
Encelia californica Nutt.	Common encelia	N
Ericameria palmeri (A. Gray) H.M. Hall var. *pachylepis* (H.M. Hall) G. Nesom	Goldenbush	N
Erigeron foliosus Nutt. var. *foliosus*	Leafy fleabane	N
Eriophyllum confertiflorum (DC.) A. Gray var. *confertiflorum*	Golden-yarrow	N
Filago arizonica A. Gray	Arizona filago	N
Filago californica Nutt.	California filago, Fluffweed	N
Gnaphalium luteo-album L.	Everlasting	I
Hazardia squarrosa (Hook. & Arn.) E. Greene var. *grindelioides* (DC.) Clark	Saw-toothed goldenbush	N
Helianthus annuus L.	Common sunflower	N
Helianthus gracilentus A. Gray	Slender sunflower	N
Hemizonia fasciculata (DC.) Torrey & Gray	Tarplant	N
Heterotheca grandiflora Nutt.	Telegraph weed	N
Hypochaeris glabra L.	Smooth cat's-ear	I
Isocoma menziesii (Hook. & Arn.) G. Nesom var. *vernonioides* (Nutt.) G. Nesom	Coast goldenbush	N
Iva axillaris Pursh ssp. *robustior* (Hook.) Bassett	Poverty weed	N
Lactuca serriola L.	Prickly lettuce	I
Lasthenia californica Lindley	Goldfields	N
Layia glandulosa (Hook.) Hook. & Arn.	White layia	N
Layia platyglossa (F. & M.) A. Gray	Tidy-tips	N
Lepidospartum squamatum (A. Gray) A. Gray	Scale-broom	N

Appendix G (con't.)
Plant Species Observed on the Newhall Ranch Property

Family/Scientific Name	Common Name	Origin
Asteraceae Sunflower Family (con't.)		
Lessingia filaginifolia (Hook. & Arn.) M.A. Lane var. *filaginifolia*	California-aster	N
Lessingia lemmonii A. Gray var. *lemmonii*	Lessingia	N
Malacothrix saxatilis (Nutt.) Torrey & A. Gray var. *tenuifolia* (Nutt.) A. Gray	Malacothrix	N
Pluchea odorata (L.) Cass.	Salt marsh fleabane	N
Pluchea sericea (Nutt.) Cov.	Arrow weed	N
Rafinesquia californica Nutt.	California chicory	N
Senecio californicus DC.	California groundsel	N
Senecio flaccidus Less. var. *douglasii* (DC.) B. Turner & T. Barkley	Sandwash groundsel	N
Senecio vulgaris L.	Common groundsel	I
Silybum marianum (L.) Gaertner	Milk thistle	I
Solidago confinis Nutt.	Southern goldenrod	N
Sonchus asper (L.) Hill ssp. *asper*	Prickly sow thistle	I
Sonchus oleraceus L.	Common sow thistle	I
Stephanomeria virgata Benth. ssp. *virgata*	Slender stephanomeria	N
Tetradymia comosa A. Gray	Cotton-thorn	N
Uropapus lindleyi (DC.) Nutt.	Silver puffs	N
Xanthium spinosum L.	Spiny cocklebur	N
Xanthium strumarium L.	Cocklebur	N
Betulaceae Birch Family		
Alnus rhombifolia Nutt.	White alder	N
Boraginaceae Borage Family		
Amsinckia menziesii (Lehm.) Nelson & J.F. Macbr. var. *intermedia* (Fischer & C. Meyer) Ganders	Rancher's fireweed	N
Amsinckia menziesii (Lehm.) Nelson & J.F. Macbr. var. *menziesii*	Rancher's fireweed	N
Cryptantha sp.	Cryptantha	N
Heliotropium curassavicum L.	Chinese pusley	N
Pectocarya linearis (Ruiz Lopez & Pavon) DC. ssp. *ferocula*	Comb-bur	N
Plagiobothrys nothofulvus (A. Gray) A. Gray	Popcornflower	N

Appendix G (con't.)
Plant Species Observed on the Newhall Ranch Property

Family/Scientific Name	Common Name	Origin
Brassicaceae Mustard Family		
Brassica nigra (L.) Koch.	Black mustard	I
Capsella bursa-pastoris (L.) Medikus	Shepard's purse	I
Erysimum capitatum (Douglas) E. Greene ssp. *capitatum*	Western wallflower	N
Hirschfeldia incana (L.) Lagr.-Fossat	Short-pod mustard	I
Lepidium virginicum L. var. *virginicum*	Tall peppergrass	I
Raphanus sativus L.	Radish	I
Rorippa nasturtium-aquaticum (L.) Hayek	Water cress	I
Sisymbrium altissimum L.	Tumble or Jim Hill mustard	I
Sisymbrium irio L.	London rocket	I
Sisymbrium officinale L.	Hedge mustard	I
Sisymbrium orientale L.	Mustard	I
Thysanocarpus laciniatus Torrey & A. Gray	Lacepod	N
Tropidocarpum gracile Hook.	Dobie pod	N
Cactaceae Cactus Family		
Opuntia basilaris Engelm. & Bigel. var. *basilaris*	Beavertail cactus	N
Opuntia littoralis (Engelm.) Cockerell.	Shore cactus	N
Opuntia prolifera Engelm.	Cholla	N
Capparaceae Caper Family		
Isomeris arborea Nutt.	Bladderpod	N
Caprifoliaceae Honeysuckle Family		
Lonicera interrupta Benth.	Chaparral honeysuckle	N
Sambucus mexicana C. Presl	Blue elderberry	N
Caryophyllaceae Pink Family		
Silene gallica L.	Windmill pink	I
Spergularia bocconii (Scheele) Merino.	Sand spurrey	I
Spergularia marina (L.) Griseb.	Salt marsh sand spurrey	N
Stellaria media (L.) Villars	Common chickweed	I

Appendix G (con't.)
Plant Species Observed on the Newhall Ranch Property

Family/Scientific Name	Common Name	Origin
Chenopodiaceae Goosefoot Family		
Atriplex canescens (Parsh) Nutt.	Fourwing saltbush, shad-scale	N
Atriplex lentiformis (Torrey) S. Watson ssp. *lentiformis*	Big saltbush	N
Atriplex semibaccata R.Br.	Australian saltbush	I
Atriplex triangularis Willd.	Spearscale	N
Bassia hyssopifolia (Pall.) Kuntze	Bassia	I
Chenopodium album L.	Lamb's quarters, pigweed	I
Chenopodium ambrosioides L.	Mexican tea	I
Chenopodium botrys L.	Jerusalem oak	I
Chenopodium californicum (S. Watson) S. Watson	California pigweed	N
Halogeton glomeratus (M. Bieb.) C. Meyer	Halogeton	I
Salsola tragus L.	Russian thistle, tumbleweed	I
Convolvulaceae Morning-glory Family		
Calystegia macrostegia (E. Greene) Brummitt ssp. *cyclostegia* (House) Brum.	Chaparral morning-glory	N
Calystegia macrostegia (E. Greene) Brummitt ssp. *intermedia* (Abrams) Brum.	Chaparral morning-glory	N
Calystegia peirsonii (Abrams) Brummitt	Peirson's morning-glory	N
Convolvulus arvensis L.	Bindweed, Orchard morning-glory	I
Cressa truxillensis Kunth.	Alkali weed	N
Crassulaceae Stonecrop Family		
Crassula connata (Ruiz Lopez & Pavon) A. Berger	Pygmy-weed	N
Dudleya lanceolata (Nutt.) Britt. & Rose	Live-for-ever	N
Cucurbitaceae Gourd Family		
Cucurbita foetidissima Kunth	Calabazilla	N
Marah macrocarpus (E. Greene) E. Greene	Wild cucumber	N
Cuscutaceae Dodder Family		
Cuscuta californica Hook. & Arn. var. *californica*	Dodder	N

Appendix G (con't.)
Plant Species Observed on the Newhall Ranch Property

Family/Scientific Name	Common Name	Origin
Cyperaceae Sedge Family		
Carex praegracilis W. Boott	Sedge	N
Cyperus involucratus Rottb.	Umbrella plant	I
Eleocharis parishii Britton	Parish spikerush	N
Scirpus acutus Bigelow var. *occidentalis* (S. Watson) Beetle	Bulrush	N
Scirpus americanus Pers.	Three-square	N
Scirpus maritimus L.	Prairie bulrush	N
Ericaceae Heath Family		
Arctostaphylos glandulosa Eastw.	Manzanita	N
Arctostaphylos glauca Lindley	Big-berried manzanita	N
Euphorbiaceae Spurge Family		
Chamaesyce polycarpa (Benth.) Millsp.	Spurge	N
Croton californicus Muell.-Arg.	California croton	N
Eremocarpus setigerus (Hook.) Benth.	Dove weed	N
Ricinus communis L.	Castor bean	I
Stillingia linearifolia S. Watson	Desert stillingia	N
Fabaceae Legume Family		
Astragalus didymocarpus Hook. & Arn. var. *didymocarpus*	Twin locoweed	N
Astragalus trichopodus (Nutt.) A.Gray var. *phoxus*	Locoweed	N
Lathyrus vestitus Nutt. var. *vestitus*	Wild pea	N
Lotus hamatus E. Greene	Grab lotus	N
Lotus scoparius (Nutt. in Torrey & A. Gray) Ottley var. *scoparius*	California broom	N
Lotus strigosus (Nutt.) E. Greene	Bishop's lotus	N
Lotus wrangelianus Fischer & C. Meyer	Lotus	N
Lupinus andersonnii S. Watson	Lupine	N
Lupinus bicolor Lindl.	Miniature lupine	N
Lupinus excubitus M.E. Jones var. *hallii* (Abrams) C.P. Smith	Grape soda lupine	N
Lupinus hirsutissimus Benth.	Stinging lupine	N
Lupinus microcarpus Sims var. *densiflorus* (Benth.) Jepson	Chick lupine	N
Lupinus microcarpus Sims var. *microcarpus*	Chick lupine	N

Appendix G (con't.)
Plant Species Observed on the Newhall Ranch Property

Family/Scientific Name	Common Name	Origin
Fabaceae Legume Family (con't.)		
Lupinus sparsiflorus Benth.	Coulter's lupine	N
Lupinus succulentus Koch	Arroyo lupine	N
Lupinus truncatus Hook. & Arn.	Chaparral lupine	N
Medicago orbicularis (L.) Bartal.	Burclover	I
Medicago polymorpha L.	California bur clover	I
Melilotus alba Medikus	White sweet clover	I
Melilotus indica (L.) All.	Sourclover	I
Trifolium albopurpureum Torrey & A. Gray var. *albopurpureum*	Rancheria clover	N
Trifolium fucatum Lindley	Bull clover	N
Trifolium gracilentum Torrey & A. Gray var. *gracilentum*	Pin-point clover	N
Trifolium willdenovii Sprengel	Tomcat clover	N
Vicia americana Willd. var. *americana*	American vetch	N
Vicia villosa Roth ssp. *varia* (Host) Corbiere	Winter vetch	I
Fagaceae Oak Family		
Quercus agrifolia Nee	Coast live oak, Encina	N
Quercus berberidifolia Liebm.	Scrub oak	N
Quercus lobata Nee	Valley oak, Roble	N
Geraniaceae Geranium Family		
Erodium botrys (Cav.) Bertol.	Pin-clover	I
Erodium cicutarium (L.) L. Her.	White-stemmed filaree	I
Erodium moschatum (L.) L. Her.	Green-stemmed filaree	I
Grossulariaceae Gooseberry Family		
Ribes aureum Pursh var. *gracillimum* (Cov. & Britton) Jepson	Golden current	N
Ribes malvaceum Sm. (J.C.) var. *malvaceum*	Chaparral current	N

Appendix G (con't.)
Plant Species Observed on the Newhall Ranch Property

Family/Scientific Name	Common Name	Origin
Hydrophyllaceae Waterleaf Family		
Emmenanthe penduliflora Benth. var. *penduliflora*	Whispering bells	N
Eriodictyon trichocalyx A.A. Heller var. *trichocalyx*	Hairy yerba santa	N
Eucrypta chrysanthemifolia (Benth.) E. Greene var. *chysanthemifolia*	Eucrypta	N
Phacelia cicutaria E. Greene var. *hispida* (A. Gray) J. Howell	Caterpillar phacelia	N
Phacelia ramosissima Lehm. var. *latifolia* (Torrey) Cronq.	Shrubby phacelia	N
Phacelia tanacetifolia Benth.	Phacelia	N
Phacelia viscida (Benth.) Torrey	Sticky phacelia	N
Pholistoma auritum (Lindley) Lilja var. *auritum*	Fiesta flower	N
Juncaceae Rush Family		
Juncus bufonius L. var. *bufonius*	Toad rush	N
Juncus mexicanus Willd.	Mexican rush	N
Juncus xiphioides E. Meyer	Iris-leaved rush	N
Juglandaceae Walnut Family		
Juglans californica S. Watson var. *californica*	Southern California black walnut	N
Lamiaceae Mint Family		
Lamium amplexicaule L.	Dead nettle, henbit	I
Marrubium vulgare L.	Horehound	I
Monardella lanceolata A. Gray	Mustang mint	N
Salvia apiana Jepson	White sage	N
Salvia columbariae Benth.	Chia	N
Salvia leucophylla E. Greene	Purple sage	I
Salvia mellifera E. Greene	Black sage	N
Trichostema lanatum Benth.	Woolly bluecurls	N
Trichostema lanceolatum Benth.	Vinegar weed	N
Lauraceae Laurel Family		
Umbellularia californica (Hook. & Arn.) Nutt.	California bay	N

Appendix G (con't.)
Plant Species Observed on the Newhall Ranch Property

Family/Scientific Name	Common Name	Origin
Lemnaceae		
Lemna sp.	Duckweed	N
Liliaceae Lily Family		
Asparagus officinalis L. ssp. *officinalis*	Garden asparagus	I
Bloomeria crocea (Torrey) Cov.	Common goldenstar	N
Calochortus clavatus S. Watson ssp. *clavatus*	Club-haired mariposa lily	N
Calochortus venustus Benth.	Mariposa lily	N
Chlorogalum pomeridianum (DC.) Kunth var. *pomeridianum*	Soap plant, amole	N
Dichelostemma capitatum Alph. Wood	Blue dicks	N
Yucca whipplei Torrey	Our Lord's candle	N
Lythraceae Loosestrife Family		
Lythrum californicum Torrey & A. Gray	California loosestrife	N
Lythrum hyssopifolium L.	Grass poly	N
Malvaceae Mallow Family		
Malacothamnus fasciculatus (Torrey & A. Gray) E. Greene	Chaparral mallow	N
Malva parviflora L.	Cheeseweed, little mallow	I
Myrtaceae Myrtle Family		
Eucalyptus spp.	Eucalyptus	I
Nyctaginaceae Four O'Clock Family		
Mirabilis californica A. Gray	Wishbone bush	N
Onagraceae Evening Primrose Family		
Camissonia bistorta (Torrey & A. Gray) Raven	California sun cup	N
Camissonia boothii (Douglas) Raven ssp. *decorticans* (Hook. & Arn.) Raven	Shredding evening primrose	N
Camissonia californica (T.& G.) Raven	False-mustard	N
Camissonia strigulosa (Fischer & C. Meyer) Raven	Sun cup	N
Clarkia bottae (Spach) Harlan Lewis & M. Lewis	Punchbowl godetia	N

Appendix G (con't.)
Plant Species Observed on the Newhall Ranch Property

Family/Scientific Name	Common Name	Origin
Onagraceae Evening Primrose Family (con't)		
Clarkia epilobioides (Nutt.) Nelson & J.F. Macbr.	Canyon godetia	N
Clarkia purpurea (Curtis) Nelson & J.F. Macbr. ssp. *purpurea*	Valley godetia	N
Clarkia unguiculata Lindley	Elegant clarkia	N
Epilobium ciliatum Ref. ssp. *ciliatum*	Sticky willowweed	N
Oenothera californica (Wats.) Watson	California evening primrose	N
Paeoniaceae Peony Family		
Paeonia californica Torrey & A. Gray	Peony	N
Papaveraceae Poppy Family		
Argemone munita Durand & Hilg.	Chicalote	N
Dendromecon rigida Benth.	Bush poppy	N
Eschscholzia californica Cham.	California poppy	N
Platystemon californicus Benth.	Cream-cups	N
Plantaginaceae Plantain Family		
Plantago erecta Morris	Dot-seed plantain	N
Plantago lanceolata L.	English plantain	I
Plantago major L.	Common plantain	I
Platanaceae Plane Tree, Sycamore Family		
Platanus racemosa Nutt.	Western sycamore	N
Poaceae Grass Family		
Agrostis gigantea Roth	Redtop	I
Arundo donax L.	Giant reed	I
Avena barbata Link	Slender wild oat	I
Avena fatua L.	Wild oat	I
Bromus diandrus Roth.	Ripgut grass	I
Bromus hordaceus L.	Smooth brome	I
Bromus madritensis L. ssp. *rubens* (L.) Husnot	Foxtail chess	I

Appendix G (con't.)
Plant Species Observed on the Newhall Ranch Property

Family/Scientific Name	Common Name	Origin
Poaceae Grass Family (con't.)		
Bromus tectorum L.	Cheat grass, downy brome	I
Cynodon dactylon (L.) Pers.	Bermuda grass	I
Distichlis spicata (L.) E. Greene	Saltgrass	N
Echinochloa crus-galli (L.) P. Beauv.	Barnyard grass	I
Eragrostis mexicana (Hornem.) Link ssp. *virescens* (C. Presl) Koch & Sanchez	Orcutt eragrostis	N
Hordeum marinum Hudson ssp. *gussoneanum*	Mediterranean barley	I
Hordeum murinum L. ssp. *leporinum* (Link) Arcang	Wild barley	I
Hordeum vulgare L.	Common barley	I
Koeleria macrantha (Ledeb.) J.A. Shultes	Junegrass	N
Lamarckia aurea (L.) Moench.	Goldentop	I
Leptochloa uninervia (C. Presl) A. Hitchc. & Chase	Mexican sprangletop	I
Leymus condensatus (C. Presl) A. Love	Giant ryegrass	N
Leymus triticoides (Buckley) Pilger	Beardless wild rye	N
Lolium multiflorum L.	Italian ryegrass	I
Lolium perenne L.	Perennial ryegrass	I
Melica imperfecta Trin.	California melic	N
Nassella lepida (A. Hitchc.) Barkworth	Foothill needlegrass	N
Nassella pulchra (A. Hitchc.) Barkworth	Purple needlegrass	N
Paspalum distichum L.	Knot grass	N
Phalaris canariensis L.	Canary grass	I
Poa annua L.	Annual bluegrass	I
Polypogon monspeliensis (L.) Desf.	Annual beard grass	I
Schismus barbatus (L.) Thell.	Mediterranean grass	I
Vulpia myuros (L.) var. *myuros*	Rattail fescue	I
Vulpia octoflora (Walt.) Rydb. var. *octoflora*	Six-weeks fescue	N
Polemoniaceae Phlox Family		
Allophyllum divaricatum (Nutt.) A.D. Grant & V. Grant	Allophyllum	N
Eriastrum densifolium (Benth,) H. Mason ssp. *mohavense*	Woolystar	N
Eriastrum sapphirinum (Eastw.) H. Mason	Sapphire eriastrum	N
Gilia achilleifolia Benth. ssp. *achilleifolia*	Blue gilia	N

Appendix G (con't.)
Plant Species Observed on the Newhall Ranch Property

Family/Scientific Name	Common Name	Origin
Polemoniaceae Phlox Family (con't.)		
Gilia capitata Sims ssp. *abrotanifolia* (E. Greene) V. Grant	Ball gilia	N
Leptodactylon californicum Hook. & Arn.	Prickly phlox	N
Linanthus parviflorus (Benth.) E. Greene.	???linanthus	N
Navarretia atractyloides (Benth.) Hook. & Arn.	Prickly navarretia	N
Polygonaceae Buckwheat Family		
Chorizanthe staticoides Benth.	Turkish rugging	N
Chorizanthe xantii S. Watson var. *xantii*	Spineflower	N
Eriogonum elongatum Benth. var. *elongatum*	Long-stemmed eriogonum	N
Eriogonum fasciculatum Benth. var. *fasciculatum*	California buckwheat	N
Eriogonum fasciculatum Benth. var. *foliolosum* (Nutt.) Abrams	California buckwheat	N
Eriogonum fasciculatum Benth. var. *polifolium* (A. DC.) Torrey & A. Gray	California buckwheat	N
Eriogonum gracile Benth. var. *gracile*	Slender buckwheat	N
Polygonum argyrocoleon Kunze	Knotweed, smartweed	I
Polygonum arenastrum Boreau	Common knotweed, doorweed	I
Polygonum lapathifolium L.	Willow weed	N
Pterostegia drymarioides Fischer & C. Meyer	California thread-stem	N
Rumex acetosella L.	Sheep sorrel	I
Rumex crispus L.	Curly dock	I
Rumex hymenosepalus Torrey	Wild rhubarb, canaigre	N
Portulacaceae Purslane Family		
Calandrinia ciliata (Ruiz Lopez & Pavon) DC.	Red maids	N
Claytonia perfoliata Willd.	Miner's lettuce	N
Pteridaceae Brake Family		
Adiantum jordani K.Mull.	California maiden-hair fern	N
Pentagramma triangularis (Kaulf.) G. Yatskievych, M.D. Windham & E. Wollenweber ssp. *triangularis*	Goldback fern	N

Appendix G (con't.)
Plant Species Observed on the Newhall Ranch Property

Family/Scientific Name	Common Name	Origin
Ranunculaceae Buttercup Family		
Clematis pauciflora Nutt.	Ropevine	N
Delphinium parryi A. Gray ssp. *parryi*	Parry's larkspur	N
Rhamnaceae Buckthron Family		
Ceanothus crassifolius Torrey	Hoaryleaf ceanothus	N
Ceanothus leucodermis E. Greene	Chaparral whitehorn	N
Ceanothus oliganthus Nutt. var. *oliganthus*	Ceanothus	N
Rhamnus crocea Nutt.	Spiny redberry	N
Rhamnus ilicifolia Kell.	Holly-leaf redberry	N
Rosaceae Rose Family		
Adenostoma fasciculatum Hook. & Arn.	Chamise	N
Cercocarpus betuloides Torrey & A. Gray Birch-Leaf	Mountain-mahogany	N
Heteromeles arbutifolia (Lindley) Roemer	Toyon, Christmas berry	N
Prunus ilicifolia (Nutt.) Walp. ssp. *ilicifolia*	Holly-leafed cherry, Islay	N
Prunus virginiana L. var. *demissa* (Nutt.) Torrey	Western choke-cherry	N
Rosa californica C. & S.	California rose	N
Rubus ursinus C. & S.	California blackberry	N
Rubiaceae Madder Family		
Galium angustifolium Nutt. *angustifolium*	Narrow-leaf bedstraw	N
Galium aparine L.	Goose grass	I
Galium nuttallii A. Gray ssp. *nuttallii*	San Diego bedstraw	N
Salicaceae Willow Family		
Populus balsamifera L. ssp. *trichocarpa* (Torrey & A. Gray) Brayshaw	Black cottonwood	N
Populus fremontii Wats. ssp. *fremontii*	Fremont cottonwood, alamo	N
Salix exigua Nutt.	Narrow-leaved willow	N
Salix laevigata Bebb	Red willow	N
Salix lasiolepis Benth.	Arroyo willow	N

Appendix G (con't.)
Plant Species Observed on the Newhall Ranch Property

Family/Scientific Name	Common Name	Origin
Selaginellaceae Spike-moss Family		
Selaginella bigelovii L. Underw.	Bigelow clubmoss	N
Saururaceae Lizard's-tail Family		
Anemopsis californica (Nutt.) Hook. & Arn.	Yerba mansa	N
Scrophulariaceae Figwort Family		
Antirrhinum coulterianum Benth.	White snapdragon	N
Castilleja affinis Hook. & Arn. ssp. *affinis*	Indian paint brush	N
Castilleja exserta (A.A. Heller) Chuang & Heckard	Purple owl's clover	N
Collinsia heterophylla Buist.	Chinese houses	N
Collinsia parryi A. Gray	Collinsia	N
Cordylanthus rigidus (Benth.) Jepson ssp. *setigerus* Chuang & Heckard	Thread-leaved bird's beak	N
Keckiella cordifolia (Benth.) Straw	Climbing penstemon	N
Mimulus aurantiacus Curtis	Bush monkeyflower	N
Mimulus brevipes Benth.	Hillside monkeyflower	N
Mimulus guttatus DC.	Common monkeyflower	N
Mimulus pilosus (Benth.) S. Watson	False monkeyflower	N
Penstemon centranthifolius (Benth.) Benth.	Scarlet bugler	N
Penstemon heterophyllus Lindley var. *heterophyllus*	Foothill penstemon	N
Veronica anagallis-aquatica L.	Water speedwell	I
Solanaceae Nightshade Family		
Datura wrightii Regel	Jimson weed	N
Nicotiana glauca Grah.	Tree tobacco	I
Nicotiana quadrivalvis Pursh	Indian tobacco	N
Solanum americanum Miller	Nightshade	I
Solanum douglasii Dunal	Douglas nightshade	N
Solanum xanti A. Gray	Purple nightshade	N
Tamaricaceae Tamarisk Family		
Tamarix sp.	Tamarisk	I

Appendix G (con't.)
Plant Species Observed on the Newhall Ranch Property

Family/Scientific Name	Common Name	Origin
Typhaceae Cattail Family		
Typha latifolia L.	Broad-leaved cattail	N
Urticaceae Nettle Family		
Urtica dioica L. ssp. *holosericea* (Nutt.) Thorne	Hoary nettle	N
Urtica urens L.	Dwarf nettle	I
Verbanaceae Vervain Family		
Verbena lasiostachys Link.	Western vervain	N
Violaceae Violet Family		
Viola pedunculata Torrey & A. Gray	Johnny-jump-up	N
Viscaceae Mistletoe Family		
Phoradendron macrophyllum (Englm.) Cockerell	Big leaf mistletoe	N
Vitaceae Grape Family		
Vitis girdiana Munson	Desert wild grape	N
Zygophyllaceae Caltrop Family		
Tribulus terrestris L.	Puncture vine	I

N - Native species
I - Introduced species

APPENDIX H
Site Fauna

Appendix H
Bird Species Observed on the Newhall Ranch or Occurring in the Region

Scientific Name	Common Name	Status	Obs	Habitat	Wi	Sp	Su	Au
PODICIPEDIDAE	GREBES							
Podilymbus podiceps	Pied-billed Grebe			Aq	C	C	U?	C
ARDEIDAE	HERONS and EGRETS							
Ixobrychus exilis hesperis	Least Bittern	C2/SC		Aq,Gr/OS,RW	U	U	U	U
Ardea herodias herodias	Great Blue Heron		O	Aq,Gr/OS,RW	C	C	C*	C
Casmerodius albus	Great Egret		O	Aq,Gr/OS,RW	U	U	R	U
Egretta thula thula	Snowy Egret		O	Aq,Gr/OS,RW	U	U	R	U
Bubulcus ibis	Cattle Egret			Gr/OS	R	R		R
Butorides virescens	Green Heron		O	Aq,OR,RW	U	U	U	U
Nycticorax nycticorax hoactli	Black-crowned Night-heron		O	Aq,OR,RW	C	C	C	C
ANATIDAE	GEESE and DUCKS							
Dendrocygna bicolor	Fulvous Whistling-duck	C2/SC		Aq/RW	U	U		
Anas crecca	Green-winged Teal		O	Aq,RW	C	C	R	C
Anas cyanoptera	Cinnamon Teal			Aq,RW	C	C	U	C
Anas platyrhynchos platyrhynchos	Mallard		O	Aq,RW	C	C	C?	C
Anas americana	American Wigeon			Aq,RW	C	C	Ca	C
Oxyura jamaicensis	Ruddy Duck			Aq,RW	C	C	U	C
CATHARTIDAE	VULTURES							
Cathartes aura	Turkey Vulture		O	RW,Gr/OS,Sc	C	C	C?	U
ACCIPITRIDAE	HAWKS and EAGLES							
Elanus leucurus	White-tailed Kite	SP	O	RW,Gr/OS,OR. Sc	U	U	U?	U
Circus cyaneus	Northern Harrier	SC	O	RW,Gr/OS,OR	U	U	R?	U
Accipiter striatus	Sharp-shinned Hawk	SC		RW,Gr/OS,Sc	U	U		U
Accipiter cooperii	Cooper's Hawk	SC	O	RW,Gr/OS,Sc	U	U	R*	U
Buteo lineatus elegans	Red-shouldered Hawk		O	RW,Gr/OS,Sc,OR	U	U	U?	U
Buteo jamaicensis	Red-tailed Hawk		O	RW,GR/OS,Sc	U	U	U?	U
Buteo swainsoni	Swainson's Hawk	ST		RW,Gr/OS,OR		Ca		Ca

Appendix H (con't.)
Bird Species Observed on the Newhall Ranch or Occurring in the Region

Scientific Name	Common Name	Status	Obs	Habitat	Wi	Sp	Su	Au
ACCIPITRIDAE (cont.)	HAWKS and EAGLES							
Buteo regalis	Ferruginous Hawk	C2		Gr/OS	R		R	
Aquila chrysaetos	Golden Eagle	SC/SP		Gr/OS,Sc	R	R	U	R
Falco sparverius	American Kestrel		O	RW,Gr/OS,OR,Sc	C	C	C*	C
Falco columbarius	Merlin	SC		Gr/OS,OR,Sc	U			U
Falco mexicanus	Prairie Falcon	SC		Gr/OS,OR,Sc	R	R	R?	R
Falco peregrinus anatum	American Peregrine Falcon	FE/SE		Gr/OS,OR	R	R	R	R
PHASIANIDAE	QUAIL							
Callipepla californica californica	California Quail		O	RW,Gr/OS,Sc	C	C	C*	C
RALLIDAE	RAILS and COOTS							
Porzana carolina	Sora			Aq	U	U		U
Fulica americana	American Coot			Aq	C	C	C*	C
CHARADRIIDAE	PLOVERS							
Charadrius vociferus vociferus	Killdeer		O	Aq,RW,OR	C	C	C*	C
Charadrius montanus	Mountain Plover	C2		OS	U			
SCOLOPACIDAE	SANDPIPERS							
Calidris minutilla	Least Sandpiper			Aq,OR	U	U		
Tringa hypoleucos	Spotted sandpiper		O	Aq,OR	U	U	R	
COLUMBIDAE	PIGEONS and DOVES							
Columba livia	Rock Dove			Gr/OS,DR	C	C	C*	C
Columba fasciata	Band-tailed Pigeon			RW,Gr/OS	R	R		R
*Columba livia**	Domestic Pigeon		O	RW, Gr/OS,DR	Ca	Ca	Ca	Ca
Streptopelia chinensis	Spotted Dove			RW,DR	Ca	Ca	Ca?	Ca
Zenaida macroura marginella	Mourning Dove		O	RW,Gr/OS,Sc,DR	C	C	C*	C
CUCULIDAE	CUCKOOS							
Coccyzus americanus occidentalis	Western Yellow-billed Cuckoo	SE		RW		Ca	Ca*	Ca
Geococcyx californianus	Greater Roadrunner		O	Sc,RW	U	U	U*	U

Appendix H (con't.)
Bird Species Observed on the Newhall Ranch or Occurring in the Region

Scientific Name	Common Name	Status	Obs	Habitat	Wi	Sp	Su	Au
TYTONIDAE	BARN OWLS							
Tyto alba pratincola	Barn Owl		O	RW,Gr/OS,Sc,DR	U	U	U*	U
STRIGIDAE	OWLS							
Bubo virginianus	Great Horned Owl		O	RW,Gr/OS,Sc,OR	U	U	U*	U
Speotyto (Athene) cunicularia hypugea	Western Burrowing Owl	C2/SC		Gr/OS,Sc	R	R	R?	R
Asio otus	Long-eared Owl	SC		RW	R		Ca?	
Asio flammeus	Short-eared Owl	SC		Gr/OS	U			
APODIDAE	SWIFTS							
Aeronautes saxatalis	White-throated Swift		O	Aq,RW,OR,Sc,DR	C	C	C*	C
TROCHILIDAE	HUMMINGBIRDS							
Archilochus alexandri	Black-chinned Hummingbird		O	RW,OR,Sc		U	U*	R
Calypte anna	Anna's Hummingbird		O	RW,Gr/OS,Sc,DR	C	C	C*	C
Calypte costae	Costa's Hummingbird		O	RW,OR,Sc		C	C*	U
Selasphorus rufus	Rufous Hummingbird			RW,Gr/OS,Sc		U		U
Selasphorus sasin	Allen's Hummingbird			RW,Gr/OS,Sc		C	C*	U
ALCEDINIDAE	KINGFISHERS							
Ceryle alcyon	Belted Kingfisher			Aq	U	R		R
PICIDAE	WOODPECKERS							
Melanerpes formicivorus bairdi	Acorn Woodpecker		O	Gr/OS,RW	C	C	C*	C
Sphyrapicus ruber	Red-breasted Sapsucker			Gr/OS,RW	U	R		U
Picoides nuttallii	Nuttall's Woodpecker		O	RW,Gr/OS,Sc	C	C	C*	C
Picoides pubescens	Downy Woodpecker		O4	RW,Gr/OS	C	C	C*	C
Picoides villosus	Hairy Woodpecker		O4	RW,Gr/OS	U	U	U*	U
Colaptes auratus	Northern Flicker		O	RW,Gr/OS,Sc	C	C	U*	C
TYRANNIDAE	FLYCATCHERS							
Contopus borealis	Olive-sided Flycatcher			RW,Gr/OS	R	R		
Contopus sordidulus	Western Wood-pewee		O	RW,Gr/OS		U	R*	U

Appendix H (con't.)
Bird Species Observed on the Newhall Ranch or Occurring in the Region

Scientific Name	Common Name	Status	Obs	Habitat	Wi	Sp	Su	Au
TYRANNIDAE (cont.)	FLYCATCHERS							
Empidonax traillii	Willow Flycatcher	FPE/SE		RW		R		U
Empidonax hammondii	Hammond's Flycatcher			RW,Gr/OS,Sc		R		R
Empidonax difficilis	Pacific-slope Flycatcher		O	RW,Gr/OS		C	C*	C
Sayornis nigricans semiatra	Black Phoebe		O	RW,OR,Gr/OS	C	C	C*	C
Sayornis saya	Say's Phoebe			Gr/OS,Sc	C	C	R?	C
Pyrocephalus rubinus flammeus	Vermilion Flycatcher	SC	O3	RW		Ca		Ca
Myiarchus cinerascens cinerascens	Ash-throated Flycatcher		O	RW,Gr/OS,Sc		Ca	C?	Ca
Tyrannus vociferans vociferans	Cassin's Kingbird		O	Gr/OS,Sc	U	U	U?	U
Tyrannus verticalis	Western Kingbird		O	RW,Gr/OS,Sc	U	U	U*	U
ALAUDIDAE	LARKS							
Eremophila alpestris actia	California Horned Lark		O	Gr/OS	C	C	U*	C
HIRUNDINIDAE	SWALLOWS							
Tachycineta bicolor	Tree Swallow		O	Aq,RW,Gr/OS, OR	R	C	U	R
Tachycineta thalassina lepida	Violet-green Swallow		O	Aq,RW,Gr/OS, OR,Sc	R	C	U	R
Stelgidopteryx serripennis	Northern Rough-winged Swallow		O	RW,Gr/OS,OR,Sc	U	C	C	R
Hirundo pyrrhonota tachina	Cliff Swallow		O	Aq,RW,Gr/OS, OR,Sc	R	C	C	R
Hirundo rustica erythrogaster	Barn Swallow		O	RW,Gr/OS,OR,Sc	R	A	C	R
CORVIDAE	JAYS, CROWS, and RAVENS							
Aphelocoma coerulescens obscura	Scrub Jay		O	RW,Gr/OS,Sc,DR	C	C	C*	C
Pica nuttalli	Yellow-billed Magpie			Gr/OS	U	U	U*	U
Corvus brachyrhynchos hesperis	American Crow		O	RW,Gr/OS,DR,Sc	C	C	C*	C
Corvus corax clarionensis	Common Raven		O	Gr/OS,Sc,DR,OR	U	U	U?	U
PARIDAE	CHICKADEES and TITMICE							
Parus inornatus transpositus	Plain Titmouse		O	RW,Gr/OS,Sc	C	C	C*	C

Appendix H (con't.)
Bird Species Observed on the Newhall Ranch or Occurring in the Region

Scientific Name	Common Name	Status Obs	Habitat	Wi	Sp	Su	Au
AEGITHALIDAE	BUSHTITS						
Psaltriparus minimus minimus	Bushtit	O	RW,Sc,Gr/OS,DR	C	C	C*	C
SITTIDAE	NUTHATCHES						
Sitta canadensis	Red-breasted Nuthatch		RW,Gr/OS	R	Ca		R
Sitta carolinensis aculeata	White-breasted Nuthatch	O	RW,Gr/OS	U	U	U*	U
TROGLODYTIDAE	WRENS						
Salpinctes obsoletus obsoletus	Rock Wren	O4	DR,Sc	R	R	R*	R
Salpinctes mexicanus conspersus	Canyon Wren	O4	Sc	R	R	R	R
Thryomanes bewickii	Bewick's Wren	O	RW,Sc	C	C	C*	C
Troglodytes aedon parkmanii	House Wren	O	RW,Gr/OS,Sc		U	U*	U
Cistothorus palustris	Marsh Wren		RW,OR	U	U	U*	U
MUSCICAPIDAE	THRUSHES, GNATCATCHERS, and WRENTIT						
Regulus calendula	Ruby-crowned Kinglet		RW,Gr/OS,Sc	C	C		C
Polioptila caerulea	Blue-gray Gnatcatcher		RW,Sc		U	U?	U
Sialia mexicana occindentalis	Western Bluebird	O	RW,Gr/OS,Sc	U	U	U*	U
Catharus guttatus	Hermit Thrush	O	RW,Gr/OS,Sc	C	C		C
Catharus ustulatus	Swainson's Thrush		RW,Sc		C	U?	C
Turdus migratorius propinquus	American Robin	O	Aq,RW,Gr/OS,Sc, DR	C	C	U*	C
Chamaea fasciata henshawi	Wrentit	O	RW,Sc	C	C	C*	C
MIMIDAE	MOCKINGBIRDS and THRASHERS						
Minus polyglottos polyglottos	Northern Mockingbird	O	RW,Gr/OS,Sc,DR	U	U	U*	U
Toxostoma redivivum redivivum	California Thrasher	O	RW,Sc	C	C	C*	C
MOTACILLIDAE	PIPITS						
Anthus rubescens	American Pipit		Gr/OS,OR,DR	U	U		U
Anthus spinoletta pacificus	Water Pipit	O	Aq,OR,RW	R	U		R
BOMBYCILLIDAE	WAXWINGS						
Bombycilla cedrorum	Cedar Waxwing		RW,Gr/OS,Sc	U	U		U

Appendix H (con't.)
Bird Species Observed on the Newhall Ranch or Occurring in the Region

Scientific Name	Common Name	Status	Obs	Habitat	Wi	Sp	Su	Au
PTILOGONATIDAE	PHAINOPEPLAS							
Phainopepla nitens lepida	Phainopepla		O	RW,GR/OS,Sc	U	U	U	U
LANIIDAE	SHRIKES							
Lanius ludovicianus	Loggerhead Shrike		O	RW,Gr/OS,Sc,DR	C	C	U*	C
STURNIDAE	STARLINGS							
*Sturnus vulgaris**	European Starling	IP		RW,Gr/OS,DR	A	A	A*	A
VIREONIDAE	VIREOS							
Vireo bellii pusillus	Least Bell's Vireo	FE/SE	O3	RW		R	R*	R
Vireo solitarius	Solitary Vireo			RW,Gr/OS		R		R
Vireo huttoni huttoni	Hutton's Vireo		O	RW,Gr/OS	C	C	C*	C
Vireo gilvus swainsonii	Warbling Vireo		O	RW,Gr/OS		C	C*	C
EMBERIZIDAE	WARBLERS, SPARROWS, and ORIOLES							
Vermivora celata	Orange-crowned Warbler		O	RW,Gr/OS,Sc	C	C	U*	C
Vermivora ruficapilla ridgwayi	Nashville Warbler		O	RW,GR/OS		U		U
Dendroica coronata	Yellow-rumped Warbler		O	RW,Gr/OS,Sc,DR	A	C		C
Dendroica nigrescens	Black-throated Gray Warbler		O	RW,Gr/OS,Sc	U	U	U	U
Dendroica petechia	Yellow Warbler	SC	O	RW,Gr/OS,Sc		C	U*	C
Dendroica townsendi	Townsend's Warbler		O	RW,Gr/OS,Sc	U	C		C
Oporornis tolmiei	MacGillivray's Warbler			RW,GR/OS, SC	U			U
Geothlypis trichas	Common Yellowthroat		O	Aq,RW,OR	C	C	C*	C
Wilsonia pusilla	Wilson's Warbler		O	RW,Gr/OS,Sc	R	C	U*	C
Icteria virens auricollis	Yellow-breasted Chat	SC	O	RW		U	U*	U
Piranga rubra rubra	Summer Tanager	SC	O3	RW	U	U		U
Piranga ludoviciana	Western Tanager			RW,Gr/OS,Sc		C		U
Pheucticus melanocephalus maculatus	Black-headed Grosbeak		O	RW,Sc,Gr/OS		C	C*	U
Guiraca caerulea salicaria	Blue Grosbeak		O4	RW,Sc,Gr/OS,DR		U	U*	Ca

Appendix H (con't.)
Bird Species Observed on the Newhall Ranch or Occurring in the Region

Scientific Name	Common or Vernacular Name	Status	Obs	Habitat	Wi	Sp	Su	Au
EMBERIZIDAE (cont.)	WARBLERS, SPARROWS, and ORIOLES							
Passerina amoena	Lazuli Bunting		O	RW,Sc,Gr/OS		U	U*	U
Pipilo erythrophthalmus megalonyx	Rufous-sided Towhee		O	RW,Sc	C	C	C*	C
Pipilo crissalis	California Towhee		O	RW,Sc	C	C	C*	C
Aimophila ruficeps canescens	Southern California Rufous-crowned Sparrow	C2	O	Sc	U	U	U*	U
Spizella passerina	Chipping Sparrow			Sc	R	R	R*	
Spizella atrogularis	Black-chinned Sparrow			Sc		Ca	Ca?	
Pooecetes gramineus	Vesper Sparrow			Gr/OS,Sc		R		R
Chondestes grammacus strigatus	Lark Sparrow		O	Gr/OS,OR,Sc	C	C	U*	C
Amphispiza belli belli	Bell's Sage Sparrow	C2		Sc	R	R	R?	R
Passerculus sandwichensis	Savannah Sparrow		O	Aq,RW,Gr/OS,DR	C	C	C*	C
Melospiza melodia	Song Sparrow		O	RW,Sc,Aq,OR	C	C	C*	C
Melospiza lincolnii	Lincoln's Sparrow			RW,Sc	C	C		C
Zonotrichia atricapilla	Golden-crowned Sparrow			RW,Sc	C	C		C
Zonotrichia leucophrys	White-crowned Sparrow		O	RW,Gr/OS,Sc,DR	A	C		C
Junco hyemalis	Dark-eyed Junco		O	RW,Gr/OS,Sc	C	C	U*	C
Agelaius phoeniceus	Red-winged Blackbird		O	Aq,RW,Gr/OS,DR	C	C	C*	C
Agelaius tricolor	Tricolored Blackbird	C2	O4	Aq,RW,Gr/OS	U	U	R?	U
Sturnella neglecta	Western Meadowlark		O	Gr/OS	C	C	C*	C
Xanthocephalus xanthocephalus	Yellow-headed Blackbird			RW		U		U
Euphagus cyanocephalus	Brewer's Blackbird		O	RW,Gr/OS,Sc,DR	C	C	C*	C
Molothrus ater	Brown-headed Cowbird		O	RW,Gr/OS,Sc,DR	C	C	C*	C
Icterus cucullatus	Hooded Oriole		O4	Gr/OS,RW		R	R?	R
Icterus galbula	Northern Oriole		O	Gr/OS,RW		U	U*	U

Appendix H (con't.)
Bird Species Observed on the Newhall Ranch or Occurring in the Region

Scientific Name	Common or Vernacular Name	Statuss	Obs	Habitat	Wi	Sp	Su	Au
FRINGILLIDAE	FINCHES							
Carpodacus purpureus	Purple Finch		O	RW,Gr/OS	U	U	U*	U
Carpodacus mexicanus	House Finch		O	RW,Sc,Gr/OS,DR	A	A	C*	A
Carduelis pinus	Pine Siskin			RW,Gr/OS,Sc	U	R		R
Carduelis psaltria hesperophilus	Lesser Goldfinch		O	RW,Gr/OS,Sc	C	C	C*	C
Carduelis lawrencei	Lawrence's Goldfinch		O	RW,Gr/OS,Sc	R	U	U	U
Carduelis tristis	American Goldfinch			RW,Gr/OS,Sc	C	C	C*	C
PASSERIDAE	WEAVERS							
*Passer domesticus**	House Sparrow	IP	B	RW,Gr/OS,Sc,DR	C	C	C*	C

KEY:

Scientific and common names follow A.O.U. (1975).

Status of species:

- C2 = Category 2 federal candidate species, threat or distribution data insufficient for federal listing
- FE = Federal listed, Endangered
- FPE = Federal proposed, Endangered
- IP = Introduced pest
- SC = CDFG Species of Special Concern (Remsen, 1978)
- SE = State listed, Endangered
- SP = Fully protected: California Fish and Game Code, Sections 3511, 4700, 5050, 5515
- ST = State listed, Threatened.

* Idicates non-native species.

Observations of species occurrence:

- O = Observed during RECON surveys
- O1= Baskin and Haglund survey 1993
- O2= Baskin and Haglund survey 1992
- O3= Guthrie 1993 or 1995 surveys
- O4= Dames & Moore surveys 1993

Seasonal occurrence, known or expected breeding status and abundance:

- Sp = Spring migrant (March 1- May 31) in the project region
- Su = Summer resident (June 1 - July 31) occurs only as a spring-summer breeder; migrates out of the region for the winter
- Wi = Winter visitor (August 31 - February 28) occurs only as a winter visitor and is not known to breed in the project region
- Au = Fall migrant (August 1 - November 30). The species occurs within the given habitat types as a fall migrant
- * = Known breeding (known or expected to breed) in the project region
- ? = Breeding status uncertain; the species may nest in the project region where suitable habitat exists.

- A = Abundant: nearly always encountered, generally in moderate to large numbers in the habitat(s) indicated
- C = Common: usually found in the habitat(s) indicated during the indicated season, but usually not in large numbers
- U = Uncommon: occurs in small numbers, and is not always observed in the indicated habitat
- R = Rare: may occur in the indicated habitat, but only in very small numbers
- Ca = Casual: not of regular occurrence, although the project region is within the range of the species.

Habitat(s) typically used by the species:

- Aq=Aquatic habitats: open water, stream and marsh
- DR = Disturbed/ruderal: roadsides, agricultural fields, disked/weed-abated areas
- Gr/OS = Grassland/oak savannah
- OR = Open riverbed and bank
- RW = Riparian woodland: cottonwood/willow forest & woodland, willow thicket and mule fat scrub
- Sc = Scrub habitats: coastal sage scrub to low chaparral.

Appendix H (con't.)
Fish Species Observed on Newhall Ranch

Scientific Name	Common Name	Status	Habitat	Observations
Gasterosteus aculeatus williamsoni	Unarmored Threespine Stickleback	FE/SE	SCR	O1
Cottus asper	Prickly Sculpin		SCR	O
Catostomus santaannae	Santa Ana Sucker	C2/SC	SCR	O2
Gila orcutti	Arroyo Chub	C2/SC	SCR	O
*Gambusia affinis**	Mosquitofish		SCR	O

KEY:

Status of species:

C2 = Category 2 candidate, threat or distribution data insufficient for federal listing
FE = Federally listed, Endangered
SC = CDFG Species of Special Concern
SE = State listed, Endangered.

Habitat: SCR= Santa Clara River

Observations of species occurrence:

O = Observed during RECON surveys
O1= Observed by Baskin and Haaglund 1993
O2= Observed by Baskin and Haaglund 1992

* Indicates non-native species.

Appendix H (con't.)
Amphibian and Reptile Species Observed on Newhall Ranch or Occurring in the Region

Scientific Name	Common Name	Status	Obs	Aq	R	OR	Sc	Gr/OS	DR
Amphibians									
CAUDATA	SALAMANDERS								
Aneides lugubris	Arboreal Salamander				U			U	
Batrachoseps nigriventris	Black-bellied Slender Salamander				C		U	C	
ANURA	FROGS & TOADS								
Bufo microscaphus californicus	Arroyo Toad	FE/SC	O	R	R	R			
Bufo boreas halophilus	California Toad		O	U	Ca	Ca		Ca	
Pseudacris regilla	Pacific Treefrog		O	A	C	C	U	U	
Rana aurora draytoni	California Red-legged Frog	FPE/SC		Ca					
Scaphiopus hammondii	Western Spadefoot Toad	C2/SC	O	Ca					
*Xenopus laevis**	African Clawed Frog	IP	O2	Ca					
Reptiles									
TESTUDINES	TURTLES								
Clemmys marmorata pallida	Southwestern Pond Turtle	C2/SC	O2	Ca	Ca				
SQUAMATA	LIZARDS								
Anniella pulchra pulchra	Silvery Legless Lizard	C2/SC					U		
Gambelia wislizenii wislizenii	Long-nosed Leopard Lizard		O				Ca		
Xantusia vigilis vigilis	Desert Night Lizard						U		
Elgaria multicarinatus	Southern Alligator Lizard				C	C	A	A	
Eumeces skiltonianus skiltonianus	Western Skink				U		U	C	
Uta stansburiana	Side-Blotched Lizard		O			C	U	U	C
Sceloporus occidentalis biseriatus	Western Fence Lizard		O		U	R	U	A	C
Cnemidophorus tigris multiscutatus	Coastal Western Whiptail	C2/SC	O		U	C	C	U	
Phrynosoma coronatum blainvillii	San Diego Horned Lizard	C2/SC	**			R	R		
Phrynosoma coronatum frontale	California Horned Lizard	C2/SC	**			R	R		

Appendix H (con't.)
Amphibian and Reptile Species Observed on Newhall Ranch or Occurring in the Region

Scientific Name	Common Name	Status	Obs	Aq	RW	OR	Sc	Gr/OS	DR
SQUAMATA	SNAKES								
Salvadora hexalepis virgultea	Coast Patch-nosed Snake	C2/SC					Ca		
Diadophis punctatus modestus	San Bernardino Ringneck Snake	C2			U			U	
Hypsiglena torquata	Night Snake						U	U	
Thamnophis hammondii hammondii	Two-striped Garter Snake	C2/SC	O4	R	R				
Lampropeltis getulus californiae	Common Kingsnake				U		U	C	R
Pituophis melanoleucus annectens	San Diego Gopher Snake		O		U	U	C	C	R
Coluber constrictor mormon	Racer						U	U	
Masticophis flagellum piceus	Red Coachwhip		O			R	U	U	
Masticophis lateralis latealis	Chaparral whipsnake		O				U		
Crotalus viridis helleri	Southern Pacific Rattlesnake		O		Ca	R	C	R	R

KEY:

Scientific and common names follow Collins et al. (1982).

Status of species:

C2 = Category 2 candidate, threat or distribution data insufficient for federal listing
FPE = Federal proposed, Endangered
IP = Introduced pest
SC = CDFG Species of Special Concern.

Observations of species occurrence:

O = Observed during RECON surveys.
O2= Baskin and Haglund surveys 1992
O4= Dames & Moore surveys 1993.

* Indicates non-native species

** Horned lizards were observed three times during RECON surveys. A definate determination of the subspecies was not made, and the project area is on the edge of the range of two subspecies (*P. c. frontale* and *P.c. blainvillii*). It is prudent to consider both of these subspecies to be present onsite.

Habitat(s) typically used by the species and species abundance in habitat:

Aq=Aquatic habitats: open water, stream and marsh
DR = Disturbed/ruderal: roadsides, agricultural fields, disced/weed-abated areas
Gr/OS = Grassland/oak savannah
OR = Open riverbed and bank
RW = Riparian woodland: cottonwood/willow forest and woodland, willow thicket, and mule fat scrub
Sc = Scrub habitats: coastal sage scrub to low chaparral.

A = Abundant: nearly always encountered, generally in moderate to large numbers in the habitat(s) indicated
C = Common: usually found in the habitat(s) indicated during the indicated season, but usually not in large numbers
U = Uncommon: occurs in small numbers, and is not always observed in the indicated habitat
R = Rare: may occur in the indicated habitat, but only in very small numbers
Ca = Casual: not of regular occurrence, although the project region is within the range of the species.

Appendix H (con't.)
Mammal Species Observed on Newhall Ranch or Occurring in the Region

Scientific Name	Common Name	Status	Obs	Aq	RW	OR	Sc	GR/OS	DR
DIDELPHIDAE	OPOSSUMS								
Didelphis virginiana	Virginia Oppossum			U	C	C	U	U	R
SORICIDAE	SHREWS								
Sorex ornatus	Ornate Shrew				U		U		
Notiosorex crawfordi	Desert Shrew						Ca		
TALPIDAE	MOLES								
Scapanus latimanus	Broad-footed Mole				C	U	U	U	
VESPERTILIONIDAE	VESPERTILIONID BATS								
Myotis californicus	California Myotis				U	U	C	C	U
Myotis thysanodes	Fringed Myotis	C2			Ca	Ca	Ca	Ca	
Myotis yumanensis	Yuma Myotis	C2			U	U	U	C	
Lasiurus cinereus	Hoary Bat				U	U	U	U	
Pipistrellus hesperus	Western Pipistrelle				U	U	U	U	
Eptesicus fuscus	Big Brown Bat				U	U	U	U	
Euderma maculatum	Spotted Bat	C2			Ca	Ca	Ca	R	
Plecotus townsendii pallescens	Pale Townsend's Big-eared Bat	C2/CC			R	R	R	U	
Antrozous pallidus	Pallid Bat				U	U	U	C	
MOLOSSIDAE	MOLOSSID BATS								
Tadarida brasiliensis	Brazilian Free-tailed Bat				C	C	C	C	U
Eumops perotis californicus	Greater Western Mastiff-bat	C2/SC			R	R	R	R	
LEPORIDAE	HARES and RABBITS								
Sylvilagus audubonii	Desert Cottontail		O		U	C	C	C	U
Sylvilagus bachmani	Brush Rabbit				C		U		
Lepus californicus bennettii	San Diego Black-tailed Jackrabbit	C2	O		U	C	C	C	R

Appendix H (con't.)
Mammal Species Observed on Newhall Ranch or Occurring in the Region

Scientific Name	Common Name	Status	Obs	Aq	RW	OR	Sc	GR/OS	DR
SCIURIDAE	SQUIRRELS and CHIPMUNKS								
Tamias merriami	Merriam's Chipmunk						U		
Spermophilus beecheyi	California Ground Squirrel		O			U	C	A	C
Sciurus griseus	Western Gray Squirrel				U				
GEOMYIDAE	POCKET GOPHERS								
Thomomys bottae	Botta's Pocket Gopher				A	C	C	A	C
HETEROMYIDAE	KANGAROO RATS & POCKET MICE								
Perognathus longimembris brevinasus	Los Angeles Pocket Mouse	C2/SC					R	R	
Chaetodipus californicus dispar	California Pocket Mouse		O		R		C		
Dipodomys agilis	Agile Kangaroo Rat		O				U		
MURIDAE	MICE, RATS, and VOLES								
Reithrodontomys megalotis	Western Harvest Mouse				U		U	C	R
Peromyscus boylii rowleyi	Brush Mouse		O		C		U		
Peromyscus californicus	California Mouse				C		U		
Peromyscus maniculatus	Deer Mouse		O		U	U	C	U	R
Peromyscus truei martirensis	Piñon Mouse		O				C	U	
Onychomys torridus	Grasshopper Mouse	C2					R	R	
Neotoma fuscipes macrotis	Dusky-footed Woodrat		O		C		U	R	
Neotoma lepida intermedia	San Diego Desert Woodrat	C2/SC	O				C		
*Rattus rattus**	Black Rat								C
*Mus musculus**	House Mouse							U	C
Microtus californicus	California Vole		O4	U	C	U	U	A	R
CANIDAE	CANIDS								
Canis latrans	Coyote		O		C	C	C	C	U
*Vulpes vulpes**	Red Fox		O4		U	U	U	U	U
Urocyon cinereoargenteus	Common Gray Fox		O4		R	R	C	U	

Appendix H (con't.)
Mammal Species Observed on Newhall Ranch or Occurring in the Region

Scientific Name	Common Name	Status	Obs	Aq	RW	OR	Sc	GR/OS	DR
PROCYONIDAE	PROCYONIDS								
Procyon lotor	Common Raccoon		O	C	C	C	U	U	U
MUSTELIDAE	MUSTELIDS								
Mustela frenata	Long-tailed Weasel		O		U	R	R	C	
Taxidea taxus	American Badger	SC					R	U	
Spilogale gracilis	Western Spotted Skunk						U	U	
Mephitis mephitis	Striped Skunk				C	U	U	C	U
FELIDAE	CATS								
Felis concolor	Mountain Lion	SP	O		Ca	Ca	Ca		Ca
Lynx rufus	Bobcat		O		U	U	U	U	
CERVIDAE	CERVIDS								
Odocoileus hemionus	Mule Deer		O		C	U	C	C	U

KEY:

Scientific and common names follow Jones et al. (1992).

Status of species:

C2 = Category 2 candidate, threat or distribution data insufficient for federal listing
CC = California Candidate species
SC = CDFG Species of Special Concern
SP = Fully protected: California Fish and Game Code, Sections 3511, 4700, 5050, 5515.

Observations of species occurrence:

O = Observed during RECON surveys.
O4= Dames & Moore surveys 1993.

* Indiacates non-native species.

Habitat(s) typically used by the species and species abundance in habitat:

Aq=Aquatic habitats: open water, stream and marsh
DR = Disturbed/ruderal: roadsides, agricultural fields, disced/weed-abated areas
Gr/OS = Grassland/oak savannah
OR = Open riverbed and bank
RW = Riparian woodland: cottonwood/willow forest & woodland, willow thicket and mule fat scrub
Sc = Scrub habitats: coastal sage scrub to low chaparral.

A = Abundant: nearly always encountered, generally in moderate to large numbers in the habitat(s) indicated
C = Common: usually found in the habitat(s) indicated during the indicated season, but usually not in large numbers
U = Uncommon: occurs in small numbers, and is not always observed in the indicated habitat
R = Rare: may occur in the indicated habitat, but only in very small numbers
Ca = Casual: not of regular occurrence, although the project region is within the range of the species.

APPENDIX I
Oak Tree Report

INDEPENDENT ENVIRONMENTAL CONSULTANTS

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An Initial Analysis of Oak Tree Resources of Newhall Ranch
Los Angeles County, California
Newhall Ranch Company

Newhall Ranch Company is applying for approval of a specific plan, which will be built out in phases over a period of approximately 25 years. Subdivision maps and oak tree permits will be obtained over the buildout period to implement each phase of development. Oak tree permit(s) are not being submitted as part of the specific plan for several reasons. The current grading plan is conceptual in nature and does not provide sufficient detail to determine precisely which oak trees will be impacted by development. Additionally the long development time frame makes it likely that permit information on oak tree condition and size would be outdated long before development occurs. It also would not be practical to tag oak trees in the field as many of the tags would be lost over time. Oak tree permits will be sought in conjunction with the future tract maps, which will implement the specific plan.

This initial survey of the oak resources of a portion of the 11,960 acre Newhall Ranch was undertaken in the Spring-Summer of 1995 to determine the numbers and location of oak trees on the portion of the site subject to future development and to allow an analysis of the potential impact on these trees caused by the preliminary grading plan. Because of the vast number of trees on the property only those trees within the proposed development area (i.e. the northern two thirds of the site) were surveyed. The most extensive oak groves and oak woodlands occur in the "High Country," in the southern third of the property. These trees were not included in this survey as this portion of the site is very rugged and largely without road access. Only 15 units are planned in the High Country, which are envisioned to be custom homes with very limited grading.

As the site is within the jurisdiction of the County of Los Angeles data was taken that would conform to the requirements of the County of Los Angeles Oak tree Ordinance No 88-0157. Data were recorded on 1:200 scale maps of the site (1 inch = 200 ft) on which individual oak trees and the outlines of groves of oak trees were indicated. As this survey is intended only as an initial survey, only the following data were taken.

Tree Species: The site has two species of oaks. The Coastal alive oak (Quercus agrifolia) is the most common species present, the valley oak (Quercus lobata) is less common. As some of the tree outlines indicated on the topography maps were not oaks, the presence of other tree and large shrub species were noted in the initial survey, including cultivated species around buildings.

Tree Number: Trees were not tagged or numbered in the field but trees were assigned a number as they were entered into a Geographical Information System (GIS) by FORMA DESIGNS of Costa Mesa, California.

Tree Size: The Los Angeles County oak tree ordinance indicates that only trees larger than 8 inches in diameter breast height (DBH) (= 25 inches in circumference) need to be assessed. Therefore trees smaller than 8 inches in diameter (DBH) were not recorded in this survey. The county ordinance also indicates that all trees with trunks larger than 3 feet in diameter (DBH) (= 113 inches in circumference) are to be considered heritage trees. All trees with large trunks were measured at 4.5 ft above the average base using a steel tape and all such trees with a trunk over 110 inches in circumference were flagged as heritage trees. A smaller measurement (110 inches circumference) was used to indicate heritage trees as these trees may grow to the required 113 inch DBH by the time a particular section of the property is developed. The circumference measurement (in inches) is indicated on the appendix data for all heritage and subheritage trees. As this is not intended as a complete oak tree analysis, no trunk circumferences or crown diameter measurements were made or recorded for the other trees--this will be done in the final oak tree surveys covering individual development sites.

Mapping: The location of all oaks was indicated on 1:200 scale topographic maps in the field and then digitized into a Geographical Information System along with relevant statistics for each tree. Where individual trees are outlined on the base topographic maps the placement of the trees is considered to be highly accurate. Where individual tree locations are not indicated on the base topographic maps, the trees were located based on visual inspection of the location relative to map topography and adjacent trees and their placement may be subject to revision when reports are prepared for future oak tree permits. When large groves of dense trees were outlined on the map the overall outline was used as a guide for the location of oaks. The exact location of these trees may be at variance with the indicated location on the maps. In some of the dense groves trees were highly crowded, sometimes with trunks 3-5 ft apart and with tall crowns extending in various directions. These trees would need to be mapped at a distance of 1/40 of an inch apart, which was not possible. It also was not possible to reflect the overlapping of tree crowns in the mapping but the overal position of the trees on the map is relatively accurate.

Evaluation: An evaluation of each tree was made during the survey and the evaluation grade was recorded as a number. Both oak tree species were evaluated in 5 grades reflecting the appearance, physical structure, health, and position of the individual trees as indicated below. This was noted on the maps as a number using 1-5 for Coastal live oak with 1 = A, 2 = B, 3 = C, 4 = D, and 5 = F, and 6-10 for Valley oak with 6 = A, 7 = B, 8 = C, 9 = D, and 10 = F. As the species of each tree was noted as the data were recorded into the Geographical Information System, this 10-grade system was reduced down to a 5-grade system with 1 = A, 2 = B, 3 = C, 4 = D, and 5 = F for each species.

The grading system takes several factors in to consideration: 1) The growth habit or growth form of the tree, i.e., whether the trunk is straight or badly leaning, the symmetry of the crown as well as the amount of crowding by other trees. In this regard it is an evaluation of the general attractiveness of the tree. 2) The general health of the tree, taking into consideration the amount of dieback or necrosis present in main

branches and trunks that would indicate some decline in health or vigor either caused by the past several years of drought and/or past fires. This includes the presence of pathological diseases caused by wood-rotting fungi, bacteria, and insects. The trees on the site showed little fire damage, although many old trees had multiple trunks that indicate that the initial trunk was killed and the tree regrew through sucker shoots. These regrowth trees often show rapid growth as they have well developed root systems. 3) The vigor of the tree, an indication of the growth rate of the tree. As the survey was undertaken during a spring characterized by heavy rains, most of the trees showed vigorous growth. This would not be expected in years of little rainfall. 4) Crowding and shading by neighboring plants is also considered as this may be a significant impediment to health and vigor of an individual tree. Lower stem dieback, however, is considered normal self pruning and is not considered pathological. The grading system has five classes. The general basis for inclusion of any individual tree into one of the five classes is indicated below.

1 = A: Excellent trees, mostly of large size, of good growth form with often large spreading crowns, exhibiting very good to excellent health with mostly normal necrosis and a minimum of pathological symtoms. Some of these trees may have minor trunk cavitation and some necrosis, but this is not considered detrimental to the overall health of the tree.

2 = B: Trees of very good to good health but not of exceptional size. Some of these trees are actually in excellent condition, but are included in this category as they are not of exceptional size. Most of the oaks of the site fall into this category, which includes both small and moderately large trees. In some instances trees are crowded together with individual trees being highly asymmetrical, but two or more trees may combine to form a single crown of excellent shape and appearance. Some trees show some necrosis and moderate stem dieback, but this is not excessive and growth of new foliage is vigorous. These trees are considred to be of very good health and vigor with a high potential for continued survival.

3 = C: Poor to moderately good trees whose growth habit and pathological symptoms indicate an equal chance to either decline or continuance into the future. The trees may have some trunk cavitation, moderate upper-stem dieback, show weak vigor, and/or they may just suffer from strong crowding by adjacent trees to the extent that this appears to negatively effect their welfare.

4 = D: Declining trees with a reduced chance for survival due to excessive dieback, crowding, shading, or advanced symptoms of various pathological conditions and/or extensive cavitation. The trees often have reduced foliage and appear to be strongly declining and it is expected that they will not continue to live.

5 = F: Dead standing trees. Dead fallen trees were not considered in the survey.

Results: Data from a total of 3,303 trees were recorded within the project boundary. This includes 2,887 Coastal live oak and 416 Valley

oak. In addition the limits of the conceptual grading plan contained in the Newhall Ranch Specific Plan were overlayed using the Geographical Information System to produce estimated oak tree impacts. The survey included the following numbers of oaks in the five grade classes:

Table 1. Total Oak Trees on the site.

	Grade	No. trees surveyed	Trees impacted
Coastal live Oak	1 = A	235	125
	2 = B	2,401	708
	3 = C	154	62
Subtotal of A-C trees		(2790)	(895)
	4 = D	57	13
	5 = F	40	18
	Subtotal:	2,887	926
Valley Oak	1 = A	49	15
	2 = B	317	59
	3 = C	32	12
Subtotal of A-C trees		(398)	(86)
	4 = D	11	5
	5 = F	7	3
	Subtotal:	416	94
	Total:	3,303	1,020

The above table gives total numbers of trees recorded in each of the five grade classes A through F on the site. Of the 2,887 Coastal live oaks, 2,790 are of A-C grade, and 97 were of D-F grade. Of the 416 Valley oaks, 398 are of A-C grade and 18 of D-F quality. Of the 3,303 trees of both species 3,188 are to be C grade or above, while 115 trees are of D grade or below.

Heritage oaks: The portion of the site surveyed contained a total of 231 heritage oaks (trees with trunk circumferences 110 inches or higher at breast height), 177 Coastal live oaks, and 54 Valley oaks. Their distribution in the five grade classes is indicated in Table 2. These totals are included in Table 1.

The current grading plan will potentially impact approximately one third of the trees in the areas of development. With the location data provided by this survey, it is considered that the ultimate loss of tree species will be considerably less as the ultimate grading plans can be altered to avoid impact to some of these of trees. Also, the tree numbers indicated above are only for those trees actually surveyed in the northern two thirds of the site. An unknown number of trees occur in the high country in the southern third of the Newhall Ranch property.

While no survey has been made of the trees in this rugged portion of the site it is estimated that the number well exceeds 8,500 trees. This estimate was made by calculating the density of oaks per acre within

defined oak habitats in the southern portion of the site and multiplying the average density by the acerage of the oak habitats not surveyed. Based on field observation the density of the oaks in this portion of the site is probably greater than on the portion that was surveyed and therefore this estimate is considered conservative. Assuming that the southern portion of the site contains at least 8,500 trees, less than nine percent of the total trees on the site would be potentially impacted by development.

Table 2. Heritage oak trees on the site

	Grade	No. trees surveyed	Trees impacted
Coastal live Oak	1 = A	110	69
	2 = B	55	27
	3 = C	7	3
Subtotal of A-C trees		(172)	(99)
	4 = D	5	2
	5 = F	0	0
	Subtotal:	177	101
Valley Oak	1 = A	35	11
	2 = B	13	6
	3 = C	3	1
Subtotal of A-C trees		(51)	(18)
	4 = D	2	2
	5 = F	1	0
	Subtotal:	54	20
	Total	231	121

The evaluation and location of all trees is included as table and map appendices. As noted above the trees were evaluated and located but not numbered in the field. Numbering was done as the data was recorded in the Geographical Information System. Missing numbers from the series were applied to trees outside the area of the survey and therefore are not included in the final survey evaluation. The appendix data set also includes data on species (C = Coastal live oak, V = Valley oak, and indicates if the trees are of heritage size and then also presents trunk circumference in inches at breast height. Data on whether the trees will be impacted by the current plans of development is also indicated. Location of the trees are included in the appendix maps with each tree assigned a number.

Off Site Impacts: Overall development of the site will also entail extensions of Valencia Boulevard west from the boundary of the proposed Westridge development to this site and Magic Mountain Parkway west from the entrance to Six Flags Magic Mountain to this site. A separate survey of oak resources along these routes was performed. These two routes contained the only 6 trees, all of which may be impacted by the proposed roadway extensions. Several other Coastal live oaks occurred adjacent to these routes but were neither included in this survey nor impacted by the proposed roadway alignments.

Table 3. Off-Site Trees Impacted by Proposed Roadways

	Grade	No. trees surveyed	Trees impacted
Coastal live Oak	1 = A	1	1
	2 = B	5	5
	3 = C	0	0
	4 = D	0	0
	5 = F	0	0
	Total:	6	6

Impacts on Significant Ecological Areas: The Newhall Ranch site contains portions of two Los Angeles County Significant Ecological Areas (SEA), SEA 20, the Santa Susana Mountains located in the "High Country" in the southern third of the site, and SEA 23, the Santa Clara River. While oak tree counts were not completed throughout these SEA's (most of the southern High Country was not surveyed and no oaks were surveyed in the central floodplains of the Santa Clara River) some encroachment will be made in the boundarys of the SEA's and impacts on tree resources in these areas are indicated below.

Table 4. Trees impacted in SEA 20 and SEA 23

	Grade	No. of Trees impacted SEA 20	SEA 24
Coastal live Oak	1 = A	1	6
	2 = B	10	43
	3 = C	0	3
	Subtotal:	11	52
Valley Oak	1 = A	0	1
	2 = B	2	3
	3 = C	0	1
	Subtotal:	2	5
	Total	13	57

James Henrickson Ph.D.
September 6, 1995
(213-)343-2057

NEWHALL RANCH OAK TREE SURVEY

Summer, 1995

1. TYPE
   C - Coastal Live Oak, Quercus agrifolia
   V - Valley Oak, Quercas lobata

2. HEALTH
   1 - Excellant large trees
   2 - Very good to good trees
   3 - Moderately good or crowded trees
   4 - Trees with strong dieback
   5 - Dead standing trees

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
1	V	2	HERITAGE	127	Y
2	V	4	HERITAGE	120	Y
3	V	3	HERITAGE	138	N
4	V	2	HERITAGE	129	Y
5	V	2	HERITAGE	111	N
6	V	2	HERITAGE	110	N
7	V	1	HERITAGE	135	N
8	V	1	HERITAGE	128	N
9	V	1	HERITAGE	121	N
10	V	1	HERITAGE	170	Y
11	V	1	HERITAGE	110	Y
12	V	1	HERITAGE	138	N
13	V	2	HERITAGE	129	N
14	V	2	HERITAGE	131	N
15	C	1	HERITAGE	182	Y
16	C	2	HERITAGE	113	Y
17	C	1	HERITAGE	197	N
18	V	1	HERITAGE	120	N
19	V	1	HERITAGE	110	Y
20	V	2	HERITAGE	110	Y
21	V	1	HERITAGE	119	N
22	V	1	HERITAGE	121	N
23	V	1	HERITAGE	116	N
24	V	3	HERITAGE	114	Y
25	V	1	HERITAGE	116	Y
26	V	2	HERITAGE	130	N
27	V	2	HERITAGE	110	N
28	C	1	HERITAGE	110	N
30	C	1	HERITAGE	119	Y
31	C	1	HERITAGE	137	Y
32	C	1	HERITAGE	150	N
33	C	2	HERITAGE	119	N
34	C	1	HERITAGE	190	N
35	C	1	HERITAGE	116	N
36	C	1	HERITAGE	150	N
37	C	1	HERITAGE	115	N
38	C	4	HERITAGE	114	N
39	C	2	HERITAGE	125	N
40	C	1	HERITAGE	160	Y
41	C	1	HERITAGE	180	Y
42	C	2	HERITAGE	118	N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
43	C	1	HERITAGE	138	N
44	C	4	HERITAGE	118	N
45	C	2	HERITAGE	115	N
46	C	2	HERITAGE	138	N
47	C	2	HERITAGE	116	N
48	C	2	HERITAGE	118	N
49	C	2	HERITAGE	140	N
50	C	2	HERITAGE	135	N
51	C	2	HERITAGE	153	N
52	C	2	HERITAGE	152	N
53	C	2	HERITAGE	125	N
54	C	2	HERITAGE	111	N
55	V	1	HERITAGE	142	Y
56	C	1	HERITAGE	117	Y
57	V	1	HERITAGE	180	N
58	V	1	HERITAGE	138	Y
59	V	1	HERITAGE	115	N
60	V	1	HERITAGE	120	N
61	V	1	HERITAGE	137	N
62	V	1	HERITAGE	119	N
63	V	1	HERITAGE	177	Y
64	V	2	HERITAGE	110	N
65	V	1	HERITAGE	127	Y
66	V	1	HERITAGE	183	Y
67	V	3	HERITAGE	195	N
68	V	4	HERITAGE	146	Y
69	V	2	HERITAGE	191	Y
70	V	2	HERITAGE	156	Y
71	V	1	HERITAGE	115	N
72	V	1	HERITAGE	142	Y
73	C	4	HERITAGE	128	N
74	V	1	HERITAGE	118	N
75	V	1	HERITAGE	120	N
76	C	1	HERITAGE	130	Y
77	C	2	HERITAGE	132	N
78	C	2	HERITAGE	110	N
79	C	1	HERITAGE	137	Y
80	C	1	HERITAGE	129	Y
81	C	1	HERITAGE	162	Y
82	C	4	HERITAGE	138	Y
83	C	1	HERITAGE	136	Y
84	C	1	HERITAGE	213	Y
85	C	2	HERITAGE	169	Y
86	C	2	HERITAGE	140	N
87	C	1	HERITAGE	129	Y
88	C	1	HERITAGE	110	Y
89	C	1	HERITAGE	128	Y
90	C	1	HERITAGE	110	N
91	C	1	HERITAGE	113	N
92	C	2	HERITAGE	120	Y
93	C	1	HERITAGE	150	N
94	C	3	HERITAGE	145	N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
95	C	4	HERITAGE	230	Y
96	C	2	HERITAGE	103	Y
97	C	1	HERITAGE	116	N
98	C	1	HERITAGE	131	N
99	C	1	HERITAGE	116	N
100	C	1	HERITAGE	120	Y
101	V	1	HERITAGE	150	N
102	C	2	HERITAGE	226	Y
103	C	2	HERITAGE	111	N
104	C	1	HERITAGE	139	N
105	C	1	HERITAGE	130	N
106	C	1	HERITAGE	150	Y
107	C	2	HERITAGE	135	Y
108	C	2	HERITAGE	117	Y
109	C	1	HERITAGE	134	Y
110	C	1	HERITAGE	210	Y
111	C	3	HERITAGE	137	N
112	C	1	HERITAGE	123	Y
113	C	2	HERITAGE	250	Y
114	C	2	HERITAGE	162	Y
115	C	2	HERITAGE	116	Y
116	C	2	HERITAGE	127	Y
117	C	2	HERITAGE	137	Y
118	C	2	HERITAGE	110	Y
119	C	2	HERITAGE	137	Y
120	C	2	HERITAGE	121	Y
121	C	2	HERITAGE	112	N
122	C	2	HERITAGE	116	N
123	C	2	HERITAGE	120	N
124	C	1	HERITAGE	120	Y
125	C	1	HERITAGE	112	Y
126	C	1	HERITAGE	131	Y
127	C	1	HERITAGE	116	Y
128	C	1	HERITAGE	148	Y
129	C	1	HERITAGE	120	Y
130	C	1	HERITAGE	148	Y
131	C	1	HERITAGE	151	Y
132	C	1	HERITAGE	130	Y
133	C	1	HERITAGE	215	Y
134	C	1	HERITAGE	154	Y
135	C	1	HERITAGE	125	Y
136	C	1	HERITAGE	185	Y
137	C	1	HERITAGE	116	Y
138	C	1	HERITAGE	150	Y
139	C	1	HERITAGE	120	Y
140	C	1	HERITAGE	146	Y
141	C	1	HERITAGE	150	Y
142	C	1	HERITAGE	140	Y
143	C	1	HERITAGE	135	Y
144	C	1	HERITAGE	143	Y
145	C	1	HERITAGE	129	Y
146	C	1	HERITAGE	116	Y

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
147	C	1	HERITAGE	132	Y
148	C	1	HERITAGE	135	Y
149	C	1	HERITAGE	119	Y
150	C	1	HERITAGE	137	Y
151	C	1	HERITAGE	116	Y
152	C	1	HERITAGE	125	Y
153	C	1	HERITAGE	240	Y
154	C	1	HERITAGE	145	Y
155	C	1	HERITAGE	190	Y
156	C	1	HERITAGE	120	Y
157	C	1	HERITAGE	114	Y
158	C	1	HERITAGE	110	Y
159	C	1	HERITAGE	139	Y
160	C	1	HERITAGE	120	Y
161	C	1	HERITAGE	117	N
162	C	1	HERITAGE	130	N
163	C	1	HERITAGE	130	N
164	C	1	HERITAGE	119	N
165	C	1	HERITAGE	143	N
166	V	5	HERITAGE	155	N
167	C	1	HERITAGE	130	N
168	C	1	HERITAGE	182	Y
169	C	3	HERITAGE	131	N
170	C	1	HERITAGE	113	N
171	C	1	HERITAGE	116	N
172	C	1	HERITAGE	117	N
173	C	1	HERITAGE	150	N
174	C	1	HERITAGE	140	N
175	C	1	HERITAGE	130	N
176	C	1	HERITAGE	160	N
177	C	3	HERITAGE	189	Y
178	C	3	HERITAGE	125	N
179	C	1	HERITAGE	135	N
180	C	1	HERITAGE	128	N
181	C	2	HERITAGE	120	N
182	C	2	HERITAGE	130	N
183	C	2	HERITAGE	144	Y
184	C	1	HERITAGE	116	Y
185	C	1	HERITAGE	110	Y
187	C	3	HERITAGE	125	Y
188	C	3	HERITAGE	220	Y
189	C	1	HERITAGE	185	Y
190	C	1	HERITAGE	142	Y
191	C	1	HERITAGE	122	Y
192	C	2	HERITAGE	144	Y
193	C	2	HERITAGE	128	Y
194	C	2	HERITAGE	124	Y
195	C	2	HERITAGE	144	Y
196	C	2	HERITAGE	123	Y
197	C	2	HERITAGE	145	Y
198	C	1	HERITAGE	115	Y
199	C	2	HERITAGE	130	Y

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
200	C	1	HERITAGE	140	N
201	C	1	HERITAGE	148	N
202	C	2	HERITAGE	131	N
203	C	2	HERITAGE	121	N
204	C	2	HERITAGE	130	Y
205	C	1	HERITAGE	127	Y
206	C	2	HERITAGE	137	N
207	C	2	HERITAGE	170	N
208	C	1	HERITAGE	175	N
209	C	1	HERITAGE	133	N
210	C	1	HERITAGE	120	N
211	C	1	HERITAGE	156	Y
212	C	1	HERITAGE	181	Y
213	V	1	HERITAGE	142	N
214	V	1	HERITAGE	120	N
223	C	1	HERITAGE	162	N
224	C	1	HERITAGE	133	N
225	C	1	HERITAGE	112	Y
226	C	2	HERITAGE	139	Y
227	C	2	HERITAGE	212	Y
228	C	2	HERITAGE	150	N
229	V	1	HERITAGE	115	Y
230	C	2	HERITAGE	152	Y
231	V	2	HERITAGE	110	Y
232	C	2	HERITAGE	117	N
233	C	1	HERITAGE	129	Y
234	C	1	HERITAGE	142	N
235	C	1	HERITAGE	130	N
236	C	1	HERITAGE	127	N
237	V	2			N
238	V	2			N
239	V	3			N
240	V	4			N
241	V	2			Y
242	V	2			N
243	V	2			N
244	V	2			N
245	V	2			N
246	V	2			Y
247	V	2			N
248	V	2			N
249	V	3			N
250	V	2			N
251	V	3			N
252	V	2			N
253	V	2			N
254	V	2			N
255	V	2			N
256	V	2			N
257	V	2			Y
258	V	4			N
259	V	3			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
260	V	2			N
261	V	2			Y
262	V	2			Y
263	V	3			Y
264	V	3			Y
265	V	2			Y
266	V	2			Y
267	V	2			N
268	V	2			N
269	V	2			N
270	V	2			N
271	V	2			N
272	C	2			N
273	C	2			Y
274	V	2			Y
281	C	2			N
282	C	2			Y
283	C	2			Y
284	C	2			Y
285	C	2			Y
286	C	2			Y
287	C	2			Y
288	C	2			Y
289	C	2			Y
290	C	2			N
291	C	2			N
292	C	2			N
293	C	2			N
294	V	2			N
295	V	2			N
296	C	2			N
297	C	2			N
298	C	2			N
299	C	1			N
300	C	2			N
301	C	2			N
302	C	1			N
303	C	2			N
304	C	2			N
306	C	2			N
307	V	4			Y
308	V	2			Y
309	V	3			N
310	V	2			N
311	V	2			N
312	V	2			N
313	V	2			N
314	V	3			N
315	V	3			N
316	V	2			N
317	V	2			N
318	V	3			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
319	V	3			N
320	V	2			N
321	V	2			N
322	V	2			N
323	V	2			N
324	V	2			N
325	V	3			N
326	V	2			N
327	V	2			N
328	V	2			Y
329	V	1			N
330	V	2			Y
331	V	3			Y
332	V	2			Y
333	V	2			N
334	V	2			N
335	V	2			N
336	V	2			Y
337	V	2			Y
338	V	2			Y
339	C	4			N
340	V	2			N
341	V	2			N
342	V	3			Y
343	V	2			Y
344	V	3			Y
345	V	2			Y
346	V	2			N
347	V	2			N
348	V	2			N
349	C	1			N
350	V	2			N
351	V	2			N
352	V	4			N
353	V	5			N
354	V	1			N
355	V	1			N
356	V	2			N
357	V	2			N
358	V	2			N
359	V	2			N
360	C	4			N
361	V	2			N
362	V	2			N
363	V	2			N
364	V	2			N
365	V	2			N
366	V	2			N
367	V	2			N
368	V	2			N
369	V	2			N
370	V	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
371	V	2			N
372	V	2			N
373	V	2			Y
374	V	2			Y
375	V	2			Y
376	V	2			Y
377	V	2			Y
378	C	2			N
379	V	2			Y
380	V	2			Y
381	V	2			N
382	V	2			Y
383	V	2			Y
384	V	2			Y
385	V	2			Y
386	C	2			N
387	C	2			N
388	C	2			N
389	C	1			N
391	C	2			N
392	C	2			N
393	C	2			N
394	C	3			N
395	C	2			N
396	C	2			N
397	C	2			N
398	C	2			N
399	C	2			N
400	C	3			N
401	C	2			N
402	C	2			N
403	C	2			N
404	C	2			N
405	C	2			N
406	C	2			N
407	C	3			N
408	C	2			N
409	C	2			N
410	C	3			N
411	C	2			N
412	C	2			N
413	C	2			N
414	C	2			N
415	C	2			N
416	C	2			N
417	C	2			N
418	C	2			N
419	C	2			N
420	C	2			N
421	C	2			N
422	C	2			N
423	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
424	C	1			N
425	C	2			Y
426	C	2			Y
427	C	2			Y
428	C	2			Y
429	C	2			N
430	C	2			Y
431	C	2			Y
432	C	2			Y
433	C	2			Y
434	C	2			Y
435	C	2			Y
436	C	2			Y
437	C	2			N
438	C	2			N
439	C	2			N
440	C	2			N
441	C	2			N
442	C	2			N
443	C	2			N
444	C	2			N
445	C	2			N
446	C	2			N
447	C	2			N
448	C	2			N
449	C	2			N
450	C	2			N
451	C	2			N
452	C	2			N
453	C	2			N
454	C	2			N
455	C	2			N
456	C	2			N
457	C	2			N
458	C	2			N
459	C	2			Y
460	C	2			N
461	C	2			N
462	C	2			N
463	C	2			N
464	C	2			N
465	C	2			N
466	C	2			N
467	C	2			N
468	C	2			N
469	C	2			N
470	C	2			N
471	C	2			N
472	C	4			N
473	C	1			N
474	C	2			N
475	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
476	C	2			N
477	C	2			Y
478	C	2			Y
479	C	2			N
480	C	2			N
481	C	2			N
482	C	2			N
483	C	2			N
484	C	2			N
485	C	2			N
486	C	2			N
487	C	2			N
488	C	2			N
489	C	2			N
490	C	2			N
491	C	2			N
492	C	2			N
493	C	2			N
494	C	2			Y
495	C	2			N
496	C	2			N
497	C	2			N
498	C	2			N
499	C	2			N
500	C	2			N
501	C	2			N
502	C	2			N
503	C	2			N
504	C	1			Y
505	C	2			N
506	C	2			N
507	C	2			N
508	C	2			N
509	C	2			N
510	C	2			N
511	C	2			N
512	C	2			N
513	C	2			N
514	C	2			N
515	C	2			N
516	C	1			Y
517	C	2			Y
518	C	1			Y
519	C	2			Y
520	C	2			N
521	C	2			N
522	C	2			N
523	C	2			N
524	C	2			N
525	C	5			N
526	C	5			N
527	C	5			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
528	C	5			N
529	C	5			N
530	C	2			N
531	C	2			N
532	C	2			N
533	C	2			N
534	C	2			N
535	C	2			N
536	C	2			N
537	C	2			N
538	C	2			N
539	C	2			N
540	C	2			N
541	C	2			N
542	C	2			N
543	C	2			N
544	C	2			N
545	C	2			N
546	C	2			N
547	C	2			N
548	C	2			N
549	C	2			N
550	C	2			N
551	C	2			N
552	C	2			N
553	C	2			N
554	C	2			N
555	C	1			N
556	C	3			N
557	C	2			N
558	C	2			N
559	C	2			N
560	C	2			N
561	C	2			N
562	C	2			N
563	C	2			N
564	C	2			N
565	C	2			N
566	C	2			N
567	C	2			N
568	C	2			N
569	C	2			N
570	C	2			N
571	C	2			N
572	C	2			N
573	C	2			N
574	C	2			N
575	C	2			N
576	C	2			N
577	C	2			N
578	C	2			N
579	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
580	C	2			N
581	C	2			N
582	C	2			N
583	C	2			N
584	C	2			N
585	C	2			N
586	C	2			N
587	C	2			N
588	C	2			N
589	C	2			N
590	C	2			N
591	C	2			N
592	C	2			N
593	C	2			N
594	C	2			N
595	C	1			N
596	C	5			N
597	C	4			N
598	C	3			N
599	C	3			N
600	C	2			N
601	C	2			N
602	C	2			N
603	C	2			N
604	C	2			N
605	C	2			N
606	C	2			N
607	C	2			N
608	C	2			N
609	C	2			N
610	C	1			N
611	C	3			N
612	C	3			N
613	C	2			N
614	C	2			N
615	C	2			N
616	C	2			N
617	C	2			N
618	C	2			N
619	C	2			N
620	C	2			N
621	C	2			N
622	C	2			N
623	C	2			N
624	C	2			N
625	C	2			N
626	C	2			N
627	C	2			N
628	C	2			N
629	C	2			N
630	C	2			N
631	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
632	C	2			N
633	C	2			N
634	C	2			N
635	C	2			N
636	C	2			N
637	C	2			N
638	C	2			N
639	C	2			N
640	C	2			N
641	C	2			N
642	C	2			N
643	C	2			N
644	C	2			N
645	C	2			N
646	C	2			N
647	C	2			N
648	C	2			N
649	C	2			N
650	C	2			N
651	C	2			N
652	C	2			N
653	C	2			N
654	C	2			N
655	C	2			N
656	C	2			N
657	C	2			N
658	C	2			N
659	C	2			N
660	C	2			N
661	C	2			N
662	C	2			N
663	C	2			N
664	C	2			N
665	C	2			N
666	C	2			N
667	C	2			N
668	C	3			N
669	C	2			N
670	C	2			N
671	C	2			N
672	C	2			N
673	C	2			N
674	C	2			N
675	C	2			N
676	C	2			N
677	C	1			N
678	C	2			N
679	C	2			N
680	C	2			N
681	C	2			N
682	C	2			N
683	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
684	C	2			N
685	C	2			N
686	C	2			N
687	C	2			N
688	C	2			N
689	C	2			N
690	C	2			N
691	C	2			N
692	C	2			N
693	C	2			N
694	C	2			N
695	C	2			N
696	C	2			N
697	C	2			N
698	C	2			N
699	C	2			N
700	C	2			N
701	C	2			N
702	C	2			N
703	C	2			N
704	C	5			N
705	C	2			N
706	C	2			N
707	C	2			N
708	C	2			N
709	C	2			N
710	C	2			N
711	C	2			N
712	C	2			N
713	C	2			N
714	C	2			N
715	C	2			N
716	C	2			N
717	C	2			N
718	C	2			N
719	C	2			N
720	C	2			N
721	C	2			N
722	C	2			N
723	C	2			N
724	C	2			N
725	C	2			N
726	C	2			N
727	C	2			N
728	C	2			N
729	C	2			N
730	C	2			N
731	C	2			N
732	C	2			N
733	C	2			Y
734	C	2			N
735	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
736	C	2			N
737	C	2			N
738	C	2			Y
739	C	2			Y
740	C	2			N
741	C	2			N
742	C	2			N
743	C	2			N
744	C	2			Y
745	C	2			N
746	C	2			N
747	C	2			N
748	C	2			N
749	C	2			N
750	C	3			N
751	C	2			N
752	C	2			N
753	C	2			N
754	C	2			N
755	C	2			N
756	C	2			N
757	C	2			N
758	C	2			N
759	C	2			N
760	C	2			N
761	C	2			N
762	C	2			N
763	C	2			N
764	C	2			N
765	C	2			N
766	C	2			N
767	C	2			N
768	C	2			N
769	C	2			N
770	C	2			N
771	C	2			N
772	C	2			N
773	C	2			N
774	C	2			N
775	C	2			N
776	C	2			N
777	C	2			N
778	C	2			N
779	C	2			N
780	C	2			N
781	C	2			N
782	C	2			N
783	C	2			N
784	C	2			N
785	C	2			N
786	C	2			N
787	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
788	C	2			N
789	C	2			N
790	C	2			N
791	C	2			N
792	C	2			N
793	C	2			N
794	C	2			N
795	C	2			N
796	C	2			N
797	C	2			N
798	C	2			N
799	C	2			N
800	C	2			N
801	C	2			N
802	C	2			N
803	C	2			N
804	C	2			N
805	C	2			N
806	C	2			N
807	C	2			N
808	C	2			N
809	C	2			N
810	C	2			N
811	C	2			N
812	C	2			N
813	C	2			N
814	C	2			N
815	C	2			N
816	C	2			N
817	C	2			N
818	C	2			N
819	C	2			N
820	C	2			N
821	C	2			N
822	C	2			N
823	C	2			N
824	C	2			N
825	C	2			N
826	C	2			N
827	C	2			N
828	C	2			N
829	C	2			N
830	C	2			N
831	C	2			N
832	C	2			N
833	C	2			N
834	C	2			N
835	C	2			N
836	C	2			N
837	C	2			N
838	C	2			N
839	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
840	C	2			N
841	C	2			N
842	C	2			N
843	C	2			N
844	C	2			N
845	C	2			N
846	C	2			N
847	C	2			N
848	C	2			N
849	C	2			N
850	C	2			N
851	C	2			N
852	C	2			N
853	C	2			N
854	C	2			N
855	C	2			N
856	C	2			N
857	C	2			N
858	C	2			N
859	C	2			N
860	C	2			N
861	C	2			N
862	C	2			N
863	C	2			N
864	C	2			N
865	C	2			N
866	C	2			N
867	C	2			N
868	C	2			N
869	C	2			N
870	C	2			N
871	C	2			N
872	C	2			N
873	C	2			N
874	C	2			N
875	C	2			N
876	C	2			N
877	C	2			N
878	C	2			N
879	C	2			N
880	C	2			N
881	C	2			Y
882	C	2			Y
883	C	2			Y
884	C	2			Y
885	C	2			Y
886	C	2			Y
887	C	2			Y
888	C	2			Y
889	C	2			Y
890	C	2			Y
891	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
892	C	2			N
893	C	2			N
894	V	3			Y
895	V	2			Y
896	V	4			Y
897	V	5			Y
898	V	4			Y
899	V	3			N
900	V	3			N
901	V	2			Y
902	V	5			Y
903	V	4			N
904	V	2			N
905	V	3			N
906	V	2			Y
907	V	1			Y
908	V	1			Y
909	V	2			N
910	V	2			N
911	V	2			N
912	V	2			N
913	V	3			N
914	V	2			N
915	V	2			N
916	V	2			N
917	V	2			N
918	V	2			N
919	V	2			N
920	V	2			N
921	V	2			N
922	V	2			Y
923	V	2			N
924	V	2			N
925	V	3			N
926	V	2			N
927	V	2			N
928	V	2			N
929	C	2			N
930	C	1			N
931	V	2			N
932	V	4			N
933	V	1			N
934	V	1			N
935	V	1			Y
936	V	2			Y
937	C	2			Y
938	V	2			Y
939	V	2			N
940	V	2			N
941	V	2			N
942	V	2			N
943	V	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
944	V	2			N
945	V	2			N
946	V	2			N
947	V	2			N
948	V	2			N
949	V	2			N
950	V	2			N
951	V	2			N
952	V	2			N
953	V	2			N
954	V	2			N
955	V	2			N
956	V	2			N
957	V	2			N
958	V	2			N
959	V	2			N
960	V	2			N
961	V	2			N
962	V	2			N
963	V	2			N
964	V	2			N
965	V	2			N
966	V	2			N
967	V	2			N
968	V	2			N
969	V	2			N
970	V	2			N
971	V	2			N
972	C	2			N
973	C	2			N
974	V	2			Y
975	V	2			N
976	V	2			N
977	V	2			N
978	V	2			N
979	V	2			N
980	V	2			N
981	V	2			N
982	V	2			N
983	V	2			N
984	V	2			N
985	V	2			N
986	V	2			N
987	V	2			N
988	V	2			N
989	V	2			N
990	V	2			N
991	V	2			N
992	V	2			N
993	V	2			N
994	V	2			N
995	V	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
996	V	2			N
997	V	2			N
998	V	2			N
999	V	2			N
1,000	V	2			N
1,001	C	2			N
1,002	C	2			N
1,003	C	2			N
1,004	V	2			N
1,005	V	2			N
1,006	V	2			N
1,007	V	2			N
1,008	V	2			N
1,009	V	2			N
1,010	V	2			N
1,011	V	2			N
1,012	V	2			N
1,013	V	2			N
1,014	V	2			N
1,015	V	2			N
1,016	V	2			N
1,017	V	2			N
1,018	V	2			N
1,019	V	2			N
1,020	V	2			N
1,021	V	2			N
1,022	V	2			N
1,023	V	2			N
1,024	V	2			N
1,025	V	2			N
1,026	V	2			N
1,027	V	2			N
1,028	V	2			N
1,029	V	2			N
1,030	V	2			N
1,031	V	2			N
1,032	V	2			N
1,033	V	2			N
1,034	V	2			N
1,035	V	2			N
1,036	V	2			N
1,037	V	2			N
1,038	V	2			N
1,039	V	2			N
1,040	V	2			N
1,041	V	2			N
1,042	V	2			N
1,043	V	2			N
1,044	V	2			N
1,045	V	2			N
1,046	V	2			N
1,047	V	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
1,048	C	3			N
1,049	C	3			N
1,050	C	3			N
1,051	C	2			N
1,052	C	3			N
1,053	C	3			N
1,054	C	3			N
1,055	C	3			N
1,056	C	2			N
1,057	C	2			N
1,058	C	4			N
1,059	C	4			N
1,060	C	3			N
1,061	C	3			N
1,062	C	3			N
1,063	C	3			N
1,064	C	3			N
1,065	C	4			N
1,066	C	3			N
1,067	C	3			N
1,068	C	2			N
1,069	C	2			N
1,070	C	2			N
1,071	C	2			N
1,072	C	2			N
1,073	C	2			N
1,074	C	2			N
1,075	C	2			N
1,076	C	2			N
1,077	C	2			N
1,078	C	2			N
1,079	C	2			N
1,080	C	2			N
1,081	C	2			N
1,082	C	2			N
1,083	C	2			N
1,084	C	2			N
1,085	C	2			Y
1,086	C	2			Y
1,087	C	2			Y
1,088	C	3			Y
1,089	C	2			Y
1,090	C	2			Y
1,091	C	2			Y
1,092	C	2			Y
1,093	C	3			Y
1,094	C	2			Y
1,095	C	2			Y
1,096	C	2			Y
1,097	C	2			Y
1,098	C	2			Y
1,099	C	2			Y

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
1,100	C	2			Y
1,101	C	2			Y
1,102	C	2			Y
1,103	C	1			Y
1,104	C	3			Y
1,105	C	1			Y
1,106	C	3			Y
1,107	C	2			Y
1,108	C	2			Y
1,109	C	2			Y
1,110	C	2			Y
1,111	C	2			Y
1,112	C	2			Y
1,113	C	2			Y
1,114	C	2			Y
1,115	C	2			Y
1,116	C	2			Y
1,117	C	2			Y
1,118	C	2			Y
1,119	C	1			Y
1,120	C	2			Y
1,121	C	2			Y
1,122	C	2			Y
1,123	C	2			Y
1,124	C	2			Y
1,125	C	2			Y
1,126	C	2			Y
1,127	C	2			Y
1,128	C	2			Y
1,129	C	2			Y
1,130	C	2			Y
1,131	C	2			Y
1,132	C	2			Y
1,133	C	2			Y
1,134	C	2			Y
1,135	C	1			Y
1,136	C	1			Y
1,137	C	1			Y
1,138	C	2			Y
1,139	C	2			Y
1,140	C	2			Y
1,141	C	2			Y
1,142	C	2			Y
1,143	C	2			Y
1,144	C	2			Y
1,145	C	2			Y
1,146	C	2			Y
1,147	C	2			Y
1,148	C	2			Y
1,149	C	3			Y
1,150	C	2			Y
1,151	C	2			Y

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
1,152	C	2			Y
1,153	C	2			Y
1,154	C	2			Y
1,155	C	3			Y
1,156	C	3			Y
1,157	C	2			Y
1,158	C	5			Y
1,159	C	5			Y
1,160	C	2			Y
1,161	C	2			Y
1,162	C	2			Y
1,163	C	2			Y
1,164	C	2			Y
1,165	C	2			Y
1,166	C	4			Y
1,167	C	3			Y
1,168	C	4			Y
1,169	C	2			N
1,170	C	2			N
1,171	C	3			N
1,172	C	2			N
1,173	C	2			N
1,174	C	2			N
1,175	C	2			N
1,176	C	3			Y
1,177	C	5			Y
1,178	C	2			Y
1,179	C	2			Y
1,180	C	2			Y
1,181	C	2			Y
1,182	C	2			Y
1,183	C	2			Y
1,184	C	2			Y
1,185	C	2			Y
1,186	C	2			Y
1,187	C	2			Y
1,188	C	2			Y
1,189	C	2			Y
1,190	C	2			Y
1,191	C	2			Y
1,192	C	2			Y
1,193	C	5			Y
1,194	C	3			Y
1,195	C	2			Y
1,196	C	2			Y
1,197	C	2			N
1,198	C	2			N
1,199	C	2			N
1,200	C	4			Y
1,201	C	4			Y
1,202	C	2			N
1,203	C	5			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
1,204	V	1			Y
1,205	C	4			Y
1,206	C	2			N
1,207	C	4			N
1,208	C	3			N
1,209	C	2			N
1,210	C	3			N
1,211	C	5			N
1,212	C	5			N
1,213	C	2			N
1,214	C	3			N
1,215	C	2			N
1,216	C	2			N
1,217	C	2			N
1,218	C	3			N
1,219	C	5			N
1,220	C	2			N
1,221	C	4			N
1,222	C	4			Y
1,223	C	2			Y
1,224	C	2			N
1,225	C	3			N
1,226	C	2			N
1,227	C	2			N
1,228	C	2			N
1,229	C	2			N
1,230	C	3			N
1,231	C	2			N
1,232	C	2			N
1,233	C	2			Y
1,234	C	2			Y
1,235	C	2			Y
1,236	C	2			Y
1,237	C	2			Y
1,238	C	3			Y
1,239	C	2			Y
1,240	C	2			Y
1,241	C	2			Y
1,242	C	2			Y
1,243	C	2			Y
1,244	C	2			N
1,245	C	3			Y
1,246	C	5			Y
1,247	C	2			Y
1,248	C	1			Y
1,249	C	4			Y
1,250	C	3			N
1,251	C	2			N
1,252	C	5			N
1,253	C	3			Y
1,254	C	3			Y
1,255	C	2			Y

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
1,256	C	2			Y
1,257	C	5			Y
1,258	C	2			Y
1,259	C	2			Y
1,260	C	2			N
1,261	C	2			N
1,262	C	2			Y
1,263	C	2			N
1,264	C	2			N
1,265	C	3			N
1,266	C	2			N
1,267	C	2			N
1,268	C	2			N
1,269	C	2			N
1,270	C	2			N
1,271	C	2			N
1,272	C	2			N
1,273	C	2			Y
1,274	C	2			Y
1,275	C	2			Y
1,276	C	2			Y
1,277	C	2			Y
1,278	C	2			Y
1,279	C	2			Y
1,280	C	2			Y
1,281	C	2			Y
1,282	C	2			Y
1,283	C	2			Y
1,284	C	2			Y
1,285	C	2			Y
1,286	C	4			Y
1,287	C	3			Y
1,288	C	3			Y
1,289	C	2			Y
1,290	C	2			Y
1,291	C	2			Y
1,292	C	2			Y
1,293	C	2			Y
1,294	C	2			Y
1,295	C	2			Y
1,296	C	2			Y
1,297	C	2			Y
1,298	C	2			Y
1,299	C	2			Y
1,300	C	2			Y
1,301	C	2			Y
1,302	C	2			Y
1,303	C	2			Y
1,304	C	2			Y
1,305	C	3			Y
1,306	C	3			Y
1,307	C	2			Y

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
1,308	C	2			Y
1,309	C	2			Y
1,310	C	2			Y
1,311	C	2			Y
1,312	C	2			Y
1,313	C	2			Y
1,314	C	2			Y
1,315	C	2			Y
1,316	C	2			Y
1,317	C	2			Y
1,318	C	2			Y
1,319	C	2			Y
1,320	C	2			Y
1,321	C	2			Y
1,322	C	2			Y
1,323	C	2			Y
1,324	C	2			Y
1,325	C	2			Y
1,326	C	2			Y
1,327	C	2			Y
1,328	C	2			Y
1,329	C	2			Y
1,330	C	2			Y
1,331	C	2			Y
1,332	C	2			Y
1,333	C	2			Y
1,334	C	2			Y
1,335	C	2			Y
1,336	C	2			Y
1,337	C	2			Y
1,338	C	2			Y
1,339	C	2			Y
1,340	C	2			Y
1,341	C	2			Y
1,342	C	2			Y
1,343	C	2			Y
1,344	C	2			Y
1,345	C	2			Y
1,346	C	2			Y
1,347	C	2			Y
1,348	C	2			Y
1,349	C	2			Y
1,350	C	2			Y
1,351	C	2			Y
1,352	C	2			Y
1,353	C	2			Y
1,354	C	2			Y
1,355	C	2			Y
1,356	C	2			Y
1,357	C	2			Y
1,358	C	4			Y
1,359	C	2			Y

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
1,360	C	2			Y
1,361	C	2			Y
1,362	C	2			Y
1,363	C	2			Y
1,364	C	2			Y
1,365	C	2			Y
1,366	C	2			Y
1,367	C	2			Y
1,368	C	2			Y
1,369	C	2			Y
1,370	C	2			Y
1,371	C	2			Y
1,372	C	2			Y
1,373	C	2			Y
1,374	C	2			Y
1,375	C	2			Y
1,376	C	2			Y
1,377	C	3			Y
1,378	C	2			Y
1,379	C	2			Y
1,380	C	2			Y
1,381	C	2			Y
1,382	C	2			Y
1,383	C	2			Y
1,384	C	2			Y
1,385	C	2			Y
1,386	C	1			Y
1,387	C	2			Y
1,388	C	2			Y
1,389	C	2			Y
1,390	C	2			Y
1,391	C	2			Y
1,392	C	2			Y
1,393	C	2			Y
1,394	C	2			Y
1,395	C	2			Y
1,396	C	2			Y
1,397	C	2			Y
1,398	C	2			Y
1,399	C	1			Y
1,400	C	2			Y
1,401	C	2			Y
1,402	C	2			Y
1,403	C	2			Y
1,404	C	2			Y
1,405	C	2			Y
1,406	C	2			Y
1,407	C	2			Y
1,408	C	2			Y
1,409	C	2			Y
1,410	C	1			Y
1,411	C	1			Y

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
1,412	C	2			Y
1,413	C	3			Y
1,414	C	2			Y
1,415	C	2			Y
1,416	C	2			Y
1,417	C	2			Y
1,418	C	2			Y
1,419	C	2			Y
1,420	C	5			Y
1,421	C	2			Y
1,422	C	3			Y
1,423	C	2			Y
1,424	C	2			Y
1,425	C	2			Y
1,426	C	2			Y
1,427	C	2			Y
1,428	C	2			Y
1,429	C	5			Y
1,430	C	3			Y
1,431	C	2			Y
1,432	C	2			Y
1,433	C	2			Y
1,434	C	2			Y
1,435	C	2			Y
1,436	C	2			Y
1,437	C	2			Y
1,438	C	2			N
1,439	C	3			Y
1,440	C	3			Y
1,441	C	2			Y
1,442	C	2			Y
1,443	C	2			N
1,444	C	2			N
1,445	C	2			N
1,446	C	2			N
1,447	C	2			N
1,448	C	2			Y
1,449	C	2			N
1,450	C	2			N
1,451	C	2			N
1,452	C	2			N
1,453	C	2			N
1,457	C	4			N
1,458	C	2			N
1,459	C	2			N
1,460	C	2			N
1,461	C	2			N
1,462	C	2			N
1,463	C	2			N
1,464	C	2			N
1,465	C	2			N
1,466	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
1,467	C	2			N
1,468	C	2			N
1,469	C	2			N
1,470	C	3			Y
1,471	C	2			Y
1,472	C	2			Y
1,473	C	2			Y
1,474	C	3			N
1,475	C	1			N
1,476	C	2			N
1,477	C	2			N
1,478	C	2			N
1,479	C	2			Y
1,480	C	2			Y
1,481	C	2			Y
1,482	C	2			N
1,483	C	4			N
1,484	C	2			Y
1,485	C	5			N
1,486	C	5			Y
1,487	C	2			Y
1,488	C	2			Y
1,489	C	2			Y
1,490	C	2			Y
1,491	C	2			Y
1,492	C	2			Y
1,493	C	2			Y
1,494	C	2			Y
1,495	C	2			Y
1,496	C	2			Y
1,497	C	2			Y
1,498	C	2			Y
1,499	C	2			Y
1,500	C	2			Y
1,501	C	2			Y
1,502	C	2			Y
1,503	C	2			Y
1,504	C	5			Y
1,505	C	1			Y
1,506	C	1			Y
1,507	C	2			Y
1,508	C	2			Y
1,509	C	2			Y
1,510	C	1			Y
1,511	C	2			Y
1,512	C	1			Y
1,513	C	2			Y
1,514	C	2			Y
1,515	C	2			Y
1,516	C	2			Y
1,517	C	2			Y
1,518	C	2			Y

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
1,519	C	2			Y
1,520	C	1			Y
1,521	C	1			Y
1,522	C	5			Y
1,523	C	2			Y
1,524	C	2			Y
1,525	C	2			Y
1,526	C	2			Y
1,527	C	2			Y
1,528	C	2			Y
1,529	C	2			Y
1,530	C	2			Y
1,531	C	2			Y
1,532	C	2			Y
1,533	C	2			Y
1,534	C	2			Y
1,535	C	2			Y
1,536	C	1			Y
1,537	C	5			Y
1,538	C	3			N
1,539	C	1			N
1,540	C	1			N
1,541	C	1			N
1,542	C	2			Y
1,543	C	2			Y
1,544	C	2			Y
1,545	C	1			Y
1,546	C	2			Y
1,547	C	1			Y
1,548	C	2			Y
1,549	C	1			Y
1,550	C	2			Y
1,551	C	2			Y
1,552	C	2			Y
1,553	C	2			Y
1,554	C	2			Y
1,555	C	2			Y
1,556	C	1			Y
1,557	C	2			N
1,558	C	2			Y
1,559	C	2			Y
1,560	C	2			N
1,561	C	1			N
1,562	C	2			N
1,563	C	2			N
1,564	C	2			N
1,565	C	2			N
1,566	C	1			N
1,567	C	1			Y
1,568	C	1			Y
1,569	C	2			Y
1,570	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
1,571	C	2			N
1,572	C	2			N
1,573	C	2			N
1,574	C	2			Y
1,575	C	2			N
1,576	C	2			N
1,577	C	2			N
1,578	C	2			N
1,579	C	2			N
1,580	C	2			Y
1,581	C	2			Y
1,582	C	2			Y
1,583	C	2			Y
1,584	C	2			Y
1,585	C	2			Y
1,586	C	5			Y
1,587	C	1			Y
1,588	C	2			Y
1,589	C	2			Y
1,590	C	1			N
1,591	C	2			Y
1,594	C	3			Y
1,595	C	2			Y
1,596	C	2			Y
1,597	C	2			Y
1,598	C	3			Y
1,599	C	3			Y
1,600	C	3			Y
1,601	C	2			Y
1,602	C	3			Y
1,603	C	3			Y
1,604	C	3			Y
1,605	C	2			Y
1,606	C	2			Y
1,607	C	3			Y
1,608	C	3			Y
1,609	C	2			Y
1,610	C	2			Y
1,611	C	2			Y
1,612	C	2			Y
1,613	C	4			Y
1,614	C	5			Y
1,615	C	3			Y
1,616	C	2			Y
1,617	C	2			Y
1,618	C	2			Y
1,619	C	2			Y
1,620	C	2			Y
1,621	C	2			Y
1,622	C	2			Y
1,623	C	5			Y
1,624	C	4			Y

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
1,625	C	3			Y
1,626	C	2			Y
1,627	C	2			Y
1,628	C	2			Y
1,629	C	2			Y
1,630	C	2			Y
1,631	C	1			Y
1,632	C	1			Y
1,633	C	2			Y
1,634	C	2			Y
1,635	C	2			Y
1,636	C	2			Y
1,637	C	2			Y
1,638	C	2			Y
1,639	C	3			Y
1,640	C	2			Y
1,641	C	2			Y
1,642	C	2			Y
1,643	C	3			Y
1,644	C	2			Y
1,645	C	2			Y
1,646	C	2			Y
1,647	C	2			Y
1,648	C	2			Y
1,649	C	2			Y
1,650	C	2			Y
1,651	C	2			Y
1,652	C	2			Y
1,653	C	2			Y
1,654	C	3			Y
1,655	C	3			Y
1,656	C	3			Y
1,657	C	3			Y
1,658	C	2			Y
1,659	C	2			Y
1,660	C	2			Y
1,661	C	2			Y
1,662	C	2			Y
1,663	C	2			Y
1,664	C	2			Y
1,665	C	3			Y
1,666	C	2			Y
1,667	C	2			Y
1,669	C	2			N
1,670	C	2			N
1,671	C	2			N
1,672	C	2			N
1,673	C	3			Y
1,674	C	2			N
1,675	C	2			Y
1,676	C	1			Y
1,677	C	1			Y

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
1,678	C	1			Y
1,679	C	2			Y
1,680	C	2			Y
1,681	C	2			Y
1,682	C	2			Y
1,683	C	2			Y
1,684	C	2			Y
1,685	C	2			Y
1,686	C	3			Y
1,687	C	5			Y
1,688	C	2			Y
1,689	C	1			Y
1,690	C	1			Y
1,691	C	5			Y
1,692	C	3			Y
1,693	C	2			Y
1,694	C	1			Y
1,695	C	2			Y
1,696	C	2			Y
1,697	C	2			Y
1,698	C	2			Y
1,699	C	2			Y
1,700	C	1			Y
1,701	C	1			Y
1,702	C	1			Y
1,703	C	2			Y
1,704	C	2			Y
1,705	C	2			Y
1,706	C	2			Y
1,707	C	2			Y
1,708	C	2			Y
1,709	C	2			Y
1,710	C	2			Y
1,711	C	2			Y
1,712	C	2			N
1,713	C	2			N
1,714	C	2			N
1,715	C	2			Y
1,716	C	2			Y
1,717	C	2			Y
1,718	C	2			Y
1,719	C	2			Y
1,720	C	2			Y
1,721	C	2			Y
1,722	C	2			Y
1,723	C	2			Y
1,724	C	2			Y
1,725	C	2			Y
1,726	C	2			Y
1,727	C	2			Y
1,728	C	2			N
1,729	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
1,730	C	2			N
1,731	C	2			N
1,732	C	2			N
1,733	C	2			N
1,734	C	2			Y
1,735	C	2			Y
1,736	C	1			Y
1,737	C	2			Y
1,738	C	2			N
1,739	C	2			N
1,740	C	2			N
1,741	C	2			N
1,742	C	2			N
1,743	C	2			N
1,744	C	4			N
1,745	C	4			N
1,746	C	2			N
1,747	C	2			N
1,748	C	2			N
1,749	C	2			N
1,750	C	2			N
1,751	C	2			Y
1,752	C	2			Y
1,753	C	2			Y
1,754	C	2			N
1,755	C	3			N
1,756	C	2			N
1,757	C	2			N
1,758	C	2			N
1,759	C	2			N
1,760	C	2			Y
1,761	C	2			Y
1,762	C	2			Y
1,763	C	3			Y
1,764	C	2			N
1,765	C	2			N
1,766	C	2			N
1,767	C	2			N
1,768	C	2			N
1,769	C	2			N
1,770	C	2			N
1,771	C	2			N
1,772	C	2			N
1,773	C	2			N
1,774	C	2			N
1,775	C	2			N
1,776	C	2			N
1,777	C	2			N
1,778	C	3			N
1,779	C	2			N
1,780	C	2			N
1,781	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
1,782	C	4			N
1,783	C	2			N
1,784	C	2			N
1,785	C	2			N
1,786	C	2			N
1,787	C	3			N
1,788	C	3			N
1,789	C	2			N
1,790	C	2			N
1,791	C	2			N
1,792	C	2			N
1,793	C	2			N
1,794	C	2			N
1,795	C	2			N
1,796	C	3			N
1,797	C	2			N
1,798	C	2			N
1,799	C	4			N
1,800	C	3			N
1,801	C	2			N
1,802	C	2			N
1,803	C	3			N
1,804	C	3			N
1,805	C	2			N
1,806	C	2			N
1,807	C	2			N
1,808	C	2			N
1,809	C	2			N
1,810	C	2			N
1,811	C	2			N
1,812	C	2			N
1,813	C	2			N
1,814	C	2			N
1,815	C	2			N
1,816	C	2			N
1,817	C	2			N
1,818	C	2			N
1,819	C	2			N
1,820	C	2			N
1,821	C	2			N
1,822	C	2			N
1,823	C	1			N
1,824	C	1			Y
1,825	C	2			Y
1,826	C	2			Y
1,827	C	2			Y
1,828	C	1			Y
1,830	C	2			Y
1,832	C	2			Y
1,833	C	1			Y
1,834	C	2			N
1,835	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
1,836	C	2			N
1,837	C	3			N
1,838	C	2			N
1,839	C	2			N
1,840	C	2			N
1,841	C	2			N
1,842	C	2			N
1,843	C	2			N
1,844	C	2			N
1,845	C	2			N
1,846	C	2			N
1,847	C	2			N
1,848	C	2			N
1,849	C	2			N
1,850	C	2			N
1,851	C	2			N
1,852	C	2			N
1,853	C	2			N
1,854	C	2			N
1,855	C	2			N
1,856	C	2			N
1,857	C	2			N
1,858	C	2			N
1,859	C	2			N
1,860	C	2			N
1,861	C	2			N
1,862	C	2			N
1,863	C	2			N
1,864	C	2			N
1,865	C	2			N
1,866	C	2			N
1,867	C	2			N
1,868	C	2			N
1,869	C	2			N
1,870	C	2			N
1,871	C	2			N
1,872	C	2			N
1,873	C	2			N
1,874	C	2			N
1,875	C	1			N
1,876	C	2			N
1,877	C	2			N
1,878	C	2			N
1,880	V	2			N
1,881	C	2			Y
1,882	C	2			N
1,883	C	2			N
1,884	C	2			N
1,885	C	2			N
1,886	C	2			N
1,887	C	3			N
1,888	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
1,889	C	2			N
1,890	C	2			N
1,891	C	2			N
1,892	C	2			N
1,893	C	2			N
1,894	C	2			N
1,895	C	2			N
1,896	C	2			N
1,897	V	2			N
1,898	V	2			N
1,899	V	2			N
1,900	V	2			N
1,901	C	2			N
1,902	C	2			N
1,903	C	2			N
1,904	C	2			N
1,905	C	2			N
1,906	C	2			N
1,907	C	2			N
1,908	C	2			N
1,909	C	2			N
1,910	C	2			N
1,911	C	2			N
1,912	C	2			N
1,913	C	2			N
1,914	C	2			N
1,915	C	2			N
1,916	C	2			N
1,917	C	2			N
1,918	V	1			N
1,919	V	2			N
1,920	V	4			N
1,921	C	2			N
1,922	V	2			N
1,923	V	2			N
1,924	V	2			N
1,925	V	2			N
1,926	V	2			N
1,927	C	2			N
1,928	V	2			N
1,929	V	2			N
1,930	V	2			N
1,931	V	2			N
1,932	V	2			N
1,933	V	2			N
1,934	V	2			N
1,935	V	2			N
1,936	V	2			N
1,937	V	2			N
1,938	V	2			N
1,939	V	2			N
1,940	V	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
1,941	V	2			N
1,942	V	2			N
1,943	V	2			N
1,944	V	2			N
1,945	V	2			N
1,946	V	2			N
1,947	V	2			N
1,948	V	2			N
1,949	V	2			N
1,950	V	2			N
1,951	V	2			N
1,952	V	2			N
1,953	V	2			N
1,954	V	2			N
1,955	V	2			N
1,956	V	2			N
1,957	V	2			N
1,958	V	5			N
1,959	V	1			N
1,960	V	1			N
1,961	C	2			N
1,962	C	2			N
1,963	C	2			N
1,964	C	2			N
1,965	C	2			N
1,966	C	2			N
1,967	C	2			N
1,968	C	2			N
1,969	C	2			N
1,970	C	2			N
1,971	C	2			N
1,972	C	2			N
1,973	C	2			N
1,974	C	2			N
1,975	C	2			N
1,976	C	2			N
1,977	C	2			N
1,978	C	2			N
1,979	C	1			N
1,980	C	3			N
1,981	C	2			N
1,982	C	2			N
1,983	C	2			N
1,984	C	2			N
1,985	C	2			N
1,986	C	2			N
1,987	C	2			N
1,988	C	2			N
1,989	C	2			N
1,990	C	2			N
1,991	C	2			N
1,992	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
1,993	C	2			N
1,994	C	2			N
1,995	C	2			N
1,996	C	2			N
1,997	C	2			N
1,998	C	2			N
1,999	C	2			N
2,000	C	2			N
2,001	C	2			N
2,002	C	2			N
2,003	C	2			N
2,004	C	2			N
2,005	C	2			N
2,006	C	2			N
2,007	C	3			N
2,008	C	3			N
2,009	C	2			N
2,010	C	2			N
2,011	C	2			N
2,012	C	2			N
2,013	C	2			N
2,014	C	2			N
2,015	C	2			N
2,016	C	2			N
2,017	C	2			N
2,018	C	2			Y
2,019	C	2			N
2,020	C	2			N
2,021	C	2			N
2,022	C	2			N
2,023	C	2			N
2,024	C	2			N
2,025	C	2			N
2,026	C	2			N
2,027	C	2			N
2,028	C	2			Y
2,029	C	2			Y
2,030	C	2			N
2,031	C	2			N
2,032	C	2			N
2,033	C	2			N
2,034	C	2			N
2,035	C	2			N
2,036	C	2			N
2,037	C	2			N
2,038	C	2			Y
2,039	C	2			Y
2,040	C	2			Y
2,041	C	2			N
2,042	C	2			N
2,043	C	2			N
2,044	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
2,045	C	2			N
2,046	C	2			N
2,047	C	2			N
2,048	C	2			N
2,049	C	2			N
2,050	C	2			N
2,051	C	2			N
2,052	C	2			N
2,053	C	1			N
2,054	C	2			Y
2,055	C	4			N
2,056	C	2			N
2,057	C	2			N
2,058	C	2			N
2,059	C	2			N
2,060	C	2			N
2,061	C	2			N
2,062	C	2			N
2,063	C	2			N
2,064	C	2			N
2,065	C	2			N
2,066	C	2			N
2,067	C	2			N
2,068	C	2			N
2,069	C	2			N
2,070	C	2			N
2,071	C	2			N
2,072	C	2			N
2,073	C	2			N
2,074	C	2			N
2,075	C	2			N
2,076	C	2			N
2,077	C	2			N
2,078	C	2			N
2,079	C	2			N
2,080	C	2			N
2,081	C	2			N
2,082	C	2			N
2,083	C	2			N
2,084	C	5			N
2,085	C	2			N
2,086	C	2			N
2,087	C	2			N
2,088	C	2			N
2,089	C	2			N
2,090	C	2			N
2,091	C	2			N
2,092	C	2			N
2,093	C	2			N
2,094	C	2			N
2,095	C	2			N
2,096	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
2,097	C	2			N
2,098	C	2			N
2,099	C	2			N
2,100	C	2			N
2,101	C	2			N
2,102	C	2			N
2,103	C	2			N
2,104	C	2			N
2,105	C	2			N
2,106	C	2			N
2,107	C	2			N
2,108	C	2			N
2,109	V	2			N
2,110	V	2			N
2,111	C	2			N
2,112	C	2			N
2,113	C	2			N
2,114	C	2			N
2,115	C	2			N
2,116	C	2			N
2,117	C	2			N
2,118	C	2			N
2,119	C	2			N
2,120	C	2			N
2,121	C	2			N
2,122	C	2			N
2,123	C	2			N
2,124	C	2			N
2,125	C	2			N
2,126	C	2			N
2,127	C	2			N
2,128	C	2			N
2,129	C	2			N
2,130	C	2			N
2,131	C	2			N
2,132	C	2			N
2,133	C	2			N
2,134	C	2			N
2,135	C	2			N
2,136	C	2			N
2,137	C	2			N
2,138	C	2			N
2,139	C	2			N
2,140	C	2			N
2,141	C	2			N
2,142	C	2			N
2,143	C	2			N
2,144	C	2			N
2,145	C	2			N
2,146	C	2			N
2,147	C	2			N
2,148	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
2,149	C	2			N
2,150	C	2			N
2,151	C	2			N
2,152	C	2			N
2,153	C	2			N
2,154	C	2			N
2,155	C	2			N
2,156	C	2			N
2,157	C	2			N
2,158	C	2			N
2,159	C	2			N
2,160	C	2			N
2,161	C	2			N
2,162	C	2			N
2,163	C	2			N
2,164	C	2			N
2,165	C	2			N
2,166	C	2			N
2,167	C	2			N
2,168	C	2			N
2,169	C	2			N
2,170	C	2			N
2,171	C	2			N
2,172	C	2			N
2,173	C	2			N
2,174	C	2			N
2,175	C	2			N
2,176	C	2			N
2,177	C	2			N
2,178	C	2			N
2,179	C	2			N
2,180	C	2			N
2,181	C	2			N
2,182	C	2			N
2,183	C	2			N
2,184	C	2			N
2,185	C	2			N
2,186	C	2			N
2,187	C	2			N
2,188	C	2			N
2,189	C	2			N
2,190	C	2			N
2,191	C	4			N
2,192	C	3			N
2,193	C	3			N
2,194	C	2			N
2,195	C	2			N
2,196	C	2			N
2,197	C	1			N
2,198	C	3			N
2,199	C	2			N
2,200	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
2,201	C	2			N
2,202	C	2			N
2,203	C	2			N
2,204	C	2			N
2,205	C	2			N
2,206	C	2			N
2,207	C	2			N
2,208	C	2			N
2,209	C	2			N
2,210	C	2			N
2,211	C	2			N
2,212	C	2			N
2,213	C	2			N
2,214	C	2			N
2,215	C	2			N
2,216	C	2			N
2,217	C	2			N
2,218	C	2			N
2,219	C	2			N
2,220	C	2			N
2,221	C	2			N
2,222	C	2			N
2,223	C	2			N
2,224	C	2			N
2,225	C	2			N
2,226	C	2			N
2,227	C	2			N
2,228	C	2			N
2,229	C	2			N
2,230	C	2			N
2,231	C	2			N
2,232	C	2			N
2,233	C	2			N
2,234	C	2			N
2,235	C	2			N
2,236	C	2			N
2,237	C	2			N
2,238	C	2			N
2,239	C	2			N
2,240	C	2			N
2,241	C	2			N
2,242	C	2			N
2,243	C	2			N
2,244	C	2			N
2,245	C	2			N
2,246	C	2			N
2,247	C	2			N
2,248	C	2			N
2,249	C	2			N
2,250	C	2			N
2,251	C	2			N
2,252	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
2,253	C	2			N
2,254	C	2			N
2,255	C	2			N
2,256	C	2			N
2,257	C	2			N
2,258	C	2			N
2,259	C	2			N
2,260	C	2			N
2,261	C	2			N
2,262	C	2			Y
2,263	C	2			Y
2,264	C	2			Y
2,265	C	2			Y
2,266	C	2			Y
2,267	C	2			Y
2,268	C	2			Y
2,269	C	2			Y
2,270	C	2			Y
2,271	C	2			Y
2,272	C	3			Y
2,273	C	2			N
2,274	C	2			Y
2,275	C	3			Y
2,276	C	2			Y
2,277	C	2			Y
2,278	C	3			Y
2,279	C	2			Y
2,280	C	2			Y
2,281	C	2			Y
2,282	C	3			Y
2,283	C	2			N
2,284	C	2			N
2,285	C	5			N
2,286	C	2			N
2,287	C	2			N
2,288	C	2			N
2,289	C	1			N
2,290	C	2			N
2,291	C	2			N
2,292	C	2			N
2,293	C	2			Y
2,294	C	2			Y
2,295	C	2			Y
2,296	C	2			Y
2,297	C	1			Y
2,298	C	2			Y
2,299	C	2			Y
2,300	C	2			Y
2,301	C	2			Y
2,302	C	1			Y
2,303	C	1			Y
2,304	C	1			Y

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
2,305	C	1			Y
2,306	C	1			Y
2,307	C	2			Y
2,308	C	2			Y
2,311	C	1			Y
2,312	C	1			Y
2,313	V	3			Y
2,314	C	3			Y
2,315	C	2			Y
2,319	C	1			N
2,320	C	1			N
2,321	C	1			N
2,322	C	1			N
2,323	C	1			N
2,324	C	1			N
2,325	C	1			N
2,326	C	2			N
2,327	C	2			N
2,328	C	2			N
2,329	C	2			N
2,330	C	2			N
2,331	C	2			N
2,332	C	2			N
2,333	C	2			N
2,334	C	2			N
2,335	C	2			N
2,336	C	2			N
2,337	C	2			N
2,338	C	2			N
2,339	C	2			N
2,340	C	2			N
2,341	C	2			N
2,342	C	2			N
2,343	C	2			N
2,344	C	2			N
2,345	C	2			N
2,346	C	2			Y
2,347	C	2			Y
2,348	C	2			Y
2,349	C	2			Y
2,350	C	2			N
2,351	C	2			N
2,352	C	2			N
2,353	C	2			N
2,354	C	2			N
2,355	C	2			N
2,356	C	2			N
2,357	C	2			Y
2,358	C	2			Y
2,359	C	2			Y
2,360	C	1			Y
2,361	C	2			Y

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
2,362	C	2			Y
2,363	C	2			Y
2,364	C	2			Y
2,365	C	1			Y
2,366	C	2			N
2,367	C	2			N
2,368	C	2			Y
2,369	C	2			N
2,370	C	2			Y
2,371	C	2			Y
2,372	C	2			Y
2,373	C	2			Y
2,374	C	2			Y
2,375	C	2			N
2,376	C	3			N
2,377	C	2			N
2,378	C	2			N
2,379	C	2			N
2,380	C	2			N
2,381	C	2			N
2,382	C	2			N
2,383	C	2			N
2,384	C	2			N
2,385	C	2			N
2,386	C	2			N
2,387	C	2			N
2,388	C	2			N
2,389	C	2			N
2,390	C	2			N
2,391	C	2			N
2,392	C	2			N
2,393	C	2			N
2,394	C	2			N
2,395	C	2			N
2,396	C	2			N
2,397	C	2			N
2,398	C	2			Y
2,399	C	3			Y
2,400	C	2			Y
2,401	C	2			Y
2,402	C	2			Y
2,403	C	2			Y
2,404	C	2			N
2,405	C	2			Y
2,406	C	2			Y
2,407	C	2			N
2,408	C	2			N
2,409	C	2			N
2,410	C	2			N
2,411	C	2			N
2,412	C	2			N
2,413	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
2,414	C	2			N
2,415	C	2			N
2,416	C	2			N
2,417	C	2			N
2,418	C	1			N
2,419	C	2			N
2,420	C	2			N
2,421	C	2			N
2,422	C	2			Y
2,423	C	2			Y
2,424	C	2			Y
2,425	C	2			Y
2,426	C	2			Y
2,427	C	2			Y
2,428	C	2			Y
2,429	C	2			N
2,430	C	2			Y
2,431	C	2			Y
2,432	C	2			N
2,433	C	2			N
2,434	C	2			Y
2,435	C	2			Y
2,436	C	2			N
2,437	C	2			N
2,438	C	2			Y
2,439	C	2			N
2,440	C	2			N
2,441	C	3			N
2,442	C	3			N
2,443	C	3			N
2,444	C	2			N
2,445	C	2			N
2,446	C	2			N
2,447	C	2			N
2,448	C	2			N
2,449	C	2			Y
2,450	C	2			N
2,451	C	2			N
2,452	C	2			N
2,453	C	2			N
2,454	C	2			N
2,455	C	2			N
2,456	C	2			N
2,457	C	2			N
2,458	C	4			N
2,459	C	2			N
2,460	C	2			N
2,461	C	2			N
2,462	C	2			N
2,463	C	2			N
2,464	C	2			N
2,465	C	3			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
2,466	C	2			N
2,467	C	2			N
2,468	C	2			N
2,469	C	2			N
2,470	C	2			N
2,471	C	2			N
2,472	C	2			N
2,473	C	2			N
2,474	C	5			N
2,475	C	2			N
2,476	C	2			N
2,477	C	2			N
2,478	C	2			N
2,479	C	2			N
2,480	C	2			N
2,481	C	2			N
2,482	C	2			N
2,483	C	2			N
2,484	C	2			N
2,485	C	2			N
2,486	C	2			N
2,487	C	2			N
2,488	C	2			N
2,489	C	2			N
2,490	C	2			N
2,491	C	2			N
2,492	C	2			N
2,493	C	2			N
2,494	C	2			N
2,495	C	2			N
2,496	C	2			N
2,497	C	2			N
2,498	C	2			N
2,499	C	2			N
2,500	C	2			N
2,501	C	2			N
2,502	C	2			N
2,503	C	2			N
2,504	C	2			N
2,505	C	2			N
2,506	C	2			N
2,507	C	2			N
2,508	C	2			N
2,509	C	2			N
2,510	C	2			N
2,511	C	2			N
2,512	C	2			N
2,513	C	2			N
2,514	C	2			N
2,515	C	2			N
2,516	C	2			N
2,517	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
2,518	C	2			N
2,519	C	2			N
2,520	C	2			N
2,521	C	2			N
2,522	C	2			N
2,523	C	2			N
2,524	C	2			N
2,525	C	2			N
2,526	C	2			N
2,527	C	2			Y
2,528	C	2			N
2,529	C	2			N
2,530	C	2			N
2,531	C	2			N
2,532	C	2			N
2,533	C	2			N
2,534	C	2			N
2,535	C	2			N
2,536	C	2			N
2,537	C	2			N
2,538	C	2			N
2,539	C	2			N
2,540	C	2			N
2,541	C	2			N
2,542	C	2			N
2,543	C	2			N
2,544	C	2			N
2,545	C	2			N
2,546	C	2			N
2,547	C	2			N
2,548	C	2			N
2,549	C	2			N
2,550	C	2			N
2,551	C	2			N
2,552	C	2			N
2,553	C	2			N
2,554	C	2			N
2,555	C	2			N
2,556	C	2			N
2,557	C	2			N
2,558	C	2			N
2,559	C	2			N
2,560	C	2			N
2,561	C	2			N
2,562	C	2			N
2,563	C	2			N
2,564	C	2			Y
2,565	C	2			Y
2,566	C	2			Y
2,567	C	2			Y
2,568	C	2			Y
2,569	C	2			Y

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
2,570	C	2			Y
2,571	C	2			Y
2,572	C	2			Y
2,573	C	2			N
2,574	C	1			N
2,575	C	2			N
2,576	C	2			N
2,577	C	2			N
2,578	C	1			N
2,579	C	1			N
2,580	C	2			N
2,581	C	2			N
2,582	C	2			Y
2,583	C	2			Y
2,584	C	2			Y
2,585	C	2			Y
2,586	C	2			Y
2,587	C	2			Y
2,588	C	2			Y
2,589	C	3			Y
2,590	C	2			Y
2,591	C	2			Y
2,592	C	2			Y
2,593	C	2			Y
2,594	C	2			Y
2,595	C	2			Y
2,596	C	2			Y
2,597	C	2			N
2,598	C	1			N
2,599	C	2			N
2,600	C	2			N
2,601	C	2			N
2,602	C	1			N
2,603	C	2			N
2,604	C	2			N
2,605	C	2			N
2,606	C	2			N
2,607	C	2			N
2,608	C	4			N
2,609	C	2			N
2,610	C	2			N
2,611	C	2			Y
2,612	C	2			Y
2,613	C	2			Y
2,614	C	2			Y
2,615	C	3			N
2,616	C	2			N
2,617	C	2			N
2,618	C	2			N
2,619	C	2			N
2,620	C	2			N
2,621	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
2,622	C	2			N
2,623	C	2			N
2,624	C	2			N
2,625	C	2			N
2,626	C	2			N
2,627	C	2			N
2,628	C	2			N
2,629	C	2			N
2,630	C	5			N
2,631	C	1			N
2,632	C	2			N
2,633	C	1			N
2,634	C	2			N
2,635	C	2			N
2,636	C	2			N
2,637	C	2			N
2,638	C	2			N
2,639	C	1			N
2,640	C	2			Y
2,641	C	2			Y
2,642	C	2			Y
2,643	C	2			N
2,644	C	2			N
2,645	C	2			N
2,646	C	2			N
2,647	C	2			N
2,648	C	2			N
2,649	C	2			N
2,650	C	2			N
2,651	C	4			N
2,652	C	2			N
2,653	C	2			N
2,654	C	2			N
2,655	C	2			N
2,656	C	2			N
2,657	C	2			N
2,658	C	2			N
2,659	C	5			N
2,660	C	4			N
2,661	C	2			N
2,662	C	2			N
2,663	C	2			N
2,664	C	2			N
2,665	C	2			N
2,666	C	2			N
2,667	C	3			N
2,668	C	2			N
2,669	C	2			N
2,670	C	2			N
2,671	C	2			N
2,672	C	2			N
2,673	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
2,674	C	2			N
2,675	C	2			N
2,676	C	2			N
2,677	C	2			N
2,678	C	1			N
2,679	C	2			N
2,680	C	2			N
2,681	C	2			N
2,682	C	2			N
2,683	C	1			N
2,684	C	4			N
2,685	C	2			N
2,686	C	2			N
2,687	C	2			N
2,688	C	3			N
2,689	C	2			N
2,690	C	1			N
2,691	C	1			N
2,692	C	2			N
2,693	C	2			N
2,694	C	2			N
2,695	C	2			N
2,696	C	2			N
2,697	C	2			N
2,698	C	3			N
2,699	C	2			N
2,700	C	2			N
2,701	C	4			N
2,702	C	5			N
2,703	C	4			N
2,704	C	3			N
2,705	C	2			N
2,706	C	2			N
2,707	C	2			Y
2,708	C	2			Y
2,709	C	2			Y
2,710	C	2			N
2,711	C	2			N
2,712	C	2			Y
2,713	C	2			Y
2,714	C	2			N
2,715	C	2			N
2,716	C	2			N
2,717	C	2			Y
2,718	C	2			Y
2,719	C	2			Y
2,720	C	2			Y
2,721	C	2			Y
2,722	C	2			Y
2,723	C	2			Y
2,724	C	2			Y
2,725	C	2			Y

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
2,726	C	2			Y
2,727	C	2			Y
2,728	C	2			Y
2,729	C	2			Y
2,730	C	2			Y
2,731	C	2			Y
2,732	C	2			Y
2,733	C	2			N
2,734	C	2			N
2,735	C	2			N
2,736	C	2			Y
2,737	C	2			Y
2,738	C	2			Y
2,739	C	2			Y
2,740	C	2			Y
2,741	C	2			Y
2,742	C	2			Y
2,743	C	2			N
2,744	C	2			N
2,745	C	2			N
2,746	C	2			N
2,747	C	2			N
2,748	C	2			N
2,749	C	2			N
2,750	C	2			N
2,751	C	2			N
2,752	C	2			N
2,753	C	2			N
2,754	C	2			N
2,755	C	2			N
2,756	C	2			N
2,757	C	2			N
2,758	C	2			N
2,759	C	2			N
2,760	C	2			Y
2,761	C	3			N
2,762	C	2			N
2,763	C	2			N
2,764	C	2			N
2,765	C	2			N
2,766	C	2			N
2,767	C	2			N
2,768	C	2			N
2,769	C	2			N
2,770	C	2			N
2,771	C	2			N
2,772	C	2			N
2,773	C	2			N
2,774	C	2			N
2,775	C	2			N
2,776	C	2			N
2,777	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
2,778	C	2			N
2,779	C	2			N
2,780	C	2			N
2,781	C	2			N
2,782	C	2			N
2,783	C	2			N
2,784	C	2			N
2,785	C	2			N
2,786	C	2			N
2,787	C	2			N
2,788	C	2			N
2,789	C	2			N
2,790	C	2			N
2,791	C	2			N
2,792	C	2			N
2,793	C	2			N
2,794	C	2			N
2,795	C	2			N
2,796	C	2			N
2,797	C	2			Y
2,798	C	2			N
2,799	C	2			N
2,800	C	2			N
2,801	C	2			N
2,802	C	2			N
2,803	C	2			N
2,804	C	2			N
2,805	C	2			N
2,806	C	2			N
2,807	C	2			N
2,808	C	3			N
2,809	C	3			N
2,810	C	1			N
2,811	C	3			N
2,812	C	1			N
2,813	C	1			N
2,814	C	3			N
2,815	C	3			N
2,816	C	3			N
2,817	C	1			N
2,818	C	1			N
2,819	C	1			N
2,820	C	1			N
2,821	C	1			N
2,822	C	1			N
2,823	C	3			N
2,824	C	2			Y
2,825	C	2			Y
2,826	C	2			Y
2,827	C	2			Y
2,828	C	2			N
2,829	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
2,830	C	2			N
2,831	C	2			N
2,832	C	2			N
2,833	C	2			N
2,834	C	2			N
2,835	C	2			N
2,836	C	2			N
2,837	C	2			N
2,838	C	2			N
2,839	C	2			N
2,840	C	2			N
2,841	C	2			N
2,842	C	2			N
2,843	C	2			N
2,844	C	2			N
2,845	C	2			N
2,846	C	2			N
2,847	C	2			N
2,848	C	2			N
2,849	C	2			N
2,850	C	2			N
2,851	C	2			N
2,852	C	2			N
2,853	C	2			N
2,854	C	2			N
2,855	C	2			N
2,856	C	2			N
2,857	C	2			N
2,858	C	2			N
2,859	C	2			N
2,860	C	2			N
2,861	C	2			N
2,862	C	2			N
2,863	C	2			N
2,864	C	2			N
2,865	C	2			N
2,866	C	2			N
2,867	C	2			N
2,868	C	2			N
2,869	C	2			N
2,870	C	2			N
2,871	C	2			N
2,872	C	2			N
2,873	C	2			N
2,874	C	2			N
2,875	C	2			N
2,876	C	2			N
2,877	C	2			N
2,878	C	2			N
2,879	C	2			N
2,880	C	2			N
2,881	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
2,882	C	2			N
2,883	C	2			N
2,884	C	2			N
2,885	C	2			N
2,886	C	2			N
2,887	C	2			N
2,888	C	2			N
2,889	C	2			N
2,890	C	2			N
2,891	C	2			N
2,892	C	2			N
2,893	C	2			N
2,894	C	2			N
2,895	C	2			N
2,896	C	2			N
2,897	C	2			N
2,898	C	2			N
2,899	C	2			N
2,900	C	2			N
2,901	C	2			N
2,902	C	2			N
2,903	C	2			N
2,904	C	1			N
2,905	C	2			N
2,906	C	2			N
2,907	C	2			N
2,908	C	2			N
2,909	C	2			N
2,910	C	2			N
2,911	C	1			N
2,912	C	1			N
2,913	C	2			N
2,914	C	3			N
2,915	C	2			N
2,916	C	2			N
2,917	C	2			N
2,918	C	1			N
2,919	C	1			N
2,920	C	1			N
2,921	C	1			N
2,922	C	2			N
2,923	C	2			N
2,924	C	2			N
2,925	C	2			N
2,926	C	2			N
2,927	C	2			N
2,928	C	2			N
2,929	C	2			N
2,930	C	2			N
2,931	C	2			N
2,932	C	1			N
2,933	C	1			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
2,934	C	1			N
2,935	C	2			N
2,936	C	2			N
2,937	C	2			N
2,938	C	2			N
2,939	C	2			N
2,940	C	2			N
2,941	C	4			N
2,942	C	5			N
2,943	C	3			N
2,944	C	2			N
2,945	C	2			N
2,946	C	2			N
2,947	C	2			N
2,948	C	2			N
2,949	C	2			N
2,950	C	2			N
2,951	C	2			N
2,952	C	2			N
2,953	C	2			N
2,954	C	2			N
2,955	C	2			N
2,956	C	2			N
2,957	C	2			N
2,958	C	2			N
2,959	C	2			N
2,960	C	2			N
2,961	C	3			N
2,962	C	2			N
2,963	C	2			N
2,964	C	2			N
2,965	C	2			N
2,966	C	2			N
2,967	C	2			N
2,968	C	2			Y
2,969	C	2			N
2,970	C	2			N
2,971	C	2			N
2,972	C	2			N
2,973	C	2			N
2,974	C	2			N
2,975	C	2			N
2,976	C	2			N
2,977	C	2			N
2,978	C	2			N
2,979	C	2			N
2,980	C	2			N
2,981	C	2			N
2,982	C	2			N
2,983	C	2			N
2,984	C	2			N
2,985	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
2,986	C	2			Y
2,987	C	2			Y
2,988	C	2			Y
2,989	C	2			Y
2,990	C	2			Y
2,991	C	2			Y
2,992	C	2			Y
2,993	C	2			Y
2,994	C	2			Y
2,995	C	2			Y
2,996	C	2			N
2,997	C	2			Y
2,998	C	2			Y
2,999	C	2			N
3,000	C	3			N
3,001	C	4			N
3,002	C	2			N
3,003	C	2			N
3,004	C	2			N
3,005	C	2			N
3,006	C	2			N
3,007	C	2			N
3,008	C	2			N
3,009	C	2			N
3,010	C	2			N
3,011	C	2			N
3,012	C	2			N
3,013	C	2			N
3,014	C	2			N
3,015	C	4			N
3,016	C	4			N
3,017	C	4			N
3,018	C	4			N
3,019	C	4			N
3,020	C	4			N
3,021	C	4			N
3,022	C	4			N
3,023	C	4			N
3,024	C	4			N
3,025	C	5			N
3,026	C	2			N
3,027	C	2			N
3,028	C	2			N
3,029	C	2			N
3,030	C	2			N
3,031	C	2			N
3,032	C	2			N
3,033	C	2			N
3,034	C	2			N
3,035	C	2			N
3,036	C	2			N
3,037	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
3,038	C	2			N
3,039	C	2			N
3,040	C	2			N
3,041	C	2			N
3,042	C	2			N
3,043	C	2			N
3,044	C	2			N
3,045	C	2			N
3,046	C	2			N
3,047	C	2			N
3,048	C	2			N
3,049	C	2			N
3,050	C	2			N
3,051	C	2			N
3,052	C	2			N
3,053	C	3			N
3,054	C	1			N
3,055	C	1			N
3,056	C	1			N
3,057	C	1			N
3,058	C	2			N
3,059	C	2			N
3,060	C	2			N
3,061	C	2			N
3,062	C	2			N
3,063	C	2			N
3,064	C	2			N
3,065	C	2			N
3,066	C	2			N
3,067	C	2			N
3,068	C	2			N
3,069	C	2			N
3,070	C	2			N
3,071	C	2			N
3,072	C	2			N
3,073	C	2			N
3,074	C	2			N
3,075	C	2			N
3,076	C	2			N
3,077	C	2			N
3,078	C	2			N
3,079	C	2			N
3,080	C	2			N
3,081	C	2			N
3,082	C	2			N
3,083	C	2			N
3,084	C	2			N
3,085	C	2			N
3,086	C	2			N
3,087	C	2			N
3,088	C	2			N
3,089	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
3,090	C	2			N
3,091	C	3			N
3,092	C	2			N
3,093	C	2			N
3,094	C	2			N
3,095	C	2			N
3,096	C	2			N
3,097	C	2			N
3,098	C	2			N
3,099	C	2			N
3,100	C	3			N
3,101	C	2			N
3,102	C	2			N
3,103	C	2			N
3,104	C	2			N
3,105	C	2			N
3,106	C	2			N
3,107	C	3			N
3,108	C	3			N
3,109	C	2			Y
3,110	C	2			N
3,111	C	2			N
3,112	C	2			N
3,113	C	2			N
3,114	C	2			N
3,115	C	2			N
3,116	C	2			N
3,117	C	2			N
3,118	C	2			N
3,119	C	2			N
3,120	C	3			N
3,121	C	3			N
3,122	C	3			N
3,123	C	2			N
3,124	C	2			N
3,125	C	2			Y
3,126	C	2			Y
3,127	C	2			Y
3,130	V	2			N
3,131	V	2			N
3,132	V	2			N
3,133	V	2			N
3,134	V	3			N
3,135	V	2			N
3,136	V	1			N
3,137	V	2			N
3,139	V	2			N
3,141	V	2			N
3,143	C	2			N
3,144	V	3			N
3,145	V	2			N
3,146	V	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
3,150	C	2			N
3,151	V	2			N
3,155	V	2			N
3,156	V	2			Y
3,157	C	2			Y
3,158	C	2			Y
3,159	C	2			Y
3,160	C	1			Y
3,161	C	2			Y
3,162	C	2			Y
3,163	C	2			N
3,164	C	2			N
3,165	C	2			N
3,166	C	2			Y
3,167	C	2			Y
3,168	C	2			Y
3,169	C	3			Y
3,170	C	2			Y
3,171	C	2			Y
3,172	C	2			Y
3,173	C	3			Y
3,174	C	2			Y
3,175	C	1			Y
3,176	C	2			Y
3,177	C	2			Y
3,178	C	2			Y
3,179	C	2			Y
3,180	C	2			Y
3,181	C	2			Y
3,182	C	2			Y
3,183	V	2			Y
3,185	V	2			Y
3,186	V	2			Y
3,187	V	5			Y
3,188	V	2			Y
3,189	V	2			Y
3,190	V	2			Y
3,191	V	2			Y
3,192	V	3			Y
3,193	V	2			Y
3,194	V	2			Y
3,195	V	2			Y
3,196	V	3			Y
3,197	V	3			Y
3,198	V	3			Y
3,199	V	2			Y
3,200	V	2			Y
3,202	V	2			Y
3,204	V	2			Y
3,222	C	2			Y
3,223	C	2			Y
3,224	C	2			Y

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
3,225	C	2			Y
3,226	C	2			Y
3,227	C	2			Y
3,228	C	2			Y
3,229	C	2			Y
3,230	C	2			Y
3,231	C	2			Y
3,232	C	2			Y
3,233	C	2			Y
3,234	C	2			Y
3,235	C	2			Y
3,236	C	2			Y
3,237	C	2			Y
3,238	C	2			Y
3,239	C	2			Y
3,240	C	2			Y
3,241	C	2			Y
3,242	C	3			N
3,243	C	2			N
3,244	C	2			N
3,245	C	2			N
3,246	C	2			N
3,247	C	2			N
3,248	C	2			N
3,249	C	2			N
3,250	C	2			N
3,251	C	2			N
3,252	C	2			Y
3,253	C	2			Y
3,254	C	2			N
3,255	C	2			Y
3,256	C	2			Y
3,257	C	2			Y
3,258	C	2			Y
3,259	C	2			Y
3,260	C	5			Y
3,261	C	3			Y
3,262	C	5			N
3,263	C	4			N
3,264	C	2			N
3,265	C	2			N
3,266	C	2			N
3,267	C	2			Y
3,268	C	2			Y
3,269	C	2			Y
3,270	C	2			Y
3,271	V	2			N
3,272	V	2			N
3,273	C	3			Y
3,274	V	2			Y
3,275	V	2			Y
3,276	V	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
3,277	V	2			N
3,279	V	2			N
3,280	C	2			Y
3,281	C	2			Y
3,282	C	3			N
3,283	C	4			N
3,284	C	2			N
3,285	C	2			N
3,286	C	2			N
3,287	C	2			N
3,288	V	2			N
3,289	V	2			N
3,290	C	2			Y
3,291	C	3			Y
3,292	C	2			N
3,293	C	2			N
3,294	C	2			N
3,295	C	2			N
3,296	C	2			N
3,301	V	2			N
3,303	V	3			N
3,304	V	2			N
3,315	C	2			N
3,316	C	2			N
3,317	C	2			N
3,318	C	2			N
3,319	C	2			N
3,320	C	2			N
3,321	C	2			Y
3,322	C	2			Y
3,323	C	2			Y
3,324	C	1			N
3,325	C	2			N
3,326	C	2			N
3,327	C	2			N
3,328	C	2			N
3,329	C	2			N
3,330	C	3			N
3,331	C	3			N
3,332	C	3			N
3,333	C	2			N
3,334	C	2			N
3,335	C	2			N
3,336	C	3			N
3,337	C	1			Y
3,338	C	2			N
3,339	C	2			Y
3,340	C	2			N
3,341	C	2			N
3,342	C	2			N
3,343	C	2			N
3,344	C	2			N

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
3,345	C	2			N
3,346	C	2			N
3,347	C	2			N
3,348	C	2			N
3,349	V	2			N
3,350	V	5			N
3,351	C	1			N
3,352	C	2			N
3,353	C	2			Y
3,354	C	2			Y
3,355	C	2			Y
3,356	C	2			N
3,357	C	2			N
3,358	C	2			N
3,359	C	2			N
3,360	C	2			Y
3,361	V	1	HERITAGE	166	N
3,362	V	1	HERITAGE	122	N
3,363	V	1	HERITAGE	136	N
3,364	V	1	HERITAGE	125	N
3,365	V	1	HERITAGE	122	N
3,366	V	2			N
3,367	V	2			Y
3,368	V	1			N
3,369	V	2			N
3,370	C	2			N
3,371	C	2			N
3,372	C	2			N
3,373	C	2			N
3,374	C	2			N
3,375	C	2			N
3,376	C	2			N
3,377	C	2			N
3,378	C	2			N
3,379	C	2			N
3,380	C	4			N
3,381	C	4			N
3,382	C	4			N

Total trees surveyed within Project Boundary - 3,303. Trees surveyed outside of project boundary were omitted from this report.

NEWHALL RANCH OFFSITE OAK TREES

Summer, 1995

1. TYPE
   - C - Coastal Live Oak, Quercus agrifolia
   - V - Valley Oak, Quercas lobata

2. HEALTH
   - 1 - Excellant large trees
   - 2 - Very good to good trees
   - 3 - Moderately good or crowded trees
   - 4 - Trees with strong dieback
   - 5 - Dead standing trees

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (Y/N)
3,383	C	2			Y
3,384	C	2			Y
3,385	C	2			Y
3,386	C	2			Y
3,387	C	1	HERITAGE	114	Y
3,388	C	2			Y
			Total impacted trees outside of project boundary -		6

INDEPENDENT ENVIRONMENTAL CONSULTANTS

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An Enumeration of oaks from the "High Country" and a reevaluation of impacts on oaks on the Newhall Ranch Site.

A study has been undertaken to determine the number of oaks in the "High Country" portion of the Newhall Ranch site of the Newhall Ranch Company. In the initial analysis of oak tree resources of the Newhall Ranch an estimate of the number of trees in the High Country was made based on the acreage indicated as having oaks on the vegetation map and the average numbers of oaks per acre recorded from groves in the northern portion of the site where oaks were individually mapped and evaluated. This resulted in a tentative estimate of 8,500 oak trees for the High Country. As a means of verifying this number I was asked to make a separate evaluation of oak tree resources in the "High Country" portion of Newhall Ranch. The results of this study are reported below.

The initial grading plans for the development of the northern portion of the Newhall Ranch site were completed prior to the evaluation of the oak tree resources on the site. This resulted in a moderate impact on oak tree resources as noted in the report dated September 6, 1995. Since that time the initial grading plan has been revised to reduce impact on oak-tree resources on the site. A series of new tables are presented summarizing the total impact on oaks on the Newhall Ranch site.

Oak tree resources in the "High Country": This approximately 3200-acre portion of the Newhall Ranch lies along the north slope of the Santa Susana Mountains south of the portion of the site proposed for development. The site is very rugged, ranging from 1200 to 3150 feet in elevation, with the highest elevations occurring along the ridgeline of the Santa Susana range. The site drains to the north though a series of steep canyons into Salt Creek and the East fork of Salt Creek and from there westward into the Santa Clara River. The extreme northeastern portion of the site drains into Pico Canyon. The upper, southern portion of the site has a more gradual topography and much of this area consists of open grasslands with an overstory of valley oak (*Quercus lobata*). The Coastal live oaks (*Quercus agrifolia*) occur mostly along the drainages and in the steep canyons and in areas of north-facing slopes. Other slopes contain dense stands of mixed chaparral vegetation with more exposed slopes having coastal sage scrub. Some direct south-facing slopes have a very open coastal sage scrub-disturbed grassland vegetation. While the upper slopes have been burned over in the past and are presently

grazed by cattle, the middle portion of the site is too rugged for cattle access and remains in a very natural condition.

Roadway access to the site is very limited. A graded roadway extends along Salt Canyon that forms the northern boundary of this study area. A similar graded ridge trail continues all along the ridge of Santa Susana Mountains and crosses the southern portion of the site. A trail extends from the mouth of Salt Canyon up to the ridge trail through the property immediately west of the site. The entire middle portion of the site is without road access but much of the area is accessible by foot from the upper slopes and with limited access from the lower slopes. Views of portions of the site are available from several ridges accessible from the upper slopes and a series of fly-bys in a small plane allowed close inspection of the tree resources throughout the site. This was particularly valuable in the lower canyons not visible from the upper slopes. The previous oak survey included all oaks along the roadway through Salt Canyon. The present survey extends from this area to the southern boundary of the Newhall Ranch site.

Ideally such a survey would consist of a direct count of all oak trees within the boundary of the site. But the ruggedness and vastness of the site makes such a survey impractical. In many areas the chaparral is so dense, and in other areas the terrain so steep, that it is not possible to get to the groves of trees. To effect a count of the oak resources, a 1:400 scale color photograph of the site from Salt Canyon to the ridge of the Santa Susana Mountains was provided that roughly matches the 1:400 scale topographic map of the site. From this map it was possible to locate the trees and to effect a count of the trees on the site. But what was immediately apparent from the aerial photograph, was that the total coverage of oaks in the High Country was greater than indicated in the vegetation map of the site and that the previous estimate of oak tree resources on this portion of the site may be too small.

As noted above, the Valley oaks were largely confined to the northern portion of the site where they are dispersed over a grassland understory. This made the trees readily visible on the aerial photographs. Many of the trees are free standing and their individual crowns represent single trees with single trunks. However field observations show that other crowns may actually consist of 2 to 5 separate trees, with each tree contributing to a single large crown. Up to 11 trees were observed in a single crown in some cases. From the aerial photography it is not always possible to determine the number of trees that comprise a single crown. In areas with dense trees the crowns of several trees will be interconnected in a linear series and this will be readily apparent from the aerial photography. To determine the frequency of double and multiple-trunked trees in the Valley oak sites I counted the number of trees in several readily identifiable groves or clusters of trees. These were groves that were isolated by open grassland or demarked by roadways and/or ridgelines that rendered the groves identifiable on the topographic map. The groves contained from 11 to 273 trees by count. The location of these groves were indicted on the topographic map and the trees in these groves were then counted on the aerial photography. This allowed me to determine a correction factor to account for multiple-trunk trees. A sampling of the counts is presented here with the actual field-

counted number of individual trees indicated followed by the number counted from aerial photography in parenthesis: 49 (40), 23 (18), 71 (54), 35 (32), 272 (221), 61 (44). This showed that the counts obtained from the aerial photograph represented an average 20 percent undercount of trees actually present on these parcels.

The region with Valley oaks also contained scattered California walnut, (*Juglans californica*), which has a somewhat similar signature on the aerial photographs. However, the location of walnuts on the open slopes was noted on the field maps. Also the photographic signature of the walnuts can generally be distinguished from the oaks as walnuts tend to form more continuous and uniform groves, and, as the trees are shorter and the leaves more diffuse, they have a less discernible shadow along their northern boundary.

The Coastal live oaks largely occur along the northerly slopes and drainages, beginning in the region of the valley oaks, becoming dominant on the steeper north-facing slopes and canyons. They occur all along the steeper canyons in the central portion of the site and in many gradual drainages and slopes within chaparral. In many areas Coastal live oaks form dense and extensive stands in which individual trees are not discernible from above. From the ground these dense stands contain trees of mixed age with the larger trees occurring with a larger number of smaller, younger trees. To determine the density (i.e., trees per acre) of these groves, data from similar oak stands from other portions of the Newhall Ranch site were used. In the previous survey of the northern two thirds of the site the number and location of individual trees were determined. These data were arranged by FORMA DESIGN to give the number of trees and the acreage for each grove. From these data, it was determined that the densest Coastal live oak groves contained 43.3 to 30 trees per acre. From these data, and from direct observation from measured 1-acre sites (i.e. sites 207 ft square) it was determined that for areas of solid stands of oaks, we could consider them to contain approximately 36 trees per acre--this is actually a conservative under count, as in my measured 1-acre stands, I found 71, 53, and 32 trees per acre.

In many other stands where Coastal live oaks are more dispersed, individual oaks are discernible from the aerial photographs. In peripheral areas, however, it is often difficult to distinguish Coastal live oaks from associated species such as Toyon (*Heteromeles arbutifolia*), California walnut, Redberry (*Rhamnus ilicifolia*) and other such large shrubs. In many instances this is also difficult in the field and often close inspection is needed to discern the species. Also the deepest drainages contain local stands of willows (*Salix* spp.) and cottonwoods (*Populus fremontii*), which are often difficult to distinguish from the oaks from the aerial photography except that dense stands of willows have a more uniform signature. Several local stands of willows and cottonwoods were located in the field and marked on the topographic map and from this, in conjunction with consideration of the topography, it has been possible to estimate the location of non-oak trees in these drainages. The fly-by information indicated that except for some areas in the upper drainages, willows and cottonwoods were very much

confined to the narrow and deeper drainages and were present as scattered trees in a linear sequence; they did not form extensive stands in the lower drainages.

As can be see from the above discussion, there are many pitfalls in inventorying oak trees from aerial photographs. However, being aware of these problems, allows one to make a more accurate assessment of oak tree resources. To this end, the count provided here is conservative.

To make the count, the aerial photograph was overlain with acetate and the site boundaries determined from the topographic map. Areas of oaks were delimited on the acetate and the trees were counted and marked (dotted) using a pen that did not permanently mark the acetate. This insured against accidental recounts of trees. Only trees that could be reasonably determined to be oaks were counted. In dense areas of Coastal live oaks, 1-acre areas were drawn out (they equaled slightly over one-half inch squares) and these were counted as having 36 trees per unit. Oak-like signatures on exposed south-facing slopes were not considered to be oaks, they were more likely other chaparral species. Some complex areas were recounted several times. In areas of moderately dense Valley oaks, a conversion factor of 15 percent was used to determine the ultimate number of Valley oaks. A similar 15 percent conversion factor is used for Coastal live oaks as in all populations of this species, the larger trees harbor smaller trees around the periphery of their canopies. Many of these hidden plants have trunks over 8 inches in diameter at breast height and often they have canopies about 15 ft in diameter and are not visible as individual trees on the aerial photographs as they blend into adjacent trees.

A total of 90 areas were demarked on the acetate overlying the aerial photograph. Some of these areas encircled isolated groves of trees, other more extensive groves of trees were broken up into 2 or more areas. The total trees were counted in each area and. the number was marked within the area and that number was used to identify the area. The areas contained from 0 to 380 oaks, with an average of 129 oaks per area. Most of these areas contained only one species of oak, but in those areas containing both species, the percentage of Coastal live oak vs. Valley oak was estimated and recorded for each area. This was done to allow an separate estimation of Coastal live oaks vs. Valley oaks.

Results: The sum of the 90 separate areas totaled 11,641 oaks, of which approximately 8,461 were Coastal live oaks and 3,180 were Valley oaks. If a conservative 15 percent undercount is considered for each species, this added to compensate for the many legal-size trees (with trunks over 8 inches in diameter breast height) that are hidden within the canopies of larger trees, this gives a total of 13,387 trees, of which 9,730 are Coastal live oaks and 3,657 Valley oaks. To understand the validity of the 15 percent addition to the total, one may inspect any grove of oaks in Southern California and note the canopies often contain more than one tree. These additional trees are not visible from aerial photography. It is strongly suspected that these totals, even considering the 15 percent adjustment, represent an undercount for oak resources on the site.

As these numbers are estimates, it is suggested that the numbers be rounded off to state that the total number of oak trees on the High Country Area are at least 13,000 trees total, of which 9,500 are Coastal live oaks and 3,500 are Valley oaks. This brings the estimated number of oak trees on the Newhall Ranch site up to 16,314.

No attempt was made to determine the numbers of heritage oaks on the High Country area. Heritage trees are considered those with trunk circumferences 110 inches or larger at breast height (this equals trunks 3 ft in diameter). In the northern portion of the Newhall Ranch site, where the oak trees were individually counted, evaluated and mapped and the trunks of heritage trees measured, 6.1 percent of the Coastal live oaks were heritage trees, and 12.9 percent of the Valley oaks were heritage trees. If these percentages were used in the high country region, one would expect to find about 593 heritage Coastal live oak trees and about 472 heritage Valley oaks. Heritage-sized Valley oaks were very common in the upper Valley oak woodlands leading me to consider that this number may be somewhat accurate. Many of these trees, however, were in decline perhaps caused by the recent years of drought. I believe that the number of heritage oaks for Coastal live oak may be much too high as the reproductive potential for the species is greater, i.e. there are more young oaks, and many of the oaks seen in the mid slopes were of moderate size; I did not see many heritage-sized Coastal live oaks in the High Country.

A reevaluation of oak tree resources and impacts: The report of September 6, 1995 presented data on the total oak trees on the entire site, and the oak trees on the northern two thirds of the site--the portion of the site proposed for development. The report listed: (1) the total numbers and grades of Coastal live oak and Valley oak trees on the site and the numbers impacted by the proposed grading; (2) the numbers of heritage oaks on the site and the numbers impacted by grading; (3) the off-site trees impacted by proposed roadways to the site; and (4) the numbers of trees impacted in SEA 20 (the Santa Susana Mountains) and SEA 23 (Santa Clara River).

Since that time the grading plan has been revised to reduce impacts on oaks, data imput was double checked and 11 more trees were plotted in this northern area. In addition, there has been a reevaluation of the numbers of trees in the "High Country" as discussed above. The new numbers for total Coastal live oak and Valley oak on the site (including heritage trees) for the site are presented below.

Table 1. Total Oak Trees on the Northern Portion of the Newhall Ranch Site

	Grade	No. trees surveyed	Trees impacted	Trees not impacted
Coastal live	1 = A	243	95	148
Oak	2 = B	2,391	418	1,973
	3 = C	153	28	125
Subtotal of A-C trees		(2787)	(541)	(2246)
	4 = D	55	1	54
	5 = F	46	11	35
	Subtotal:	2,888	553	2,335
Valley Oak	1 = A	44	14	30
	2 = B	321	58	263
	3 = C	43	15	28
Subtotal of A-C trees		(408)	(87)	(321)
	4 = D	11	5	6
	5 = F	7	3	4
	Subtotal:	426	95	331
	Total:	3,314	648	2,666

The previous total number of oak trees on the portion of the site considered for development site was a total of 3,303 oak trees of both species, the new number 3,314, an increase of 0.3 percent. The total trees, of both species, initially impacted by grading was 1,020. This represented 30.9 percent of total tree count. The revised grading plan has reduced the number of trees impacted to 648 trees out of a total of 3,314 trees--a total of 19.6 percent. This represents a 36.5 percent reduction in trees impacted. This includes a reduction of impact to Coastal live oaks from 926 to 553 (40.3 percent) while the numbers of Valley oaks impacted increased from 94 to 95, an increase of 1 percent.

Total Trees on the Entire Newhall Ranch Site: In the previous report, a total of 3,303 trees were evaluated in the northern two thirds of the site and the 8,500 were estimated to be present in the "High Country" portion of the site. The above study has revised this estimate for the "High Country" to 13,000, including 9,500 Coastal live oaks and 3,500 Valley oaks. The total revised numbers of trees on the entire Newhall Ranch site are indicated below. The numbers of trees impacted by the proposed development are also indicated along with the percentage of trees impacted.

Table 2. Total Oak Trees on the Entire Newhall Ranch Site.

	Total oaks	Coastal live oaks	Valley oaks
"High Country"	13,000	9,500	3,500
Northern site	3,314	2,888	426
Total oaks	16,314	12,388	3,926
Number impacted	648	553	95
Percent impacted	4.0 %	4.5%	2.4%

Heritage Oaks: The portion of the site initially surveyed contained a total of 231 heritage oaks (trees with trunk circumferences 110 inches or higher at breast height), of which 177 were Coastal live oaks, and 54 Valley oaks. With the revised grading plan the numbers are slightly altered as indicated below in Table 3. The percentage of Heritage oak trees impacted by the proposed development is also indicated. The percentages of impacted trees are relatively high as the largest trees are often well isolated from other trees, where they have less competition. In addition these data do not include the estimated 600 Heritage oaks from the "High Country" that would not be impacted by development.

Table 3. Changes in Numbers of Heritage Oaks on the Proposed Development Site and the numbers Impacted

	Grade	Previous Numbers	Revised Numbers	Trees Impacted		Percent Impacted
Coastal live Oak	1 = A	110	114	58		
	2 = B	55	53	27		
	3 = C	7	6	3		
	4 = D	5	5	1		
	5 = F	0	0	0		
	Subtotal:	177	178	89	=	50.0 %
Valley Oak	1 = A	35	34	11		
	2 = B	13	14	6		
	3 = C	3	3	1		
	4 = D	2	2	2		
	5 = F	1	1	0		
	Subtotal:	54	54	20		
	Total	231	232	109	=	46.9 %

Off Site Impacts: Overall development of the site will also include extensions of Valencia Boulevard west through the proposed Newhall Ranch development to this site and Magic Mountain Parkway west from the entrance to Six Flags Magic Mountain to this site. There are no modifications of the impacts from the initial survey, so the data are not repeated here.

Impacts on Significant Ecological Areas: The Newhall Ranch site contains portions of two Los Angeles County Significant Ecological Areas, SEA 20, the Santa Susana Mountains, located in the "High Country" in the southern third of the site, and SEA 23, the Santa Clara River. Since the initial study an additional survey was conducted of trees within the floodplain of the Santa Clara River. A total of 7 additional trees were located, some of these outside the survey area. The trees along the margins of the floodplain were indicated in the initial survey and a few other trees were located during the second survey. It is considered that the evaluation of oaks trees along the margins of the Santa Clara River is complete. There may be a few additional Coastal live oak trees hiding among the willows within the floodplain. Only a small portion of SEA 20 is effected by the proposed development.

The total numbers of Coastal live oak and Valley oaks surveyed in the portions of these two SEA's are given below along with the numbers that will be impacted.

Table 4. Total Trees and Impacted Trees in SEA 20 and SEA 23.

		SEA 20		SEA 23	
	Grade	Total	Impacted	Total	Impacted
Coastal live Oak	1 = A	7	1	22	5
	2 = B	59	10	112	42
	3 = C	14	-	12	3
	4 = D	6	-	-	-
	Subtotal:	86	11 = 12.8%	146	50 = 34.2%
Valley Oak	1 = A	7	-	1	1
	2 = B	117	2	5	2
	3 = C	1	-	4	1
	Subtotal:	125	2 = 1.6%	10	4 = 40.0%
	Total:	211	13 = 6.2%	156	54 = 34.6%

A revised numerical listing of the oak trees on the portion of the site proposed for development is amended to this report. This listing reflects revisions to the proposed grading plan made after the first oak tree report was submitted. The listing presents the

tree number assigned as the trees were entered into a computerized Geographical Information System by FORMA DESIGN of Costa Mesa, California; the type of oak tree (C = Coastal live oak, V = Valley oak); and the overall health of the tree (as indicated on the first page of the listing). Heritage trees are also indicated and for these trees the trunk circumference 4.5 ft above the base is indicated in inches (heritage trees are those with trunks exceeding 3 feet in diameter = 113 inches in circumference, but for the purpose of the survey, trees exceeding 110 inches in circumference were considered heritage trees as they may grow to heritage size by the time a particular site is developed). Trees impacted or potentially impacted by grading are indicated by GR, those outside the revised grading envelope are indicated OA (outside the area of impact). All plants falling within proposed graded areas, as indicted in the Conceptual Grading Plan, are considered impacted. Some of these trees ultimately may be saved by minor adjustments to grades or design.

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November 4, 1995, revised January 31, 1996
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NEWHALL RANCH OAK TREE SURVEY

Summer, 1995

1. TYPE
   C - Coastal Live Oak, Quercus agrifolia
   V - Valley Oak, Quercas lobata

2. HEALTH
   1 - Excellant large trees
   2 - Very good to good trees
   3 - Moderately good or crowded trees
   4 - Trees with strong dieback
   5 - Dead standing trees

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
1	C	2			OA
2	C	2			OA
3	V	1	HERITAGE	138	OA
4	V	2	HERITAGE	129	OA
5	V	2	HERITAGE	131	OA
6	C	1	HERITAGE	182	GR
7	C	2	HERITAGE	113	GR
8	C	1	HERITAGE	197	OA
9	V	1	HERITAGE	110	GR
10	V	1	HERITAGE	119	OA
11	V	1	HERITAGE	121	OA
12	V	1	HERITAGE	116	OA
13	C	1	HERITAGE	116	GR
14	V	1	HERITAGE	180	OA
15	V	1	HERITAGE	120	OA
16	V	2	HERITAGE	110	OA
17	V	1	HERITAGE	127	GR
18	V	1	HERITAGE	183	GR
19	V	3	HERITAGE	195	OA
20	V	4	HERITAGE	146	GR
21	V	2	HERITAGE	191	GR
22	V	2	HERITAGE	155	GR
23	V	1	HERITAGE	115	OA
24	V	1	HERITAGE	142	GR
25	C	4	HERITAGE	128	OA
26	V	1	HERITAGE	118	OA
27	V	1	HERITAGE	120	OA
28	C	1	HERITAGE	130	GR
29	C	2	HERITAGE	132	OA
30	C	2	HERITAGE	110	OA
31	C	1	HERITAGE	137	GR
32	C	1	HERITAGE	129	GR
33	C	1	HERITAGE	162	GR
34	C	1	HERITAGE	138	GR
35	C	1	HERITAGE	136	GR
36	C	1	HERITAGE	213	GR
37	C	2	HERITAGE	169	GR
38	C	2	HERITAGE	140	OA
39	C	1	HERITAGE	129	GR
40	C	1	HERITAGE	110	GR
41	C	1	HERITAGE	128	GR
42	C	1	HERITAGE	110	OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
43	C	1	HERITAGE	113	OA
44	C	2	HERITAGE	120	GR
45	C	1	HERITAGE	150	OA
46	C	2	HERITAGE	135	GR
47	C	2	HERITAGE	117	OA
48	C	1	HERITAGE	134	OA
49	C	1	HERITAGE	210	OA
50	C	2	HERITAGE	123	GR
51	C	2	HERITAGE	250	OA
52	C	2	HERITAGE	162	GR
53	C	2	HERITAGE	116	GR
54	C	2	HERITAGE	127	GR
55	C	2	HERITAGE	137	GR
56	C	1	HERITAGE	120	OA
57	C	1	HERITAGE	112	OA
58	C	1	HERITAGE	131	OA
59	C	1	HERITAGE	116	GR
60	C	1	HERITAGE	148	GR
61	C	1	HERITAGE	120	GR
62	C	1	HERITAGE	148	GR
63	C	1	HERITAGE	151	GR
64	C	1	HERITAGE	130	GR
65	C	1	HERITAGE	215	OA
66	C	1	HERITAGE	154	OA
67	C	1	HERITAGE	125	OA
68	C	1	HERITAGE	185	OA
69	C	1	HERITAGE	116	GR
70	C	1	HERITAGE	150	GR
71	C	1	HERITAGE	150	GR
72	C	1	HERITAGE	140	GR
73	C	1	HERITAGE	143	GR
74	C	1	HERITAGE	127	GR
75	C	1	HERITAGE	132	GR
76	C	1	HERITAGE	240	GR
77	C	1	HERITAGE	145	GR
78	C	1	HERITAGE	130	OA
79	C	1	HERITAGE	130	OA
80	C	1	HERITAGE	119	OA
81	C	1	HERITAGE	143	OA
82	V	5	HERITAGE	155	OA
83	C	1	HERITAGE	113	OA
84	C	1	HERITAGE	116	OA
85	C	1	HERITAGE	117	OA
86	C	1	HERITAGE	150	OA
87	C	1	HERITAGE	140	OA
88	C	1	HERITAGE	130	OA
89	C	1	HERITAGE	160	OA
90	C	3	HERITAGE	189	GR
91	C	3	HERITAGE	135	OA
92	C	1	HERITAGE	135	GR
93	C	1	HERITAGE	128	GR
94	C	2	HERITAGE	120	GR
95	C	2	HERITAGE	130	OA
96	C	2	HERITAGE	144	GR

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
97	C	1	HERITAGE	116	GR
98	C	1	HERITAGE	110	OA
99	C	3	HERITAGE	125	GR
100	C	3	HERITAGE	220	GR
101	C	1	HERITAGE	185	GR
102	C	1	HERITAGE	142	GR
103	C	1	HERITAGE	122	GR
104	C	2	HERITAGE	144	GR
105	C	2	HERITAGE	128	GR
106	C	2	HERITAGE	124	GR
107	C	2	HERITAGE	144	GR
108	C	2	HERITAGE	123	GR
109	C	2	HERITAGE	145	GR
110	C	1	HERITAGE	115	GR
111	C	2	HERITAGE	121	OA
112	C	2	HERITAGE	130	GR
113	V	1	HERITAGE	142	OA
114	V	1	HERITAGE	120	OA
119	C	1	HERITAGE	162	OA
120	C	1	HERITAGE	133	OA
121	V	2			GR
122	V	2			OA
123	V	2			OA
124	V	2			OA
125	V	2			OA
126	V	2			OA
127	C	2			OA
128	C	2			GR
129	V	2			GR
130	C	2			OA
131	C	2			GR
132	C	2			GR
133	C	2			GR
134	C	2			GR
135	C	2			GR
136	C	2			GR
137	C	2			GR
138	C	2			GR
139	C	2			OA
140	C	2			OA
141	C	2			OA
142	C	2			OA
143	V	2			OA
144	V	2			OA
145	C	2			OA
146	C	2			OA
147	C	2			OA
148	C	1			OA
149	C	2			OA
150	C	2			OA
151	C	1			OA
152	C	2			OA
153	C	2			OA
155	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
156	C	4			OA
157	V	2			OA
158	C	2			OA
159	V	1			OA
160	C	4			OA
161	V	2			OA
162	V	2			OA
163	V	2			OA
164	V	2			OA
165	V	2			OA
166	V	2			OA
167	V	2			OA
168	V	2			OA
169	C	2			OA
170	C	2			OA
171	C	2			OA
172	C	2			OA
173	C	2			OA
174	C	2			OA
175	C	2			OA
176	C	2			OA
177	C	2			OA
178	C	2			OA
179	C	2			OA
180	C	2			OA
181	C	2			OA
182	C	2			OA
183	C	2			OA
184	C	2			OA
185	C	2			OA
186	C	2			OA
187	C	2			OA
188	C	2			OA
189	C	2			OA
190	C	2			OA
191	C	2			OA
192	C	2			OA
193	C	2			OA
194	C	2			OA
195	C	2			OA
196	C	2			OA
197	C	1			OA
198	C	5			OA
199	C	4			OA
200	C	3			OA
201	C	3			OA
202	C	2			GR
203	C	2			GR
204	C	2			GR
205	C	2			GR
206	C	2			OA
207	C	2			GR
208	C	2			GR
209	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
210	C	2			GR
211	C	2			OA
212	C	2			OA
213	C	2			OA
214	C	2			OA
215	C	2			OA
216	C	2			OA
217	C	2			OA
218	C	2			OA
219	C	2			OA
220	C	2			OA
221	C	2			OA
222	C	2			OA
223	C	2			OA
224	C	2			OA
225	C	2			OA
226	C	2			OA
227	C	2			OA
228	C	2			OA
229	C	2			OA
230	C	2			OA
231	C	2			OA
232	C	2			OA
233	C	2			GR
234	C	2			OA
235	C	2			OA
236	C	2			OA
237	C	2			OA
238	C	2			OA
239	C	2			OA
240	C	2			OA
241	C	2			OA
242	C	2			OA
243	C	2			OA
244	C	2			OA
245	C	2			OA
246	C	2			OA
247	C	2			OA
248	C	2			OA
249	C	2			GR
250	C	2			GR
251	C	2			OA
252	C	2			OA
253	C	2			OA
254	C	2			OA
255	C	2			OA
256	C	2			OA
257	C	2			OA
258	C	2			OA
259	C	2			OA
260	C	2			OA
261	C	2			OA
262	C	2			OA
263	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
264	C	2			OA
265	C	2			OA
266	C	2			OA
267	C	2			OA
268	C	2			GR
269	C	2			GR
270	C	2			OA
271	C	2			OA
272	C	2			OA
273	C	2			OA
274	C	2			OA
275	C	2			OA
276	C	2			OA
277	C	2			OA
278	C	2			OA
279	C	2			OA
280	C	2			OA
281	C	2			OA
282	C	2			OA
283	C	2			OA
284	C	2			OA
285	C	2			OA
286	C	2			OA
287	C	2			OA
288	C	2			OA
289	C	2			OA
290	C	2			OA
291	C	2			OA
292	C	2			OA
293	C	2			GR
294	C	2			GR
295	C	2			OA
296	C	2			OA
297	V	2			OA
298	V	2			OA
299	V	3			OA
300	V	2			OA
301	V	2			OA
302	V	2			OA
303	C	2			OA
304	C	1			OA
305	C	2			GR
306	V	2			OA
307	V	2			OA
308	V	2			OA
309	V	2			OA
310	V	2			OA
311	V	2			OA
312	V	2			OA
313	V	2			OA
314	V	2			OA
315	V	2			OA
316	V	2			OA
317	V	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
318	V	2			OA
319	V	2			OA
320	V	2			OA
321	V	2			OA
322	V	2			OA
323	V	2			OA
324	V	2			OA
325	V	2			OA
326	V	2			OA
327	V	2			OA
328	V	2			OA
329	V	2			OA
330	V	2			OA
331	V	2			OA
332	C	2			OA
333	C	2			OA
334	V	2			GR
335	V	2			OA
336	V	2			OA
337	V	2			OA
338	V	2			OA
339	V	2			OA
340	V	2			OA
341	V	2			OA
342	V	2			OA
343	V	2			OA
344	V	2			OA
345	V	2			OA
346	V	2			OA
347	V	2			OA
348	V	2			OA
349	V	2			OA
350	V	2			OA
351	V	2			OA
352	V	2			OA
353	V	2			OA
354	V	2			OA
355	V	2			OA
356	V	2			OA
357	V	2			OA
358	V	2			OA
359	V	2			OA
360	C	2			OA
361	C	2			OA
362	C	2			OA
363	V	2			OA
364	V	2			OA
365	V	2			OA
366	V	2			OA
367	V	2			OA
368	V	2			OA
369	V	2			OA
370	V	2			OA
371	V	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
372	V	2			OA
373	V	2			OA
374	V	2			OA
375	V	2			OA
376	V	2			OA
377	V	2			OA
378	V	2			OA
379	V	2			OA
380	V	2			OA
381	V	2			OA
382	V	2			OA
383	V	2			OA
384	V	2			OA
385	V	2			OA
386	V	2			OA
387	V	2			OA
388	V	2			OA
389	V	2			OA
390	V	2			OA
391	V	2			OA
392	V	2			OA
393	V	2			OA
394	V	2			OA
395	V	2			OA
396	V	2			OA
397	V	2			OA
398	V	2			OA
399	V	2			OA
400	V	2			OA
401	V	2			OA
402	V	2			OA
403	V	2			OA
404	V	2			OA
405	V	2			OA
406	V	2			OA
407	C	3			OA
408	C	3			OA
409	C	3			OA
410	C	2			OA
411	C	3			OA
412	C	3			OA
413	C	3			OA
414	C	3			OA
415	C	2			OA
416	C	2			OA
417	C	4			OA
418	C	4			OA
419	C	3			OA
420	C	3			OA
421	C	3			OA
422	C	3			OA
423	C	3			OA
424	C	4			OA
425	C	3			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
426	C	3			OA
427	C	2			OA
428	C	2			OA
429	C	2			OA
430	C	2			OA
431	C	2			OA
432	C	2			OA
433	C	2			OA
434	C	2			OA
435	C	2			OA
436	C	2			OA
437	C	2			OA
438	C	2			OA
439	C	2			OA
440	C	2			OA
441	C	2			OA
442	C	2			OA
443	C	2			OA
444	C	2			OA
445	C	2			OA
446	C	3			OA
447	C	1			OA
448	C	2			OA
449	C	2			OA
450	C	2			OA
451	C	2			OA
452	C	5			OA
453	C	2			OA
454	C	2			OA
455	C	2			OA
456	C	2			OA
457	C	2			OA
458	C	2			OA
459	C	2			OA
460	C	2			OA
461	C	2			OA
462	C	2			OA
463	C	2			OA
464	C	5			OA
465	C	1			OA
466	C	1			OA
467	C	1			OA
468	C	1			OA
469	C	2			OA
470	C	2			OA
471	C	2			OA
472	C	2			OA
473	C	2			OA
474	C	2			OA
475	C	2			OA
476	C	2			OA
477	C	2			OA
478	C	2			OA
479	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
480	C	2			OA
481	C	2			OA
482	C	2			OA
483	C	2			OA
484	C	2			OA
485	C	2			OA
486	C	2			OA
487	C	2			OA
488	C	2			OA
489	C	2			OA
490	C	2			OA
491	C	2			OA
492	C	2			OA
493	C	2			OA
494	C	2			OA
495	C	2			OA
496	C	2			OA
497	C	2			OA
498	C	2			OA
499	C	2			OA
500	C	2			OA
501	C	2			OA
502	C	2			OA
503	C	2			OA
504	C	2			OA
505	C	2			OA
506	C	2			OA
507	C	2			OA
508	C	2			OA
509	C	2			OA
510	C	2			OA
511	C	2			OA
512	C	2			OA
513	C	2			OA
514	C	2			OA
515	C	2			OA
516	C	2			OA
517	C	2			OA
518	C	2			OA
519	C	2			OA
520	C	2			OA
521	C	2			OA
522	C	2			OA
523	C	2			OA
524	C	2			OA
525	C	2			OA
526	C	2			OA
527	C	2			OA
528	C	2			OA
529	C	2			OA
530	C	2			OA
531	C	2			OA
532	C	2			OA
533	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
534	C	2			OA
535	C	2			OA
536	C	2			OA
537	C	2			OA
538	C	2			OA
539	C	2			OA
540	C	2			OA
541	C	2			OA
542	C	2			OA
543	C	2			OA
544	C	2			OA
545	C	2			OA
546	C	2			OA
547	C	2			OA
548	C	2			OA
549	C	2			OA
550	C	2			OA
551	C	2			OA
552	C	2			OA
553	C	2			OA
554	C	2			OA
555	C	2			OA
556	C	2			OA
557	C	2			OA
558	C	2			OA
559	C	2			OA
560	C	2			OA
561	C	2			OA
562	C	2			OA
563	C	2			OA
564	C	2			OA
565	C	2			OA
566	C	2			OA
567	C	2			OA
568	C	2			OA
569	C	2			OA
570	C	2			OA
571	C	2			OA
572	C	2			OA
573	C	2			OA
574	C	2			OA
575	C	2			OA
576	C	2			OA
577	C	2			OA
578	C	2			OA
579	C	2			OA
580	C	2			OA
581	C	2			OA
582	C	2			OA
583	C	2			OA
584	C	2			OA
585	C	2			OA
586	C	2			OA
587	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
588	C	2			OA
589	C	2			OA
590	C	2			OA
591	C	2			OA
592	C	2			OA
593	C	2			OA
594	C	2			OA
595	C	2			OA
596	C	2			OA
597	C	2			OA
598	C	2			OA
599	C	2			OA
600	C	2			OA
601	C	2			OA
602	C	2			OA
603	C	2			OA
604	C	2			OA
605	C	2			OA
606	C	2			OA
607	C	2			OA
608	C	2			OA
609	C	2			OA
610	C	2			OA
611	C	2			OA
612	C	2			OA
613	C	2			OA
614	C	2			OA
615	C	2			OA
616	C	2			OA
617	C	2			OA
618	C	2			OA
619	C	2			OA
620	C	2			OA
621	C	2			OA
622	C	2			OA
623	C	2			OA
624	C	2			OA
625	C	2			OA
626	C	2			OA
627	C	2			OA
628	C	2			OA
629	C	2			OA
630	C	2			OA
631	C	2			OA
632	C	2			OA
633	C	2			OA
634	C	2			OA
635	C	2			OA
636	C	2			OA
637	C	2			OA
638	C	2			OA
639	C	2			OA
640	C	2			OA
641	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
642	C	2			OA
643	C	2			OA
644	C	2			OA
645	C	2			OA
646	C	2			OA
647	C	2			OA
648	C	2			GR
649	C	2			GR
650	C	2			GR
651	C	2			GR
652	C	2			GR
653	C	2			GR
654	C	2			GR
655	C	2			GR
656	C	2			GR
657	C	2			GR
658	C	2			GR
659	C	2			GR
660	C	2			GR
661	C	2			GR
662	C	2			GR
663	C	3			GR
664	C	2			GR
665	C	2			GR
666	C	2			GR
667	C	2			GR
668	C	2			GR
669	C	2			OA
670	C	3			GR
671	C	3			GR
672	C	2			GR
673	C	2			GR
674	C	2			OA
675	C	2			OA
676	C	2			OA
677	C	2			OA
678	C	2			OA
679	C	2			GR
680	C	2			OA
681	C	2			OA
682	C	2			OA
683	C	2			OA
684	C	2			OA
688	C	4			OA
689	C	2			OA
690	C	4			OA
691	C	2			OA
692	C	2			OA
693	C	2			OA
694	C	2			OA
695	C	2			OA
696	C	2			OA
697	C	2			OA
698	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
699	C	2			OA
700	C	2			OA
701	C	3			GR
702	C	2			GR
703	C	2			GR
704	C	2			GR
705	C	3			OA
706	C	1			OA
707	C	4			OA
708	C	3			OA
709	C	2			OA
710	C	2			GR
711	C	2			GR
712	C	2			GR
713	C	2			OA
714	C	4			OA
715	C	2			GR
716	C	5			OA
717	C	2			GR
718	C	2			GR
719	C	2			GR
720	C	2			GR
721	C	2			GR
722	C	2			GR
723	C	2			GR
724	C	2			GR
725	C	2			GR
726	C	2			GR
727	C	2			GR
728	C	2			GR
729	C	2			GR
730	C	2			GR
731	C	2			GR
732	C	2			GR
733	C	2			GR
734	C	2			GR
735	C	5			GR
736	C	1			GR
737	C	1			GR
738	C	2			GR
739	C	2			GR
740	C	2			GR
741	C	1			GR
742	C	2			GR
743	C	1			GR
744	C	2			GR
745	C	2			GR
746	C	2			GR
747	C	2			GR
748	C	2			GR
749	C	2			GR
750	C	2			GR
751	C	1			GR
752	C	2			GR

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
753	C	5			GR
754	C	2			GR
755	C	2			GR
756	C	2			GR
757	C	2			GR
758	C	2			GR
759	C	2			GR
760	C	2			GR
761	C	2			GR
762	C	2			GR
763	C	2			GR
764	C	2			GR
765	C	2			GR
766	C	2			GR
767	C	1			GR
768	C	5			GR
769	C	3			OA
770	C	1			OA
771	C	1			OA
772	C	1			OA
773	C	2			GR
774	C	2			GR
775	C	2			GR
776	C	1			GR
777	C	2			GR
778	C	1			GR
779	C	2			GR
780	C	1			GR
781	C	2			GR
782	C	2			GR
783	C	2			GR
784	C	2			GR
785	C	2			GR
786	C	2			GR
787	C	1			GR
788	C	2			OA
789	C	2			GR
790	C	2			GR
791	C	2			OA
792	C	1			OA
793	C	2			OA
794	C	3			OA
795	C	2			OA
796	C	2			OA
797	C	1			OA
798	C	1			GR
799	C	1			GR
800	C	2			GR
801	C	2			OA
802	C	2			OA
803	C	2			OA
804	C	2			OA
805	C	2			GR
806	C	2			OA

EE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
807	C	2			OA
808	C	2			OA
809	C	2			OA
810	C	2			OA
811	C	2			GR
812	C	2			GR
813	C	2			GR
814	C	2			GR
815	C	2			GR
816	C	2			GR
817	C	5			GR
818	C	2			GR
819	C	2			GR
820	C	2			GR
821	C	1			OA
822	C	2			GR
825	C	3			OA
826	C	2			OA
827	C	2			OA
828	C	2			OA
829	C	3			OA
830	C	3			OA
831	C	3			OA
832	C	2			OA
833	C	3			OA
834	C	3			OA
835	C	3			OA
836	C	2			OA
837	C	2			OA
838	C	3			OA
839	C	3			OA
840	C	2			OA
841	C	2			OA
842	C	2			OA
843	C	2			OA
844	C	4			OA
845	C	5			OA
846	C	3			OA
847	C	2			OA
848	C	2			OA
849	C	2			OA
850	C	2			OA
851	C	2			OA
852	C	2			OA
853	C	2			OA
854	C	5			OA
855	C	4			OA
856	C	3			OA
857	C	2			OA
858	C	2			OA
859	C	2			OA
860	C	2			OA
861	C	2			OA
862	C	1			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
863	C	1			OA
864	C	2			OA
865	C	2			OA
866	C	2			OA
867	C	2			OA
868	C	2			OA
869	C	2			OA
870	C	2			OA
871	C	2			GR
872	C	2			GR
873	C	2			GR
874	C	3			GR
875	C	2			GR
876	C	2			GR
877	C	2			GR
878	C	2			GR
879	C	2			GR
880	C	2			GR
881	C	2			GR
882	C	2			GR
883	C	2			GR
884	C	2			GR
885	C	3			GR
886	C	3			OA
887	C	3			OA
888	C	3			OA
889	C	2			OA
890	C	2			OA
891	C	2			OA
892	C	2			OA
893	C	2			OA
894	C	2			GR
895	C	2			GR
896	C	2			GR
897	C	2			GR
899	C	2			OA
900	C	2			OA
901	C	2			OA
902	C	2			OA
903	C	2			OA
904	C	2			OA
905	C	2			OA
906	C	2			OA
907	C	2			OA
908	C	2			OA
909	C	2			OA
910	C	2			OA
911	C	3			GR
912	C	5			OA
913	C	2			GR
914	C	1			GR
915	C	1			GR
916	C	5			GR
917	C	3			GR

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
918	C	2			GR
919	C	2			GR
920	C	2			GR
921	C	2			GR
922	C	2			GR
923	C	2			GR
924	C	2			GR
925	C	2			GR
926	C	2			GR
927	C	2			OA
928	C	2			OA
929	C	2			GR
930	C	2			GR
931	C	2			GR
932	C	2			GR
933	C	2			OA
934	C	2			OA
935	C	2			OA
936	C	2			GR
937	C	2			GR
938	C	2			GR
939	C	2			GR
940	C	2			GR
941	C	2			GR
942	C	2			GR
943	C	2			GR
944	C	2			GR
945	C	2			GR
946	C	2			GR
947	C	2			OA
948	C	2			OA
949	C	2			OA
950	C	2			OA
951	C	2			OA
952	C	2			OA
953	C	2			OA
954	C	2			GR
955	C	2			GR
956	C	2			GR
957	C	2			OA
958	C	2			OA
959	C	2			OA
960	C	2			OA
961	C	2			OA
962	C	2			OA
963	C	2			OA
964	C	2			OA
965	C	2			OA
966	C	2			OA
967	C	2			OA
968	C	2			GR
969	C	2			GR
970	C	2			GR
971	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
972	C	2			OA
973	C	2			OA
974	C	2			OA
975	C	2			OA
976	C	2			GR
977	C	2			GR
978	C	2			GR
979	C	2			OA
980	C	2			OA
981	C	2			OA
982	C	2			OA
983	C	2			OA
984	C	2			OA
985	C	2			OA
986	C	2			OA
987	C	2			OA
988	C	2			OA
989	C	2			OA
990	C	2			OA
991	C	2			OA
992	C	2			OA
993	C	2			OA
994	C	2			OA
995	C	2			OA
996	C	2			OA
997	C	2			OA
998	C	2			OA
999	C	2			OA
1,000	C	2			OA
1,001	C	2			OA
1,002	C	2			OA
1,003	C	2			OA
1,004	C	2			OA
1,005	C	2			OA
1,006	C	2			OA
1,007	C	2			OA
1,008	C	2			OA
1,009	C	2			OA
1,010	C	2			OA
1,011	C	2			OA
1,012	C	2			OA
1,013	C	2			OA
1,014	C	2			OA
1,015	C	2			OA
1,016	C	2			OA
1,017	C	2			OA
1,018	C	2			OA
1,019	C	2			OA
1,020	C	2			OA
1,021	C	2			OA
1,022	C	2			OA
1,023	C	2			OA
1,024	C	2			OA
1,025	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
1,026	C	2			OA
1,027	C	2			OA
1,028	C	2			OA
1,029	C	2			GR
1,030	C	1			GR
1,031	C	2			GR
1,033	C	2			OA
1,034	C	2			OA
1,035	C	2			OA
1,036	C	2			OA
1,037	C	2			OA
1,038	C	2			OA
1,039	C	2			OA
1,040	C	2			OA
1,041	C	2			OA
1,042	C	2			OA
1,043	C	2			OA
1,044	C	2			OA
1,045	C	2			OA
1,046	C	2			OA
1,047	C	2			OA
1,048	C	2			OA
1,049	C	2			OA
1,050	C	2			OA
1,051	C	2			OA
1,052	C	2			OA
1,053	C	2			OA
1,054	C	2			OA
1,055	C	2			OA
1,056	C	2			OA
1,057	C	2			OA
1,058	C	2			OA
1,059	C	2			OA
1,060	C	2			OA
1,061	C	2			OA
1,062	C	2			OA
1,063	C	2			OA
1,064	C	2			OA
1,065	C	2			OA
1,066	C	2			OA
1,067	C	2			OA
1,068	C	2			OA
1,069	C	2			OA
1,070	C	2			OA
1,071	C	2			OA
1,072	C	2			OA
1,073	C	2			OA
1,074	C	2			OA
1,075	C	2			GR
1,076	C	2			OA
1,077	C	2			OA
1,078	C	2			OA
1,079	C	2			OA
1,080	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
1,081	C	2			OA
1,082	C	2			OA
1,083	C	2			OA
1,084	C	2			OA
1,085	C	2			OA
1,086	C	2			OA
1,087	C	2			OA
1,088	C	2			OA
1,089	C	2			OA
1,090	C	2			OA
1,091	C	2			OA
1,092	C	4			OA
1,093	C	2			OA
1,094	C	2			OA
1,095	C	2			OA
1,096	C	2			OA
1,097	C	2			OA
1,098	C	2			OA
1,099	C	2			OA
1,100	C	2			OA
1,101	C	2			OA
1,102	C	2			OA
1,103	C	2			OA
1,104	C	2			OA
1,105	C	2			OA
1,106	C	2			OA
1,107	C	2			OA
1,108	C	2			OA
1,109	C	2			OA
1,110	C	2			OA
1,111	C	2			OA
1,112	C	2			OA
1,113	C	2			OA
1,114	C	2			OA
1,115	C	2			OA
1,116	C	2			OA
1,117	C	2			OA
1,118	C	2			OA
1,119	C	2			OA
1,120	C	2			OA
1,121	C	5			OA
1,122	C	2			OA
1,123	C	2			OA
1,124	C	2			OA
1,125	C	2			OA
1,126	C	2			OA
1,127	C	2			OA
1,128	C	2			OA
1,129	C	2			OA
1,130	C	2			OA
1,131	C	2			OA
1,132	C	2			OA
1,133	C	2			OA
1,134	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
1,135	C	2			OA
1,136	C	2			OA
1,137	C	2			OA
1,138	C	2			OA
1,139	C	2			OA
1,140	C	2			OA
1,141	C	2			OA
1,142	C	2			OA
1,143	C	2			OA
1,144	C	2			OA
1,145	C	2			OA
1,146	V	2			OA
1,147	V	2			OA
1,148	C	2			OA
1,149	C	2			OA
1,150	C	2			OA
1,151	C	2			OA
1,152	C	2			OA
1,153	C	2			OA
1,154	C	2			OA
1,155	C	2			OA
1,156	C	2			OA
1,157	C	2			OA
1,158	C	2			OA
1,159	C	2			OA
1,160	C	2			OA
1,161	C	2			OA
1,162	C	2			OA
1,163	C	2			OA
1,164	C	2			OA
1,165	C	2			OA
1,166	C	2			OA
1,167	C	2			OA
1,168	C	2			OA
1,169	C	2			OA
1,170	C	4			OA
1,171	C	2			OA
1,172	C	2			OA
1,173	C	2			OA
1,174	C	2			OA
1,175	C	2			OA
1,176	C	2			OA
1,177	C	2			OA
1,178	C	2			OA
1,179	C	2			OA
1,180	C	2			OA
1,181	C	2			OA
1,182	C	2			OA
1,183	C	2			OA
1,184	C	2			OA
1,185	C	2			OA
1,186	C	2			OA
1,187	C	2			OA
1,188	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
1,189	C	2			OA
1,190	C	2			OA
1,191	C	2			OA
1,192	C	2			OA
1,193	C	2			OA
1,194	C	2			OA
1,195	C	2			OA
1,196	C	2			OA
1,197	C	2			OA
1,198	C	2			OA
1,199	C	2			OA
1,200	C	2			OA
1,201	C	2			OA
1,202	C	2			OA
1,203	C	2			OA
1,204	C	2			OA
1,205	C	2			OA
1,206	C	2			OA
1,207	C	2			OA
1,208	C	2			OA
1,209	C	2			OA
1,210	C	2			OA
1,211	C	2			OA
1,212	C	2			OA
1,213	C	2			OA
1,214	C	2			OA
1,215	C	2			OA
1,216	C	2			OA
1,217	C	2			OA
1,218	C	2			OA
1,219	C	2			OA
1,220	C	2			OA
1,221	C	3			OA
1,222	C	2			OA
1,223	C	2			OA
1,224	C	3			OA
1,225	C	2			OA
1,226	C	2			OA
1,227	C	2			OA
1,228	C	2			OA
1,229	C	2			OA
1,230	C	2			OA
1,231	C	2			OA
1,232	C	2			OA
1,233	C	2			OA
1,234	C	1			OA
1,235	C	3			OA
1,236	C	2			OA
1,237	C	2			OA
1,238	C	2			OA
1,239	C	2			OA
1,240	C	2			OA
1,241	C	2			OA
1,242	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
1,243	C	2			OA
1,244	C	2			OA
1,245	C	2			OA
1,246	C	2			OA
1,247	C	2			OA
1,248	C	2			OA
1,249	C	2			OA
1,250	C	2			OA
1,251	C	2			OA
1,252	C	2			OA
1,253	C	2			OA
1,254	C	2			OA
1,255	C	2			OA
1,256	C	2			OA
1,257	C	2			OA
1,258	C	2			OA
1,259	C	2			OA
1,260	C	2			OA
1,261	C	2			OA
1,262	C	2			OA
1,263	C	2			OA
1,264	C	2			OA
1,265	C	2			OA
1,266	C	2			OA
1,267	C	2			OA
1,268	C	2			OA
1,269	C	2			OA
1,270	C	2			OA
1,271	C	2			OA
1,272	C	2			OA
1,273	C	2			OA
1,274	C	2			OA
1,275	C	2			OA
1,276	C	2			OA
1,277	C	2			OA
1,278	C	2			OA
1,279	C	2			OA
1,280	C	2			OA
1,281	C	2			OA
1,282	C	2			OA
1,283	C	2			OA
1,284	C	2			OA
1,285	C	2			OA
1,286	C	2			OA
1,287	C	2			OA
1,288	C	2			OA
1,289	C	2			OA
1,290	C	2			OA
1,291	C	2			OA
1,292	C	2			OA
1,293	C	2			OA
1,294	C	2			OA
1,295	C	2			OA
1,296	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
1,297	C	2			OA
1,298	C	2			OA
1,299	C	2			OA
1,300	C	2			OA
1,301	C	2			OA
1,302	C	2			OA
1,303	C	2			OA
1,304	C	2			OA
1,305	C	2			OA
1,306	C	2			OA
1,307	C	2			OA
1,308	C	2			GR
1,309	C	2			OA
1,310	C	2			OA
1,311	C	2			OA
1,312	C	3			OA
1,313	C	2			GR
1,314	C	2			GR
1,315	C	3			GR
1,316	C	2			GR
1,317	C	2			GR
1,318	C	2			GR
1,319	C	3			GR
1,320	C	2			GR
1,321	C	2			GR
1,322	C	5			GR
1,323	C	2			GR
1,324	C	2			GR
1,325	C	2			OA
1,326	C	1			GR
1,327	C	2			OA
1,328	C	2			OA
1,329	C	2			OA
1,330	C	2			GR
1,331	C	2			GR
1,332	C	2			GR
1,333	C	1			GR
1,334	C	2			GR
1,335	C	2			GR
1,336	C	2			GR
1,337	C	2			GR
1,338	C	2			GR
1,339	C	2			GR
1,340	C	2			GR
1,341	C	1			GR
1,342	C	1			GR
1,343	C	1			GR
1,344	C	2			GR
1,345	C	2			GR
1,348	C	1			GR
1,349	C	1			GR
1,350	V	3			GR
1,351	C	3			GR
1,352	C	2			GR

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
1,353	C	1			OA
1,354	C	1			OA
1,355	C	1			OA
1,356	C	1			OA
1,357	C	1			OA
1,358	C	1			OA
1,359	C	3			OA
1,360	C	2			OA
1,361	C	2			OA
1,362	C	2			OA
1,363	C	2			OA
1,364	C	2			OA
1,365	C	3			OA
1,366	C	2			OA
1,367	C	2			OA
1,368	C	2			OA
1,369	C	2			OA
1,370	C	2			OA
1,371	C	2			OA
1,372	C	2			OA
1,373	C	2			OA
1,374	C	2			OA
1,375	C	2			OA
1,376	C	2			OA
1,377	C	2			OA
1,378	C	2			OA
1,379	C	2			GR
1,380	C	2			GR
1,381	C	2			GR
1,382	C	2			GR
1,383	C	2			OA
1,384	C	2			OA
1,385	C	2			OA
1,386	C	2			OA
1,387	C	2			OA
1,388	C	2			OA
1,389	C	2			OA
1,390	C	2			GR
1,391	C	2			GR
1,392	C	2			GR
1,393	C	1			GR
1,394	C	2			GR
1,395	C	2			GR
1,396	C	2			GR
1,397	C	2			GR
1,398	C	1			GR
1,399	C	2			OA
1,400	C	2			OA
1,401	C	2			GR
1,402	C	2			OA
1,403	C	2			GR
1,404	C	2			GR
1,405	C	2			GR
1,406	C	2			GR

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
1,407	C	2			GR
1,408	C	2			OA
1,409	C	3			OA
1,410	C	2			OA
1,411	C	2			OA
1,412	C	2			OA
1,413	C	2			OA
1,414	C	2			OA
1,415	C	2			OA
1,416	C	2			OA
1,417	C	2			OA
1,418	C	2			OA
1,419	C	2			OA
1,420	C	2			OA
1,421	C	2			OA
1,422	C	2			OA
1,423	C	2			OA
1,424	C	2			OA
1,425	C	2			OA
1,426	C	2			OA
1,427	C	2			OA
1,428	C	2			OA
1,429	C	2			OA
1,430	C	2			OA
1,431	C	2			OA
1,432	C	3			GR
1,433	C	2			GR
1,434	C	2			GR
1,435	C	2			GR
1,436	C	2			GR
1,437	C	2			GR
1,438	C	2			OA
1,439	C	2			GR
1,440	C	2			GR
1,441	C	2			OA
1,442	C	2			OA
1,443	C	2			OA
1,444	C	2			OA
1,445	C	2			OA
1,446	C	2			OA
1,447	C	2			OA
1,448	C	2			OA
1,449	C	2			OA
1,450	C	2			OA
1,451	C	1			OA
1,452	C	2			OA
1,453	C	2			OA
1,454	C	2			OA
1,455	C	2			OA
1,456	C	2			GR
1,457	C	2			GR
1,458	C	2			GR
1,459	C	2			GR
1,460	C	2			GR
					GR

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
1,461	C	2			GR
1,462	C	2			OA
1,463	C	2			GR
1,464	C	2			GR
1,465	C	2			OA
1,466	C	2			OA
1,467	C	2			GR
1,468	C	2			GR
1,469	C	2			OA
1,470	C	2			OA
1,471	C	2			GR
1,472	C	2			OA
1,473	C	2			OA
1,474	C	3			OA
1,475	C	3			OA
1,476	C	3			OA
1,477	C	2			OA
1,478	C	2			OA
1,479	C	2			OA
1,480	C	2			OA
1,481	C	2			OA
1,482	C	2			GR
1,483	C	2			OA
1,484	C	2			OA
1,485	C	2			OA
1,486	C	2			OA
1,487	C	2			OA
1,488	C	2			OA
1,489	C	2			OA
1,490	C	2			OA
1,491	C	4			OA
1,492	C	2			OA
1,493	C	2			OA
1,494	C	2			OA
1,495	C	2			OA
1,496	C	2			OA
1,497	C	2			OA
1,498	C	3			OA
1,499	C	2			OA
1,500	C	2			OA
1,501	C	2			OA
1,502	C	2			OA
1,503	C	2			OA
1,504	C	2			OA
1,505	C	2			OA
1,506	C	2			OA
1,507	C	5			OA
1,508	C	2			OA
1,509	C	2			OA
1,510	C	2			OA
1,511	C	2			OA
1,512	C	2			OA
1,513	C	2			OA
1,514	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
1,515	C	2			OA
1,516	C	2			OA
1,517	C	2			OA
1,518	C	2			OA
1,519	C	2			OA
1,520	C	2			OA
1,521	C	2			OA
1,522	C	2			OA
1,523	C	2			OA
1,524	C	2			OA
1,525	C	2			OA
1,526	C	2			OA
1,527	C	2			OA
1,528	C	2			OA
1,529	C	2			OA
1,530	C	2			OA
1,531	C	2			OA
1,532	C	2			OA
1,533	C	2			OA
1,534	C	2			OA
1,535	C	2			OA
1,536	C	2			OA
1,537	C	2			OA
1,538	C	2			OA
1,539	C	2			OA
1,540	C	2			OA
1,541	C	2			OA
1,542	C	2			OA
1,543	C	2			OA
1,544	C	2			OA
1,545	C	2			OA
1,546	C	2			OA
1,547	C	2			OA
1,548	C	2			OA
1,549	C	2			OA
1,550	C	2			OA
1,551	C	2			OA
1,552	C	2			OA
1,553	C	2			OA
1,554	C	2			OA
1,555	C	2			OA
1,556	C	2			OA
1,557	C	2			OA
1,558	C	2			OA
1,559	C	2			OA
1,560	C	2			GR
1,561	C	2			OA
1,562	C	2			OA
1,563	C	2			OA
1,564	C	2			OA
1,565	C	2			OA
1,566	C	2			OA
1,567	C	2			OA
1,568	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
1,569	C	2			OA
1,570	C	2			OA
1,571	C	2			OA
1,572	C	2			OA
1,573	C	2			OA
1,574	C	2			OA
1,575	C	2			OA
1,576	C	2			OA
1,577	C	2			OA
1,578	C	2			OA
1,579	C	2			OA
1,580	C	2			OA
1,581	C	2			OA
1,582	C	2			OA
1,583	C	2			OA
1,584	C	2			OA
1,585	C	2			OA
1,586	C	2			OA
1,587	C	2			OA
1,588	C	2			OA
1,589	C	2			OA
1,590	C	2			OA
1,591	C	2			OA
1,592	C	2			OA
1,593	C	2			OA
1,594	C	2			OA
1,595	C	2			OA
1,596	C	2			GR
1,597	C	2			GR
1,598	C	2			GR
1,599	C	2			GR
1,600	C	2			GR
1,601	C	2			GR
1,602	C	2			GR
1,603	C	2			GR
1,604	C	2			GR
1,605	C	2			OA
1,606	C	2			OA
1,607	C	2			OA
1,608	C	2			OA
1,609	C	2			OA
1,610	C	2			GR
1,611	C	2			GR
1,612	C	2			GR
1,613	C	2			GR
1,614	C	2			GR
1,615	C	2			GR
1,616	C	2			GR
1,617	C	3			GR
1,618	C	2			GR
1,619	C	2			GR
1,620	C	2			GR
1,621	C	2			GR
1,622	C	2			GR

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
1,623	C	2			GR
1,624	C	2			GR
1,625	C	2			OA
1,626	C	2			OA
1,627	C	2			OA
1,628	C	2			OA
1,629	C	2			OA
1,630	C	2			OA
1,631	C	2			OA
1,632	C	2			OA
1,633	C	2			OA
1,634	C	2			OA
1,635	C	2			GR
1,636	C	2			GR
1,637	C	2			GR
1,638	C	2			GR
1,639	C	2			OA
1,640	C	2			OA
1,641	C	2			OA
1,642	C	2			OA
1,643	C	2			OA
1,644	C	2			OA
1,645	C	2			OA
1,646	C	2			OA
1,647	C	2			OA
1,648	C	2			OA
1,649	C	2			OA
1,650	C	2			OA
1,651	C	3			OA
1,652	C	4			OA
1,653	C	2			OA
1,654	C	2			OA
1,655	C	2			OA
1,656	C	2			OA
1,657	C	2			OA
1,658	C	2			OA
1,659	C	2			GR
1,660	C	2			GR
1,661	C	2			GR
1,662	C	5			OA
1,663	C	2			OA
1,664	C	2			OA
1,665	C	2			OA
1,666	C	2			OA
1,667	C	2			OA
1,668	C	2			OA
1,669	C	2			OA
1,670	C	2			OA
1,671	C	2			OA
1,672	C	2			OA
1,673	C	2			OA
1,674	C	2			OA
1,675	C	2			OA
1,676	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
1,677	C	2			OA
1,678	C	2			OA
1,679	C	2			OA
1,680	C	2			OA
1,681	C	2			OA
1,682	C	2			OA
1,683	C	2			OA
1,684	C	2			OA
1,685	C	2			OA
1,686	C	2			OA
1,687	C	2			OA
1,688	C	2			OA
1,689	C	2			OA
1,690	C	2			OA
1,691	C	2			OA
1,692	C	2			OA
1,693	C	2			OA
1,694	C	2			OA
1,695	C	2			OA
1,696	C	2			OA
1,697	C	2			OA
1,698	C	2			OA
1,699	C	2			OA
1,700	C	2			GR
1,701	C	2			GR
1,702	C	2			GR
1,703	C	2			OA
1,704	C	2			OA
1,705	C	2			GR
1,706	C	2			GR
1,707	C	2			OA
1,708	C	2			OA
1,709	C	2			OA
1,710	C	2			GR
1,711	C	2			GR
1,712	C	3			GR
1,713	C	2			GR
1,714	C	2			GR
1,715	C	2			GR
1,716	C	2			GR
1,717	C	2			GR
1,718	C	2			GR
1,719	C	2			GR
1,720	C	2			GR
1,721	C	2			GR
1,722	C	2			GR
1,723	C	2			GR
1,724	C	2			GR
1,725	C	2			OA
1,726	C	3			OA
1,727	C	2			GR
1,728	C	2			GR
1,729	C	2			GR
1,730	C	2			GR

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
1,731	C	2			GR
1,732	C	2			GR
1,733	C	2			OA
1,734	C	2			OA
1,735	C	2			OA
1,736	C	2			OA
1,737	C	2			OA
1,738	C	2			OA
1,739	C	2			OA
1,740	C	2			OA
1,741	C	2			OA
1,742	C	2			OA
1,743	C	2			OA
1,744	C	2			OA
1,745	C	2			GR
1,746	C	2			OA
1,747	C	2			OA
1,748	C	2			OA
1,749	C	2			OA
1,750	C	2			OA
1,751	C	2			OA
1,752	C	2			OA
1,753	C	2			OA
1,754	C	2			OA
1,755	C	2			OA
1,756	C	2			OA
1,757	C	2			OA
1,758	C	2			OA
1,759	C	2			OA
1,760	C	2			OA
1,761	C	2			OA
1,762	C	2			OA
1,763	C	2			OA
1,764	C	2			OA
1,765	C	2			OA
1,766	C	2			OA
1,767	C	2			OA
1,768	C	2			OA
1,769	C	2			OA
1,770	C	2			GR
1,771	C	5			GR
1,772	C	3			GR
1,773	C	5			GR
1,774	C	4			OA
1,775	C	2			OA
1,776	C	2			OA
1,777	C	2			OA
1,778	C	2			OA
1,779	C	2			OA
1,780	C	2			OA
1,781	C	2			OA
1,782	C	3			OA
1,783	C	2			OA
1,784	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
1,785	C	2			OA
1,786	C	3			OA
1,787	C	4			OA
1,788	C	2			OA
1,789	C	2			OA
1,790	C	2			OA
1,791	C	2			OA
1,792	C	2			OA
1,793	C	3			OA
1,794	C	2			OA
1,795	C	2			OA
1,796	C	2			OA
1,797	C	2			OA
1,798	C	2			OA
1,799	C	2			OA
1,800	C	2			OA
1,801	C	2			OA
1,802	C	2			OA
1,803	C	2			OA
1,804	C	2			OA
1,805	C	2			OA
1,806	C	2			OA
1,807	C	2			OA
1,808	C	1			OA
1,809	C	2			OA
1,810	C	2			OA
1,811	C	2			OA
1,812	C	2			OA
1,813	C	2			OA
1,814	C	3			OA
1,815	C	3			OA
1,816	C	3			OA
1,817	C	2			OA
1,818	C	2			OA
1,819	C	2			OA
1,820	C	3			OA
1,821	C	1			OA
1,822	C	2			OA
1,823	C	2			OA
1,824	C	2			OA
1,825	C	2			OA
1,826	C	2			OA
1,827	C	2			OA
1,828	C	2			OA
1,829	C	2			OA
1,830	C	2			OA
1,831	C	2			OA
1,832	C	2			OA
1,833	C	1			OA
1,834	C	2			OA
1,835	C	2			OA
1,836	C	2			OA
1,837	C	2			OA
1,838	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
1,839	C	2			OA
1,840	C	2			OA
1,841	C	2			OA
1,842	C	2			OA
1,843	C	2			OA
1,844	C	2			OA
1,845	C	2			OA
1,846	C	2			OA
1,847	C	2			OA
1,848	C	2			OA
1,849	C	2			OA
1,850	C	2			OA
1,851	C	2			OA
1,852	C	4			OA
1,853	C	4			OA
1,856	V	2			OA
1,857	V	2			OA
1,858	V	2			OA
1,859	V	3			OA
1,860	V	2			OA
1,861	V	2			OA
1,862	V	2			OA
1,863	V	2			OA
1,865	V	2			OA
1,867	V	2			OA
1,868	C	2			OA
1,869	V	3			OA
1,870	C	2			OA
1,874	V	2			OA
1,875	V	2			OA
1,879	V	2			OA
1,880	V	2			GR
1,882	V	2			GR
1,883	V	2			GR
1,884	V	2			GR
1,885	V	2			GR
1,886	V	2			GR
1,887	V	2			GR
1,888	V	2			GR
1,889	V	2			GR
1,890	V	2			GR
1,891	V	2			GR
1,892	V	2			GR
1,894	V	2			GR
1,896	V	2			GR
1,914	C	2			GR
1,915	C	2			GR
1,916	C	5			OA
1,917	C	4			OA
1,918	C	2			OA
1,919	C	2			OA
1,920	C	2			OA
1,921	C	2			GR
1,922	C	2			GR

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
1,923	C	3			GR
1,924	V	2			GR
1,925	V	2			GR
1,926	V	2			OA
1,928	V	2			OA
1,929	C	2			GR
1,930	C	2			GR
1,931	C	3			OA
1,932	C	2			OA
1,933	C	2			OA
1,934	V	2			OA
1,935	C	2			GR
1,936	C	2			OA
1,937	C	2			OA
1,938	C	2			GR
1,939	C	2			GR
1,940	C	2			OA
1,944	V	2			OA
1,947	V	3			OA
1,948	V	3			OA
1,949	V	3			OA
1,950	C	2			OA
1,951	C	2			GR
1,952	C	2			OA
1,953	C	2			OA
1,954	V	3			OA
1,955	C	2			OA
1,956	C	2			OA
1,957	C	2			OA
1,958	V	2			OA
1,959	C	2			OA
1,960	C	2			GR
1,961	V	1	HERITAGE	136	OA
1,962	V	2			OA
1,963	V	2			OA
1,964	V	2			GR
1,965	V	1			OA
1,966	V	2			OA
1,967	C	2			OA
1,968	C	2			OA
1,969	C	2			OA
1,970	C	2			OA
1,971	C	2			OA
1,972	C	2			OA
1,973	C	2			OA
1,974	C	1			OA
1,975	C	1			OA
1,976	C	2			OA
1,977	V	2			GR
1,978	V	2			OA
1,979	V	2			OA
1,980	V	2			OA
1,981	V	2			OA
1,982	V	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
1,983	V	2			OA
1,984	V	2			OA
1,985	V	2			OA
1,986	V	2			OA
1,987	V	2			OA
1,988	V	2			OA
1,989	V	2			OA
1,990	V	2			GR
1,991	V	2			GR
1,992	V	2			GR
1,993	V	2			OA
1,994	V	2			OA
1,995	V	2			OA
1,996	V	2			GR
1,997	V	2			GR
1,998	V	2			GR
1,999	V	2			GR
2,000	V	2			OA
2,001	V	2			OA
2,002	V	2			OA
2,003	V	2			OA
2,004	V	2			OA
2,005	V	2			OA
2,006	V	2			OA
2,007	V	2			OA
2,008	V	2			OA
2,009	V	2			OA
2,010	V	2			GR
2,011	V	2			OA
2,012	V	2			OA
2,013	V	2			OA
2,014	V	2			OA
2,015	V	2			OA
2,016	V	2			OA
2,017	V	2			OA
2,018	V	2			OA
2,019	V	2			OA
2,020	V	2			OA
2,021	V	2			OA
2,022	V	2			OA
2,023	V	2			OA
2,024	V	2			GR
2,025	V	2			GR
2,026	V	2			OA
2,027	V	2			OA
2,028	V	2			OA
2,029	V	2			OA
2,030	V	2			OA
2,031	V	2			OA
2,032	V	2			OA
2,033	V	2			OA
2,034	V	2			OA
2,035	V	3			OA
2,036	V	3			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
2,037	V	3			OA
2,038	V	3			OA
2,039	V	3			GR
2,040	V	3			GR
2,041	V	3			GR
2,042	V	3			OA
2,043	V	3			OA
2,044	V	3			OA
2,045	V	3			OA
2,046	V	2			GR
2,047	V	2			OA
2,048	V	1	HERITAGE	120	OA
2,049	V	2	HERITAGE	120	OA
2,050	V	1	HERITAGE	122	OA
2,051	V	1			OA
2,052	V	1			OA
2,053	V	1			GR
2,054	V	1			GR
2,055	V	1			GR
2,056	V	1	HERITAGE	160	OA
2,057	C	1	HERITAGE	127	OA
2,058	V	1	HERITAGE	122	OA
2,059	C	1			OA
2,060	V	5			OA
2,061	V	4			GR
2,062	V	4			OA
2,063	V	4			OA
2,064	V	2	HERITAGE	110	GR
2,065	V	2	HERITAGE	127	GR
2,066	V	1	HERITAGE	138	GR
2,067	V	1	HERITAGE	115	OA
2,068	V	1	HERITAGE	177	GR
2,069	V	1	HERITAGE	119	OA
2,070	V	1	HERITAGE	137	OA
2,071	C	2			OA
2,072	C	2			OA
2,073	C	2			OA
2,074	C	2			OA
2,075	C	2			OA
2,076	C	2			OA
2,077	C	2			OA
2,078	C	2			OA
2,079	C	2			OA
2,080	C	2			OA
2,081	C	2			OA
2,082	C	2			OA
2,083	C	2			OA
2,084	C	2			OA
2,085	C	2			OA
2,086	C	2			OA
2,087	C	2			OA
2,088	C	2			OA
2,089	C	2			OA
2,090	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
2,091	C	2			OA
2,092	C	2			OA
2,093	C	2			OA
2,094	C	2			OA
2,095	C	2			OA
2,096	C	2			OA
2,097	C	2			OA
2,098	C	2			OA
2,099	C	2			OA
2,100	C	2			OA
2,101	C	2			OA
2,102	C	2			OA
2,103	C	2			OA
2,104	C	2			OA
2,105	C	2			OA
2,106	C	2			OA
2,107	C	2			OA
2,108	C	2			OA
2,109	C	2			OA
2,110	C	2			OA
2,111	C	2			OA
2,112	C	2			OA
2,113	C	2			OA
2,114	C	2			OA
2,115	C	2			OA
2,116	C	2			OA
2,117	C	2			OA
2,118	C	2			OA
2,119	C	2			OA
2,120	C	2			OA
2,121	C	2			OA
2,122	C	2			OA
2,123	C	2			OA
2,124	C	2			GR
2,125	C	2			OA
2,126	C	2			OA
2,127	C	2			OA
2,128	C	2			OA
2,129	C	2			OA
2,130	C	2			OA
2,131	C	2			OA
2,132	C	2			OA
2,133	C	2			OA
2,134	C	2			GR
2,135	C	2			GR
2,136	C	2			OA
2,137	C	2			OA
2,138	C	2			OA
2,139	C	2			OA
2,140	C	2			OA
2,141	C	2			OA
2,142	C	2			OA
2,143	C	2			OA
2,144	C	2			GR

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
2,145	C	2			GR
2,146	C	2			GR
2,147	C	2			OA
2,148	C	2			OA
2,149	C	2			OA
2,150	C	2			OA
2,151	C	2			OA
2,152	C	2			OA
2,153	C	2			OA
2,154	C	2			OA
2,155	C	2			OA
2,156	C	2			OA
2,157	C	2			OA
2,158	C	2			OA
2,159	C	2			GR
2,160	C	2	HERITAGE	103	GR
2,161	C	1	HERITAGE	120	GR
2,162	C	1			OA
2,163	C	1	HERITAGE	116	OA
2,164	C	1	HERITAGE	131	OA
2,165	C	1	HERITAGE	116	OA
2,166	C	1	HERITAGE	142	OA
2,167	C	1	HERITAGE	150	OA
2,168	C	1			OA
2,169	C	3			OA
2,170	C	3			OA
2,171	C	3			OA
2,172	C	1			OA
2,173	V	2			OA
2,174	V	2			OA
2,175	V	2			OA
2,176	V	2			OA
2,177	V	2			OA
2,178	V	2			OA
2,179	V	2			OA
2,180	V	2			OA
2,181	V	2			OA
2,182	V	2			OA
2,183	V	2			OA
2,184	V	2			OA
2,185	V	2			OA
2,186	V	2			OA
2,187	V	2			OA
2,188	V	2			OA
2,189	V	2			OA
2,190	V	2			OA
2,191	V	2			OA
2,192	V	2			OA
2,193	V	2			OA
2,194	V	2			OA
2,195	V	2			OA
2,196	V	2			OA
2,197	V	2			OA
2,198	V	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
2,199	V	2			OA
2,200	V	2			OA
2,201	V	1			OA
2,202	V	5			OA
2,203	V	2			OA
2,204	V	2			OA
2,205	V	2			OA
2,206	V	2			OA
2,207	V	2			OA
2,208	V	2			OA
2,209	V	2			OA
2,210	V	2			OA
2,211	V	2			OA
2,212	V	2			OA
2,213	V	2			OA
2,214	V	2			OA
2,215	V	2			OA
2,216	V	2			OA
2,217	V	2			OA
2,218	V	1	HERITAGE	150	OA
2,219	C	1	HERITAGE	139	OA
2,220	V	4			OA
2,221	C	2	HERITAGE	111	OA
2,222	C	2			OA
2,223	C	2			OA
2,224	C	2			OA
2,225	C	2			OA
2,226	C	2			OA
2,227	C	2			OA
2,228	C	2			OA
2,229	C	2			OA
2,230	C	2			OA
2,231	C	2			OA
2,232	C	2			OA
2,233	C	2			OA
2,234	C	2			OA
2,235	C	2			OA
2,236	C	2			OA
2,237	C	2			OA
2,238	C	2			OA
2,239	V	1			OA
2,240	V	5			OA
2,241	C	1	HERITAGE	129	GR
2,242	V	2			OA
2,243	C	3			OA
2,244	C	2			OA
2,245	C	2			OA
2,246	C	1			OA
2,247	C	3			OA
2,248	C	3			OA
2,249	C	3			OA
2,250	C	3			OA
2,251	C	3			OA
2,252	C	3			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
2,253	C	3			OA
2,254	C	3			OA
2,255	C	1	HERITAGE	137	OA
2,256	C	2	HERITAGE	116	OA
2,257	C	2	HERITAGE	112	OA
2,258	C	2	HERITAGE	120	OA
2,259	C	1	HERITAGE	139	GR
2,260	C	1	HERITAGE	110	GR
2,261	C	1	HERITAGE	117	OA
2,262	C	1	HERITAGE	120	GR
2,263	C	2			OA
2,264	C	2			OA
2,265	C	2			OA
2,266	C	2			GR
2,267	C	1			GR
2,268	C	3			OA
2,269	C	3			GR
2,270	C	4			OA
2,271	C	4			OA
2,272	C	2			OA
2,273	C	2			OA
2,274	C	2			OA
2,275	C	2			OA
2,276	C	2			GR
2,277	C	2			GR
2,278	C	2			GR
2,279	C	2			GR
2,280	C	2	HERITAGE	117	OA
2,281	C	1			OA
2,282	C	1			OA
2,283	C	1			OA
2,284	C	1			GR
2,285	C	1			GR
2,286	C	1			GR
2,287	C	1			GR
2,288	C	1			GR
2,290	C	3			OA
2,291	C	3			GR
2,292	C	1	HERITAGE	120	GR
2,293	C	1	HERITAGE	114	GR
2,294	C	1	HERITAGE	125	GR
2,295	C	2	HERITAGE	121	GR
2,296	C	1	HERITAGE	116	GR
2,297	C	1	HERITAGE	137	GR
2,298	C	1	HERITAGE	119	GR
2,299	C	2	HERITAGE	137	GR
2,300	C	2	HERITAGE	110	GR
2,301	C	1	HERITAGE	135	GR
2,302	C	5			GR
2,303	C	5			GR
2,304	C	3			GR
2,305	C	3			GR
2,306	C	2			GR
2,307	C	5			GR

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
2,308	C	3			GR
2,309	C	3			OA
2,310	C	3			OA
2,311	C	3			OA
2,312	C	3			OA
2,313	C	3			OA
2,314	C	3			OA
2,315	C	3			OA
2,316	C	3			GR
2,317	C	5			OA
2,318	C	5			OA
2,319	C	5			OA
2,320	C	2			OA
2,321	C	5			OA
2,322	C	4			OA
2,323	C	4			OA
2,324	C	4			OA
2,325	C	4			OA
2,326	C	4			OA
2,327	C	3			OA
2,328	C	2			OA
2,329	C	1			OA
2,330	C	1			OA
2,331	C	1			OA
2,332	C	1			OA
2,333	C	3			OA
2,334	C	2			OA
2,335	C	2			OA
2,336	C	2			OA
2,337	C	2			OA
2,338	C	2			OA
2,339	C	2			OA
2,340	C	2			OA
2,341	C	2			OA
2,342	C	2			OA
2,343	C	2			OA
2,344	C	2			OA
2,345	C	2			OA
2,346	C	2			OA
2,347	C	2			OA
2,348	C	2			OA
2,349	C	2			OA
2,350	C	2			OA
2,351	C	2			OA
2,352	C	2			OA
2,353	C	2			OA
2,354	C	2			OA
2,355	C	2			OA
2,356	C	2			OA
2,357	C	2			OA
2,358	C	2			OA
2,359	C	2			OA
2,360	C	2			OA
2,361	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
2,362	C	2			OA
2,363	C	2			OA
2,364	C	2			OA
2,365	C	2			OA
2,366	C	2			OA
2,367	C	2			OA
2,368	C	2			OA
2,369	C	2			OA
2,370	C	2			OA
2,371	C	2			OA
2,372	C	2			OA
2,373	C	2			OA
2,374	C	2			OA
2,375	C	2			OA
2,376	C	2			OA
2,377	C	2			OA
2,378	C	2			OA
2,379	C	2			OA
2,380	C	2			OA
2,381	C	2			OA
2,382	C	2			OA
2,383	C	2			OA
2,384	C	2			OA
2,385	C	2			OA
2,386	C	2			OA
2,387	C	2			OA
2,388	C	2			OA
2,389	C	2			OA
2,390	C	2			OA
2,391	C	2			OA
2,392	C	2			OA
2,393	C	2			OA
2,394	C	2			OA
2,395	C	2			OA
2,396	C	2			OA
2,397	C	2			OA
2,398	C	2			OA
2,399	C	2			OA
2,400	C	2			OA
2,401	C	2			GR
2,402	C	2			GR
2,403	C	2			OA
2,404	C	2			GR
2,405	C	1			OA
2,406	C	1			OA
2,407	C	1			OA
2,408	C	1			OA
2,409	C	3			OA
2,410	C	1			OA
2,411	C	3			OA
2,412	C	2			OA
2,413	C	2			OA
2,414	C	2			OA
2,415	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
2,416	C	3			OA
2,417	C	3			OA
2,418	C	2			OA
2,419	C	3			OA
2,420	C	3			OA
2,421	C	5			OA
2,422	C	3			OA
2,423	C	3			OA
2,424	C	5			OA
2,425	C	5			OA
2,426	C	5			OA
2,427	C	5			OA
2,428	C	5			OA
2,429	C	3			OA
2,430	C	4			OA
2,431	C	4			OA
2,432	C	4			OA
2,433	C	4			OA
2,434	C	2			OA
2,435	C	2			OA
2,436	C	2			OA
2,437	C	2			OA
2,438	C	2			OA
2,439	C	2			OA
2,440	C	4			OA
2,441	C	4			OA
2,442	C	4			OA
2,443	C	3			OA
2,444	C	3			OA
2,445	C	5			OA
2,446	C	2			OA
2,447	C	2			OA
2,448	C	2			OA
2,449	C	5			OA
2,454	C	2			OA
2,455	C	2			OA
2,456	C	2			OA
2,457	C	2			OA
2,458	C	2			OA
2,459	C	2			OA
2,460	C	2			OA
2,461	C	2			OA
2,462	C	2			OA
2,463	C	2			OA
2,464	C	2			OA
2,465	C	2			OA
2,466	C	2			OA
2,467	C	2			GR
2,468	C	2			OA
2,469	C	2			OA
2,470	C	2			OA
2,471	C	2			OA
2,472	C	2			OA
2,473	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
2,474	C	2			OA
2,475	C	2			OA
2,476	C	2			OA
2,477	C	2			OA
2,478	C	2			OA
2,479	C	2			OA
2,480	C	2			GR
2,481	C	2			GR
2,482	C	2			GR
2,483	C	3			OA
2,484	C	2			OA
2,485	C	3			OA
2,486	C	3			OA
2,487	C	3			OA
2,488	C	3			OA
2,489	C	3			OA
2,490	C	1	HERITAGE	156	GR
2,491	C	2			OA
2,492	C	3			OA
2,493	C	1	HERITAGE	120	OA
2,494	C	2			GR
2,495	C	2			GR
2,496	C	2			GR
2,497	C	2			GR
2,498	C	2			GR
2,499	C	2			GR
2,500	C	2			OA
2,501	C	2			OA
2,502	C	2			OA
2,503	C	2			OA
2,504	C	2			OA
2,505	C	2			OA
2,506	C	2			OA
2,507	C	2			OA
2,508	C	2			OA
2,509	C	2			GR
2,510	C	2			GR
2,511	C	2			OA
2,512	C	2			GR
2,513	C	2			GR
2,514	C	4			OA
2,515	C	2			OA
2,516	C	2			OA
2,517	C	2			OA
2,518	C	2			OA
2,519	C	5			OA
2,520	C	4			OA
2,521	C	3			OA
2,522	C	2			OA
2,523	C	2			OA
2,524	C	2			OA
2,525	C	2			OA
2,526	C	2			OA
2,527	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
2,528	C	2			OA
2,529	C	2			OA
2,530	C	2			OA
2,531	C	2			OA
2,532	C	2			OA
2,533	C	2			OA
2,534	C	2			OA
2,535	C	2			OA
2,536	C	2			OA
2,537	C	2			OA
2,538	C	2			OA
2,539	C	2			OA
2,540	C	2			OA
2,541	C	2			OA
2,542	C	2			OA
2,543	C	2			OA
2,544	C	2			GR
2,545	C	2			OA
2,546	C	2			OA
2,547	C	2			OA
2,548	C	2			OA
2,549	C	2			OA
2,550	C	2			OA
2,551	C	2			OA
2,552	C	2			OA
2,553	C	2			OA
2,554	C	2			OA
2,555	C	2			OA
2,556	C	2			OA
2,557	C	2			OA
2,558	C	2			OA
2,559	C	2			OA
2,560	C	2			OA
2,561	C	2			OA
2,562	C	2			OA
2,563	C	2			OA
2,564	C	2			OA
2,565	C	2			OA
2,566	C	2			OA
2,567	C	2			OA
2,568	C	2			OA
2,569	C	2			OA
2,570	C	2			OA
2,571	C	2			OA
2,572	C	2			OA
2,573	C	2			OA
2,574	C	2			OA
2,575	C	2			OA
2,576	C	2			OA
2,577	C	2			OA
2,578	C	2			OA
2,579	C	2			OA
2,580	C	2			OA
2,581	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
2,582	C	2			OA
2,583	C	2			OA
2,584	C	2			OA
2,585	C	2			OA
2,586	C	2			OA
2,587	C	2			OA
2,588	C	2			OA
2,589	C	2			OA
2,590	C	2			OA
2,591	C	2			OA
2,592	C	2			OA
2,593	C	2			OA
2,594	C	2			GR
2,595	C	2			GR
2,596	C	2			GR
2,597	C	2			GR
2,598	C	2			GR
2,599	C	2			GR
2,600	C	2			GR
2,601	C	2			GR
2,602	C	2			GR
2,603	C	2			GR
2,604	C	2			OA
2,605	C	2			GR
2,606	C	2			GR
2,607	C	2			OA
2,608	C	2			OA
2,609	C	2			OA
2,610	C	2			OA
2,611	C	2			OA
2,612	C	2			OA
2,613	C	2			OA
2,614	C	2			OA
2,615	C	2			OA
2,616	C	2			OA
2,617	C	2			OA
2,618	C	2			OA
2,619	C	2			OA
2,620	C	2			OA
2,621	C	2			OA
2,622	C	2			OA
2,623	C	2			OA
2,624	C	2			OA
2,625	C	2			OA
2,626	C	2			OA
2,627	C	2			OA
2,628	C	2			OA
2,629	C	2			OA
2,630	C	2			OA
2,631	C	2			OA
2,632	C	2			OA
2,633	C	2			OA
2,634	C	2			OA
2,635	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
2,636	C	2			OA
2,637	C	2			OA
2,638	C	2			OA
2,639	C	2			OA
2,640	C	2			OA
2,641	C	2			OA
2,642	C	2			OA
2,643	C	2			OA
2,644	C	2			OA
2,645	C	2			OA
2,646	C	2			OA
2,647	C	2			OA
2,648	C	2			OA
2,649	C	2			OA
2,650	C	2			OA
2,651	C	2			OA
2,652	C	2			OA
2,653	C	2			OA
2,654	C	2			OA
2,655	C	2			OA
2,656	C	2			OA
2,657	C	2			OA
2,658	C	2			OA
2,659	C	2			OA
2,660	C	2			OA
2,661	C	2			OA
2,662	C	2			OA
2,663	C	2			OA
2,664	C	2			OA
2,665	C	2			OA
2,666	C	2			OA
2,667	C	2			OA
2,668	C	2			OA
2,669	C	2			OA
2,670	C	2			OA
2,671	C	2			OA
2,672	C	2			OA
2,673	C	2			OA
2,674	C	2			OA
2,675	C	2			OA
2,676	C	2			OA
2,677	C	2			OA
2,678	C	2			OA
2,679	C	2			OA
2,680	C	2			OA
2,681	C	2			OA
2,682	C	2			OA
2,683	C	2			OA
2,684	C	2			OA
2,685	C	2			OA
2,686	C	2			OA
2,687	C	2			OA
2,688	C	2			OA
2,689	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
2,690	C	2			OA
2,691	C	2			OA
2,692	C	2			OA
2,693	C	1			OA
2,694	C	1			OA
2,695	C	1			OA
2,696	C	1			OA
2,697	C	1			OA
2,698	C	1			OA
2,699	C	1			OA
2,700	C	1			OA
2,701	C	1			OA
2,702	C	1			OA
2,703	C	2			OA
2,704	C	3			OA
2,705	C	5			OA
2,706	C	4			OA
2,707	C	3			OA
2,708	C	2	HERITAGE	170	OA
2,709	C	2			OA
2,710	C	3			OA
2,711	C	3			OA
2,712	C	3			OA
2,713	C	1			OA
2,714	C	1			OA
2,715	C	1			OA
2,716	C	1			OA
2,717	C	1			OA
2,718	C	1			OA
2,719	C	1			OA
2,720	C	1			OA
2,721	C	1			OA
2,722	C	1			OA
2,723	C	1			OA
2,724	C	1	HERITAGE	133	OA
2,725	C	3			OA
2,726	C	3			OA
2,727	C	3			OA
2,728	C	1	HERITAGE	123	OA
2,729	C	1	HERITAGE	175	OA
2,730	C	2			OA
2,731	C	2			GR
2,732	C	2			OA
2,733	C	2			OA
2,734	C	2			OA
2,735	C	2			OA
2,736	C	2			OA
2,737	C	2			OA
2,738	C	3			OA
2,739	C	1	HERITAGE	127	GR
2,740	C	2	HERITAGE	137	OA
2,741	C	1			OA
2,742	C	1			OA
2,743	C	1			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
2,744	C	1			OA
2,745	C	1			OA
2,746	C	1			OA
2,747	C	5			OA
2,748	C	2	HERITAGE	131	OA
2,749	C	1	HERITAGE	148	OA
2,750	C	4			OA
2,751	C	2			OA
2,752	C	2			OA
2,753	C	2			OA
2,754	C	2			OA
2,755	C	2			OA
2,756	C	2			OA
2,757	C	2			OA
2,758	C	2			OA
2,759	C	2			OA
2,760	C	2			OA
2,761	C	2			OA
2,762	C	2			OA
2,763	C	2			OA
2,764	C	4			OA
2,765	C	4			OA
2,766	C	4			OA
2,767	C	4			OA
2,768	C	4			OA
2,769	C	5			OA
2,770	C	5			OA
2,771	C	1			OA
2,772	C	1			OA
2,773	C	1			OA
2,774	C	1			OA
2,775	C	1			OA
2,776	C	3			OA
2,777	C	3			OA
2,778	C	3			OA
2,779	C	4			OA
2,780	C	4			OA
2,781	C	1			GR
2,782	C	1			OA
2,783	C	1			OA
2,784	C	1	HERITAGE	140	OA
2,785	C	3			OA
2,786	C	2	HERITAGE	130	GR
2,797	V	2	HERITAGE	110	GR
2,798	V	5			GR
2,799	V	3			GR
2,800	V	1	HERITAGE	115	GR
2,801	V	3			GR
2,802	V	3			GR
2,803	C	2	HERITAGE	152	GR
2,804	C	3	HERITAGE	131	OA
2,805	C	1			GR
2,806	C	2			GR
2,807	C	2			GR

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
2,808	C	2			GR
2,809	C	2			GR
2,810	C	2			GR
2,811	C	2			GR
2,812	C	2			GR
2,813	C	2			GR
2,814	V	3			OA
2,815	V	2			GR
2,816	V	2			OA
2,817	C	2			GR
2,818	C	2			GR
2,819	C	2			GR
2,820	C	2			GR
2,821	C	2			GR
2,822	C	2			GR
2,823	C	2			OA
2,824	C	2			OA
2,825	C	2			OA
2,826	C	2			GR
2,827	C	2			GR
2,828	C	2			GR
2,829	C	2			GR
2,830	C	2			GR
2,831	C	2	HERITAGE	139	GR
2,832	C	2	HERITAGE	150	OA
2,833	C	1			GR
2,834	C	2	HERITAGE	212	GR
2,835	C	1	HERITAGE	112	GR
2,836	C	1			OA
2,838	C	1	HERITAGE	110	OA
2,839	V	2			GR
2,840	V	2			GR
2,841	V	3			GR
2,842	V	2			OA
2,843	V	2			OA
2,844	V	2			OA
2,845	V	2			OA
2,846	V	2			GR
2,847	V	2			GR
2,848	V	2			GR
2,849	V	2			GR
2,850	V	2			GR
2,851	V	2			GR
2,852	V	2			GR
2,853	V	2			OA
2,854	V	2			GR
2,855	V	2			GR
2,856	V	3			OA
2,857	V	3			OA
2,858	V	3			OA
2,859	V	1	HERITAGE	116	GR
2,860	V	3			GR
2,861	V	3			GR
2,862	V	3			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
2,863	V	3	HERITAGE	114	GR
2,864	V	2	HERITAGE	132	OA
2,865	V	2	HERITAGE	110	OA
2,866	V	2			GR
2,867	V	2			OA
2,868	V	2			OA
2,869	V	2			OA
2,870	V	2			OA
2,871	V	2			GR
2,872	V	2			OA
2,873	V	2			OA
2,874	V	2			OA
2,875	V	2			OA
2,876	V	2			GR
2,877	V	2			GR
2,878	V	2			OA
2,879	V	2			GR
2,880	V	2			OA
2,881	V	2			OA
2,882	V	2			OA
2,883	V	2			OA
2,884	V	3			OA
2,885	V	3			OA
2,886	V	3			GR
2,887	V	3			GR
2,888	V	3			OA
2,889	V	4			OA
2,890	V	1	HERITAGE	110	GR
2,891	V	4	HERITAGE	120	GR
2,892	V	1	HERITAGE	170	GR
2,893	V	1	HERITAGE	135	OA
2,894	V	2	HERITAGE	111	OA
2,895	V	1	HERITAGE	128	OA
2,896	V	1	HERITAGE	121	OA
2,897	V	2	HERITAGE	110	OA
2,898	V	4			OA
2,899	V	4			OA
2,900	V	3			OA
2,901	V	3			OA
2,902	V	2			OA
2,903	V	2			OA
2,904	V	3			OA
2,905	V	3	HERITAGE	138	OA
2,906	V	4			GR
2,907	V	1	HERITAGE	142	GR
2,908	C	2			GR
2,909	C	2			GR
2,910	C	2			GR
2,911	V	2			GR
2,912	V	3			GR
2,913	C	2			OA
2,914	C	2			OA
2,915	C	2			OA
2,916	C	2			GR

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
2,917	C	2			OA
2,918	C	2			OA
2,919	C	2			OA
2,920	C	2			GR
2,921	C	2			GR
2,922	C	2			OA
2,923	C	2			OA
2,924	C	2			OA
2,925	C	2			OA
2,926	C	2			OA
2,927	C	2			GR
2,928	C	2			GR
2,929	C	2			GR
2,930	C	2			GR
2,931	C	2			GR
2,932	C	5			OA
2,933	C	5			OA
2,934	C	5			OA
2,935	C	5			OA
2,936	C	5			OA
2,937	C	1	HERITAGE	138	OA
2,938	C	2			OA
2,939	C	2			OA
2,940	C	2			OA
2,941	C	2			OA
2,942	C	2			OA
2,943	C	2			OA
2,944	C	2			OA
2,945	C	2			OA
2,946	C	2			OA
2,947	C	2			OA
2,948	C	2			OA
2,949	C	2			OA
2,950	C	2			OA
2,951	C	2			OA
2,952	C	2			OA
2,953	C	2			OA
2,954	C	2			OA
2,955	C	2			OA
2,956	C	2			OA
2,957	C	2			OA
2,958	C	2			OA
2,959	C	2			OA
2,960	C	2			OA
2,961	C	2			OA
2,962	C	2			OA
2,963	C	2			OA
2,964	C	2			OA
2,965	C	2			OA
2,966	C	2			OA
2,967	C	2			OA
2,968	C	2			OA
2,969	C	2			OA
2,970	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
2,971	C	2			OA
2,972	C	2			OA
2,973	C	2			OA
2,974	C	2			OA
2,975	C	2			OA
2,976	C	2			OA
2,977	C	2			OA
2,978	C	2			OA
2,979	C	2			OA
2,980	C	2			OA
2,981	C	2			OA
2,982	C	2			OA
2,983	C	2			OA
2,984	C	2			OA
2,985	C	2			OA
2,986	C	2			OA
2,987	C	2			OA
2,988	C	2			OA
2,989	C	2			OA
2,990	C	2			OA
2,991	C	2			OA
2,992	C	2			OA
2,993	C	2			OA
2,994	C	2			OA
2,995	C	2			OA
2,996	C	2			OA
2,997	C	2			OA
2,998	C	2			OA
2,999	C	2			OA
3,000	C	2			OA
3,001	C	2			OA
3,002	C	2			OA
3,003	C	2			OA
3,004	C	2			OA
3,005	C	2			OA
3,006	C	2			OA
3,007	C	2			OA
3,008	C	2			OA
3,009	C	2			OA
3,010	C	2			OA
3,011	C	2			OA
3,012	C	2			OA
3,013	C	2			OA
3,014	C	2			OA
3,015	C	2			OA
3,016	C	2			OA
3,017	C	2			OA
3,018	C	2			OA
3,019	C	2			OA
3,020	C	2			OA
3,021	C	2			OA
3,022	C	2			OA
3,023	C	2			OA
3,024	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
3,025	C	2			OA
3,026	C	2			OA
3,027	C	2			OA
3,028	C	2			OA
3,029	C	2			OA
3,030	C	2			OA
3,031	C	2			OA
3,032	C	2			OA
3,033	C	2			OA
3,034	C	2			OA
3,035	C	2			OA
3,036	C	2			OA
3,037	C	2			OA
3,038	C	2			OA
3,039	C	2			OA
3,040	C	2			OA
3,041	C	2			OA
3,042	C	2			OA
3,043	C	2			OA
3,044	C	2			OA
3,045	C	2			OA
3,046	C	2			OA
3,047	C	2			OA
3,048	C	2			OA
3,049	C	2			OA
3,050	C	2			OA
3,051	C	2			OA
3,052	C	2			OA
3,053	C	2			OA
3,054	C	2			OA
3,055	C	2			OA
3,056	C	2			OA
3,057	C	2			OA
3,058	C	2			OA
3,059	C	2			OA
3,060	C	2			OA
3,061	C	2			OA
3,062	C	2			OA
3,063	C	2			OA
3,064	C	2			OA
3,065	C	2			OA
3,066	C	2			OA
3,067	C	2			OA
3,068	C	2			OA
3,069	C	2			OA
3,070	C	2			OA
3,071	C	2			OA
3,072	C	2			OA
3,073	C	2			OA
3,074	C	2			OA
3,075	C	2			OA
3,076	C	2			OA
3,077	C	2			OA
3,078	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
3,079	C	2			OA
3,080	C	2			OA
3,081	C	2			OA
3,082	C	2			OA
3,083	C	2			OA
3,084	C	2			OA
3,085	C	2			OA
3,086	C	2			OA
3,087	C	2			OA
3,088	C	2			OA
3,089	C	2			OA
3,090	C	2			OA
3,091	C	2			OA
3,092	C	2			OA
3,093	C	2			OA
3,094	C	2			OA
3,095	C	2			OA
3,096	C	2			OA
3,097	C	2			OA
3,098	C	2			OA
3,099	C	2			OA
3,100	C	2			OA
3,101	C	2			OA
3,102	C	2			OA
3,103	C	2			OA
3,104	C	2			OA
3,105	C	2			OA
3,106	C	2			OA
3,107	C	2			OA
3,108	C	2			OA
3,109	C	2			OA
3,110	C	2			OA
3,111	C	2			OA
3,112	C	2			OA
3,113	C	2			OA
3,114	C	2			OA
3,115	C	2			OA
3,116	C	2			OA
3,117	C	2			OA
3,118	C	2			OA
3,119	C	2			OA
3,120	C	2			OA
3,121	C	2			OA
3,122	C	2			OA
3,123	C	2			OA
3,124	C	2			OA
3,125	C	2			OA
3,126	C	2			OA
3,127	C	2			OA
3,128	C	2			OA
3,129	C	2			OA
3,130	C	2			OA
3,131	C	2			OA
3,132	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
3,133	C	2			OA
3,134	C	2			OA
3,135	C	2			OA
3,136	C	2			OA
3,137	C	2			OA
3,138	C	2			OA
3,139	C	2			OA
3,140	C	2			OA
3,141	C	2			OA
3,142	C	2			OA
3,143	C	2			OA
3,144	C	2			OA
3,145	C	2			OA
3,146	C	2			OA
3,147	C	2			OA
3,148	C	2			OA
3,149	C	2			OA
3,150	C	2			OA
3,151	C	2			OA
3,152	C	2			OA
3,153	C	2			OA
3,154	C	2			OA
3,155	C	2			OA
3,156	C	2			OA
3,157	C	2			OA
3,158	C	2			OA
3,159	C	2			OA
3,160	C	2			OA
3,161	C	2			OA
3,162	C	2			OA
3,163	C	2			OA
3,164	C	2			OA
3,165	C	2			OA
3,166	C	2			OA
3,167	C	2			OA
3,168	C	2			OA
3,169	C	2			OA
3,170	C	2			OA
3,171	C	2			OA
3,172	C	2			OA
3,173	C	2			OA
3,174	C	2			OA
3,175	C	2			OA
3,176	C	2			OA
3,177	C	2			OA
3,178	C	2			OA
3,179	C	2			OA
3,180	C	2			OA
3,181	C	2			OA
3,182	C	2			OA
3,183	C	2			OA
3,184	C	2			OA
3,185	C	2			OA
3,186	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
3,187	C	2			OA
3,188	C	2			OA
3,189	C	2			OA
3,190	C	2			OA
3,191	C	2			OA
3,192	C	2			OA
3,193	C	2			OA
3,194	C	2			OA
3,195	C	2			OA
3,196	C	2			OA
3,197	C	2			OA
3,198	C	2			OA
3,199	C	2			OA
3,200	C	2			OA
3,201	C	2			OA
3,202	C	2			OA
3,203	C	2			OA
3,204	C	2			OA
3,205	C	2			OA
3,206	C	2			OA
3,207	C	2			OA
3,208	C	2			OA
3,209	C	2			OA
3,210	C	2			OA
3,211	C	2			OA
3,212	C	2			OA
3,213	C	2			OA
3,214	C	2			OA
3,215	C	2			OA
3,216	C	2			OA
3,217	C	2			OA
3,218	C	2			OA
3,219	C	2			OA
3,220	C	2			OA
3,221	C	2			OA
3,222	C	2			OA
3,223	C	2			OA
3,224	C	2			OA
3,225	C	2			OA
3,226	C	2			OA
3,227	C	2			OA
3,228	C	2			OA
3,229	C	2			OA
3,230	C	2			OA
3,231	C	2			OA
3,232	C	2			OA
3,233	C	2			OA
3,234	C	2			OA
3,235	C	2			OA
3,236	C	2			OA
3,237	C	2			OA
3,238	C	2			OA
3,239	C	2			OA
3,240	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
3,241	C	2			OA
3,242	C	2			OA
3,243	C	2			OA
3,244	C	2			OA
3,245	C	2			OA
3,246	C	2			OA
3,247	C	2			OA
3,248	C	2			OA
3,249	C	1	HERITAGE	125	OA
3,250	C	3			OA
3,251	C	1	HERITAGE	152	OA
3,252	C	2	HERITAGE	135	OA
3,253	C	1	HERITAGE	153	OA
3,254	C	3			OA
3,255	C	5			OA
3,256	C	3			OA
3,257	C	3			OA
3,258	C	5			OA
3,259	C	4	HERITAGE	130	OA
3,260	C	2	HERITAGE	140	OA
3,261	C	2	HERITAGE	118	OA
3,262	C	1			OA
3,263	C	2			OA
3,264	C	3			OA
3,265	C	1			OA
3,266	C	4	HERITAGE	118	OA
3,267	C	1			OA
3,268	C	2	HERITAGE	116	OA
3,269	C	2	HERITAGE	138	OA
3,270	C	1			OA
3,271	C	3			OA
3,272	C	2	HERITAGE	115	OA
3,273	C	3			OA
3,274	C	2			OA
3,275	C	2			OA
3,276	C	2			OA
3,277	C	2			OA
3,278	C	2			OA
3,279	C	2			OA
3,280	C	2			OA
3,281	C	2			OA
3,282	C	2			OA
3,283	C	2			GR
3,284	C	2			OA
3,285	C	2			OA
3,286	C	2			OA
3,287	C	2			OA
3,288	C	2			OA
3,289	C	2			OA
3,290	C	2			OA
3,291	C	2			OA
3,292	C	2			OA
3,293	C	2			GR
3,294	C	2			GR

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
3,295	C	2	HERITAGE	118	OA
3,296	C	1			GR
3,297	C	1			GR
3,298	C	2			GR
3,299	C	2			GR
3,300	C	2			GR
3,301	C	1			OA
3,302	C	1			GR
3,303	C	4			OA
3,304	C	2			GR
3,305	C	2			GR
3,306	C	1	HERITAGE	130	OA
3,307	C	2	HERITAGE	126	OA
3,308	C	1	HERITAGE	180	GR
3,309	C	1	HERITAGE	160	GR
3,310	C	1	HERITAGE	181	GR
3,311	C	2			OA
3,312	C	1	HERITAGE	130	OA
3,313	C	1	HERITAGE	119	GR
3,314	C	1	HERITAGE	137	GR
3,315	C	1			OA
3,316	C	2			OA
3,317	C	1			OA
3,318	C	2	HERITAGE	119	OA
3,319	C	4	HERITAGE	114	OA
3,320	C	1	HERITAGE	115	OA
3,321	C	1	HERITAGE	150	OA
3,322	C	3			OA
3,323	C	3			OA
3,324	C	3			OA
3,325	C	1	HERITAGE	116	OA
3,326	C	1	HERITAGE	190	OA
3,327	C	1	HERITAGE	150	OA
3,328	C	2			GR
3,329	C	1	HERITAGE	130	OA
3,330	C	2	HERITAGE	226	GR
3,331	C	1	HERITAGE	135	GR
3,332	C	1			GR
3,333	V	2			OA
3,334	V	2			OA
3,335	C	2			OA
3,336	C	2			OA
3,337	C	2			OA
3,338	C	2			OA
3,339	C	2			OA
3,340	C	2			OA
3,341	V	2			OA
3,342	C	2			OA
3,343	C	2			OA
3,344	C	2			GR
3,345	C	2			OA
3,346	C	2			OA
3,347	C	2			OA
3,348	C	2			OA

TREE I.D.	TYPE C/V	HEALTH (1 - 5)	HERITAGE	CIRCUMFERENCE	IMPACTED (GR/OA)
3,349	C	2			OA
3,350	C	2			OA
3,351	C	2			OA
3,352	C	1			OA
3,353	C	3			OA
3,354	C	4			OA
3,355	C	4			OA
3,356	C	4			OA
3,357	C	1			OA
3,359	V	5			GR
3,360	V	4			GR
3,361	V	5			GR
3,362	V	2			OA
3,363	V	2			GR
3,364	V	2	HERITAGE	129	GR
3,365	C	2	HERITAGE	111	OA
3,366	C	2			OA
3,367	V	1			OA
3,368	V	2			GR
3,369	C	2			GR
3,370	V	3			GR
3,371	C	3			GR
3,372	C	3			GR
3,378	C	3			GR
3,379	C	2			OA
3,380	C	2			OA
3,381	C	1	HERITAGE	116	GR
3,382	C	1	HERITAGE	120	OA
3,383	C	1	HERITAGE	190	GR
3,384	C	1	HERITAGE	146	GR
3,385	C	4	HERITAGE	230	GR
3,386	C	3	HERITAGE	145	OA
					3,314

Total trees surveyed within Project Boundary - 3,314. Trees surveyed outside of project boundary were omitted from this report.

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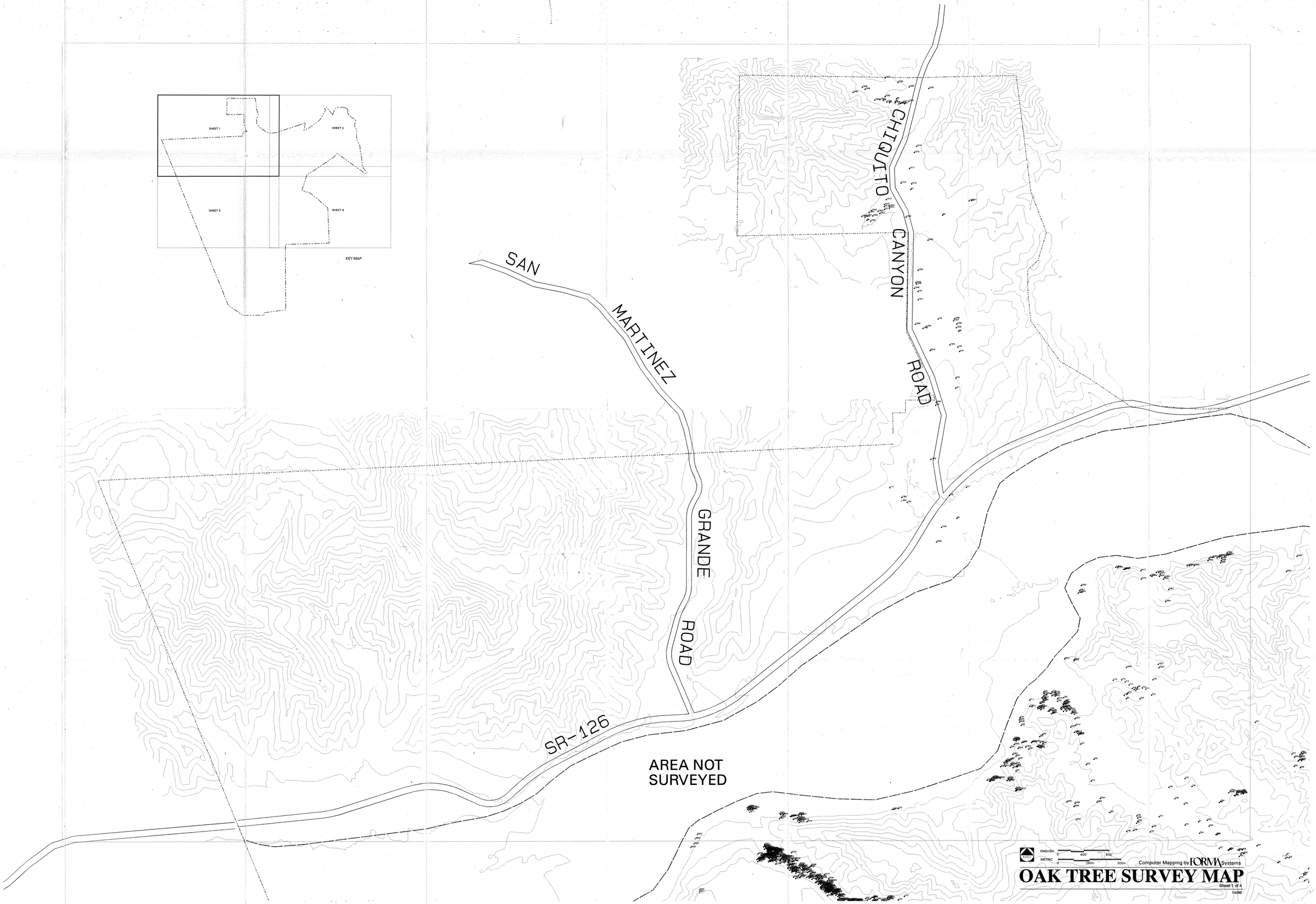
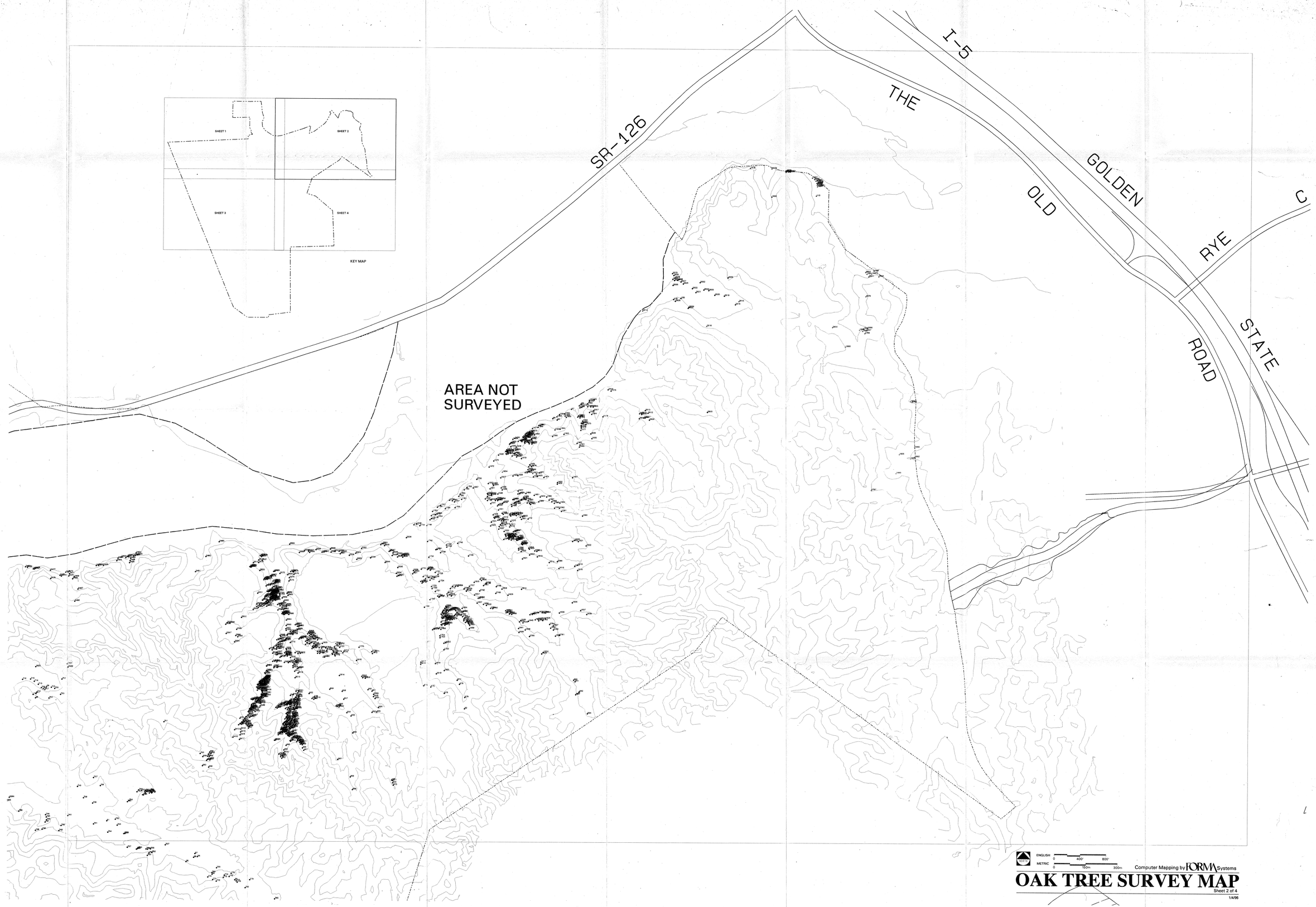
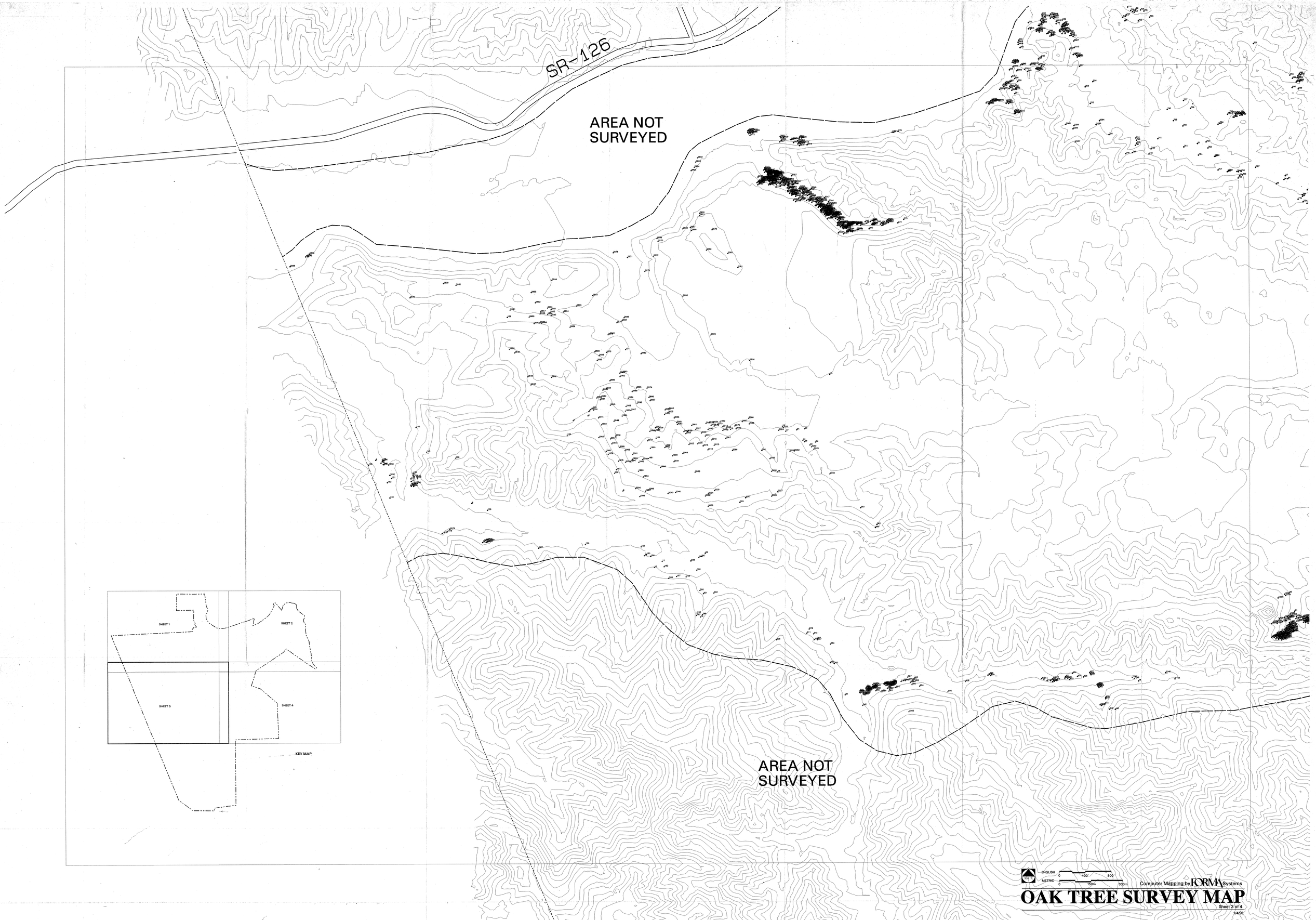
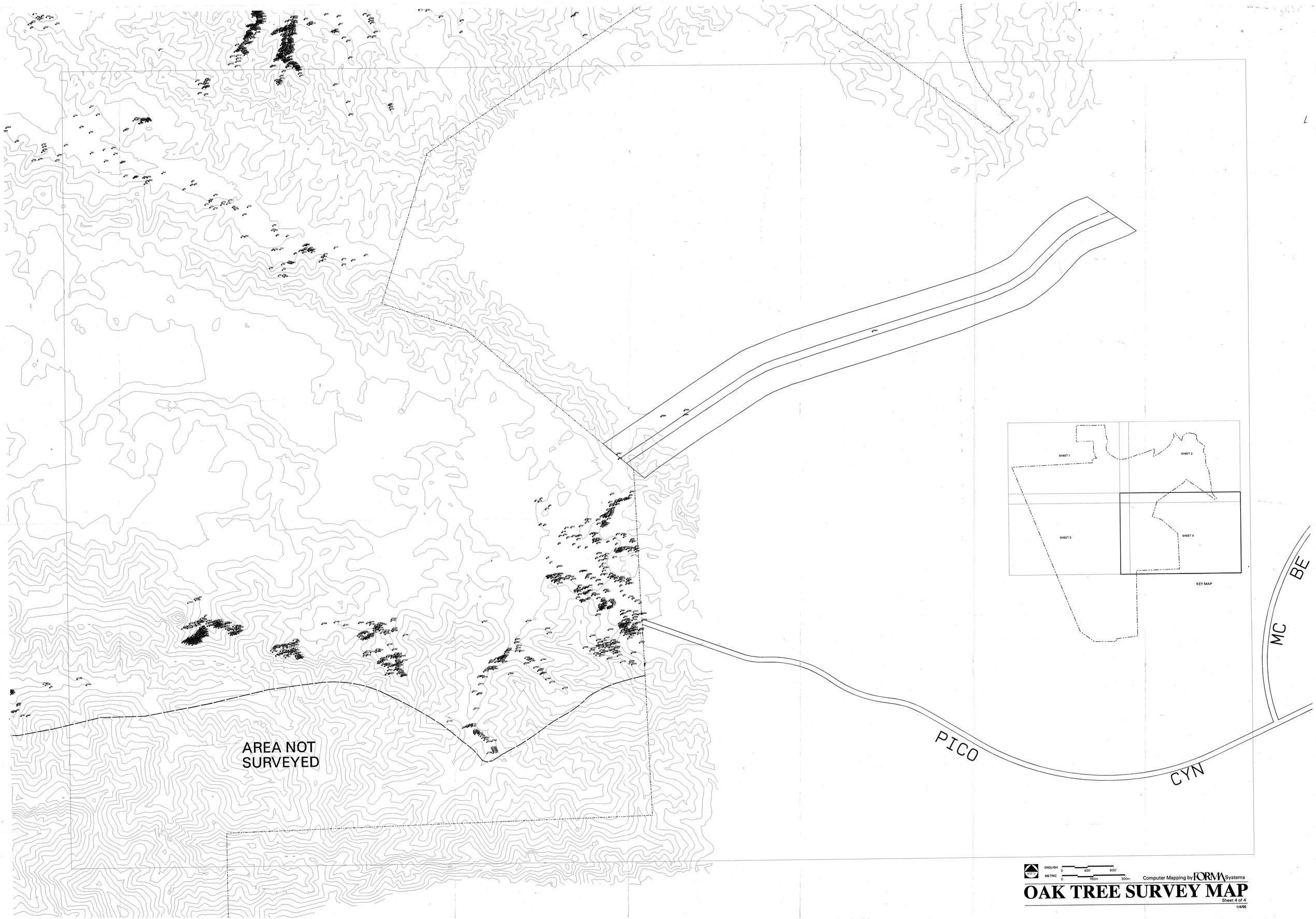

SHEET 1
SHEET 2
SHEET 3
SHEET 4
KEY MAP
SAN MARTINEZ GRANDE ROAD
CHIQUITO CANYON ROAD
SR-126
AREA NOT SURVEYED
ENGLISH
METRIC
Computer Mapping by FORMA Systems
OAK TREE SURVEY MAP
Sheet 1 of 4
1/4/06


SHEET 1
SHEET 2
SHEET 3
SHEET 4
KEY MAP
SR-126
I-5
THE
OLD
GOLDEN
RYE
STATE
ROAD
AREA NOT
SURVEYED
ENGLISH 0 400' 800'
METRIC 0 150m 300m
Computer Mapping by FORMA Systems
OAK TREE SURVEY MAP
Sheet 2 of 4
1/4/96


SR-126
AREA NOT SURVEYED
AREA NOT SURVEYED
SHEET 1
SHEET 2
SHEET 3
SHEET 4
KEY MAP
ENGLISH 0 400' 800'
METRIC 0 150m 300m
Computer Mapping by FORMA Systems
OAK TREE SURVEY MAP
Sheet 3 of 4
1/4/96



OAK TREE SURVEY MAP

Sheet 4 of 4

1/4/96

APPENDIX J
Guidelines Compliance Checklist

GUIDELINE COMPLIANCE CHECKLIST

	PREPARER'S INITIALS	PAGE
Setting	Eir	SECTION II
Original U.S.G.S. Topographical Quad Sheet (or color photocopy)	Eir	APPENDIX C
Project Site Photographs or Color Photocopies	Eir	APPENDIX B
Color Aerial Photographs	Eir	APPENDIX A
Biota Survey of the Project Site	Eir	SECTION II
Flora and Fauna Lists in Alphabetic/Systematic Order	Eir	APPENDIX G & H
Table of Sensitive Species Impacts Matrix	Eir	APPENDIX L
Document showing CNDDB Contact	Eir	APPENDIX M
Site/Grading Plans	Eir	FIGURE BIO-6
Initial Study Questionnaire	Eir	APPENDIX K
Impacts	Eir	SECTION III
Mitigation Measures	Eir	SECTION IV
Mitigation Monitoring	Eir	SECTION IV
Preparers Resume/Qualifications	Eir	APPENDIX F

APPENDIX K
Initial Study Questionaire

3209
06

(STAFF USE)
PROJECT NUMBER(S):

INITIAL STUDY QUESTIONNAIRE
COUNTY OF LOS ANGELES

A. GENERAL INFORMATION

Project Applicant (Owner):

Newhall Ranch Company, a Division of

The Newhall Land and Farming Company
Name

23823 Valencia Boulevard
Address

Valencia, California 91355

(805) 255-4045
Phone Number

Project Representative:

Sikand Engineering Associates
Name

15230 Burbank Boulevard
Address

Van Nuys, California 91411

(818) 787-8550
Phone Number

1. Action requested and project description: Action - General Plan Amendment, Specific Plan, Development Agreement, Conditional Use Permit for wastewater treatment plant. Project Description - See attached land use statistics and development concept.

2. Street location of project: Generally from State Route (SR) 126 on the north and the ridgeline of the Santa Susana Mountains on the south, and from the Los Angeles/Ventura County line on the west and approximately 2,000 feet west of Interstate 5 on the east (See attached locational map).

3a. Present use of site: Primarily vacant with oil and natural gas operations, limited agriculture, and cattle grazing. Several employee homes, oil company office, and miscellaneous other structures are also on site.

3b. Previous use of site or structures: Same as above.

4. Please list any previous cases (if any) related to this project: TPM 20186 and Tract 33870.

5. Other related permit/approvals required. Specify type and granting agency. 1603 permit from California Department of Fish and Game, 404 permit from U.S. Army Corps of Engineers, NPDES permit from Regional Water Quality Control Board, oak tree permits, and future subdivisions.

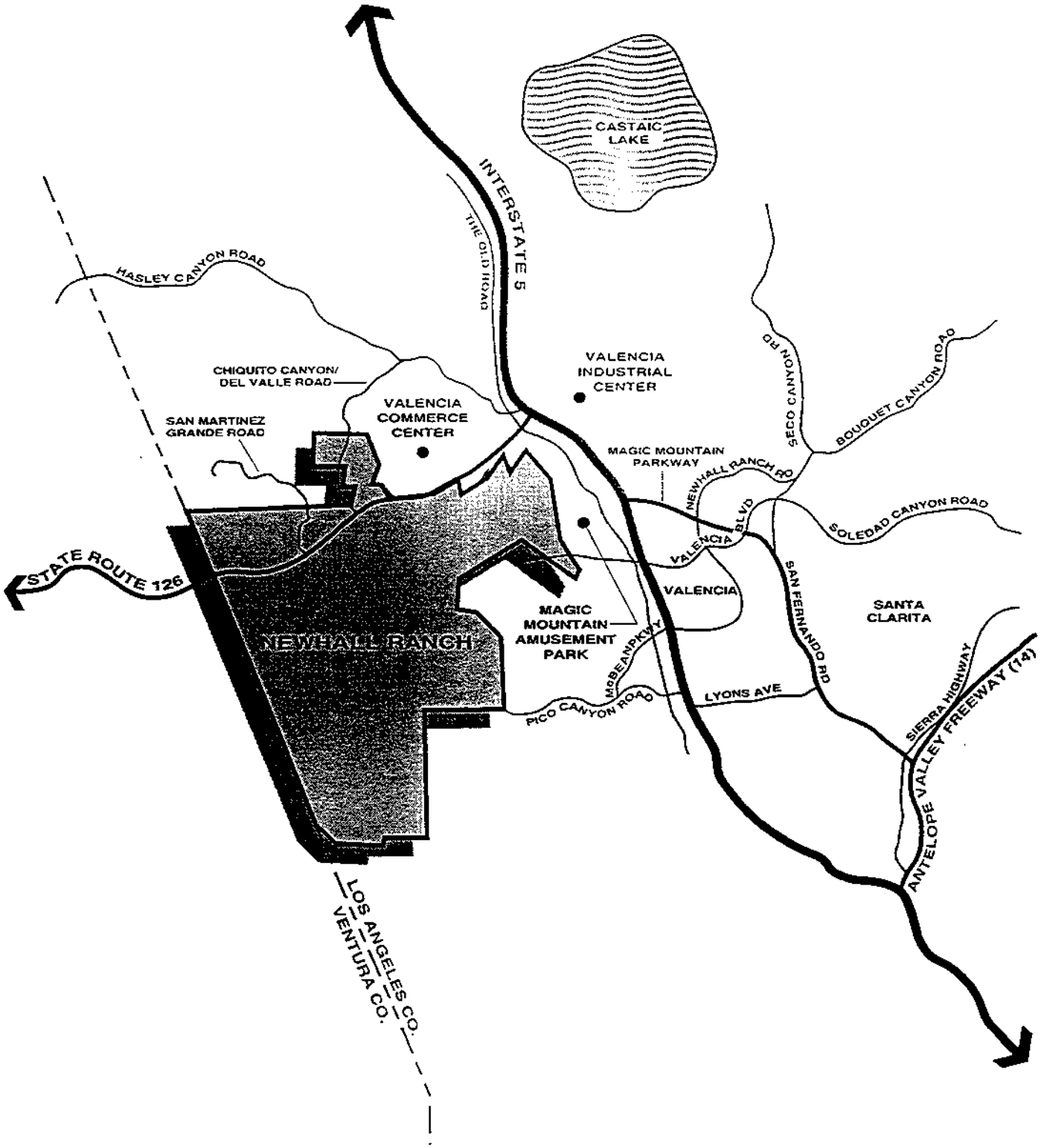
6. Are you planning future phases of this project? [Y] ~~N~~ If yes explain: Project indicated above will be developed in phases under a Specific Plan.

7. Project Area: 11,958 acres
Covered by structures, paving: Presently unknown Landscaping, open space: Presently unknown
Total area: 11,958 acres

8. Number of Floors: N/A 9. Present zoning: A2-2 and A2-5

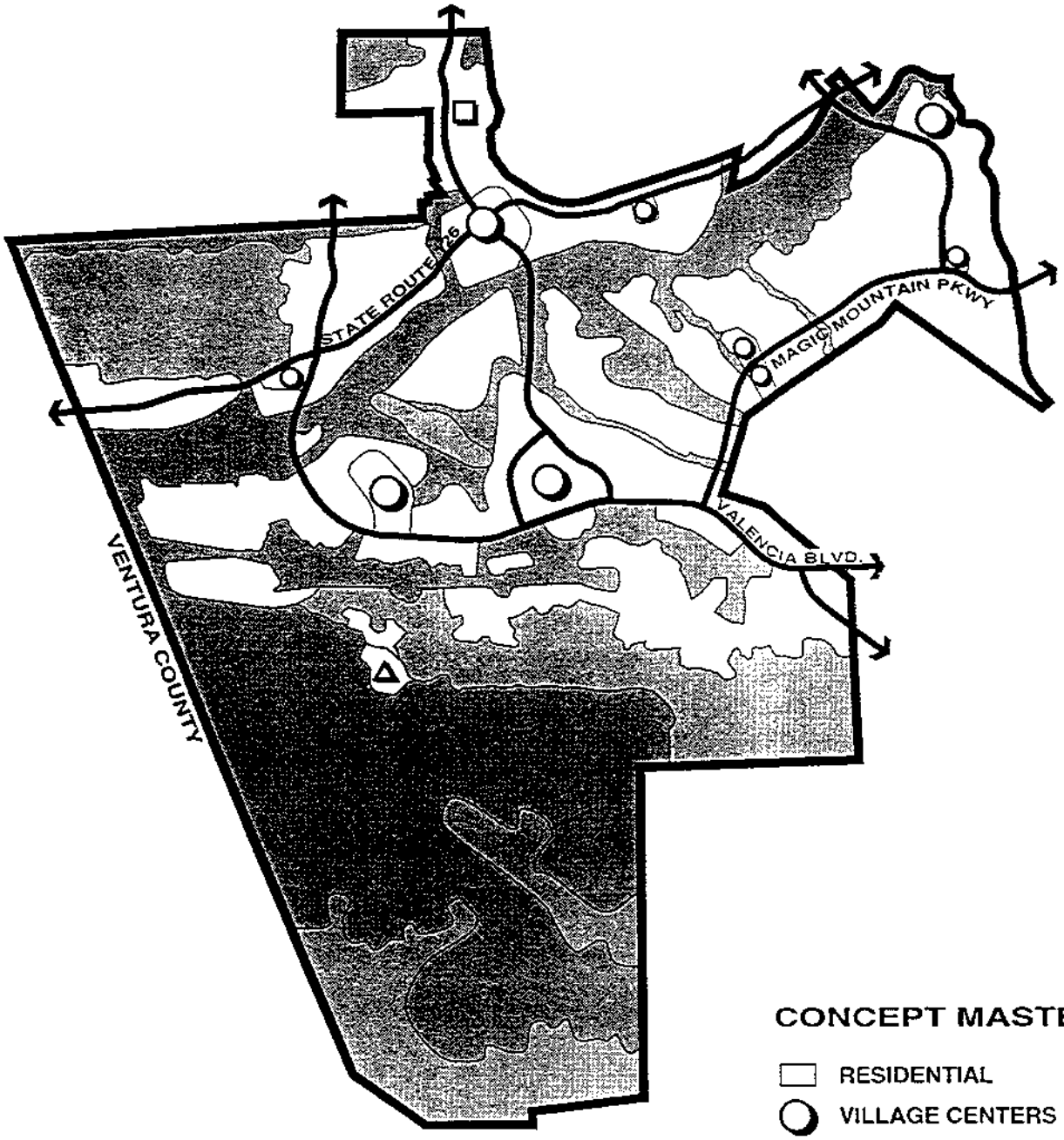
NEWHALL RANCH
LAND USE STATISTICS

Land Use Type	Gross Acres (Subtotals)	Total Gross Acres	Total Housing Units
Residential		5,335	22,330
Employment		790	2,370
- Mixed Use	490		
- Commercial	65		
- Business Park	200		
- Visitor Serving	35		
Open Areas		5,443	
- Parks	172		
- Golf Course	215		
- Other	5,138		
Major Roads/ Community Facilities		390	
Grand Total		11,958	24,700



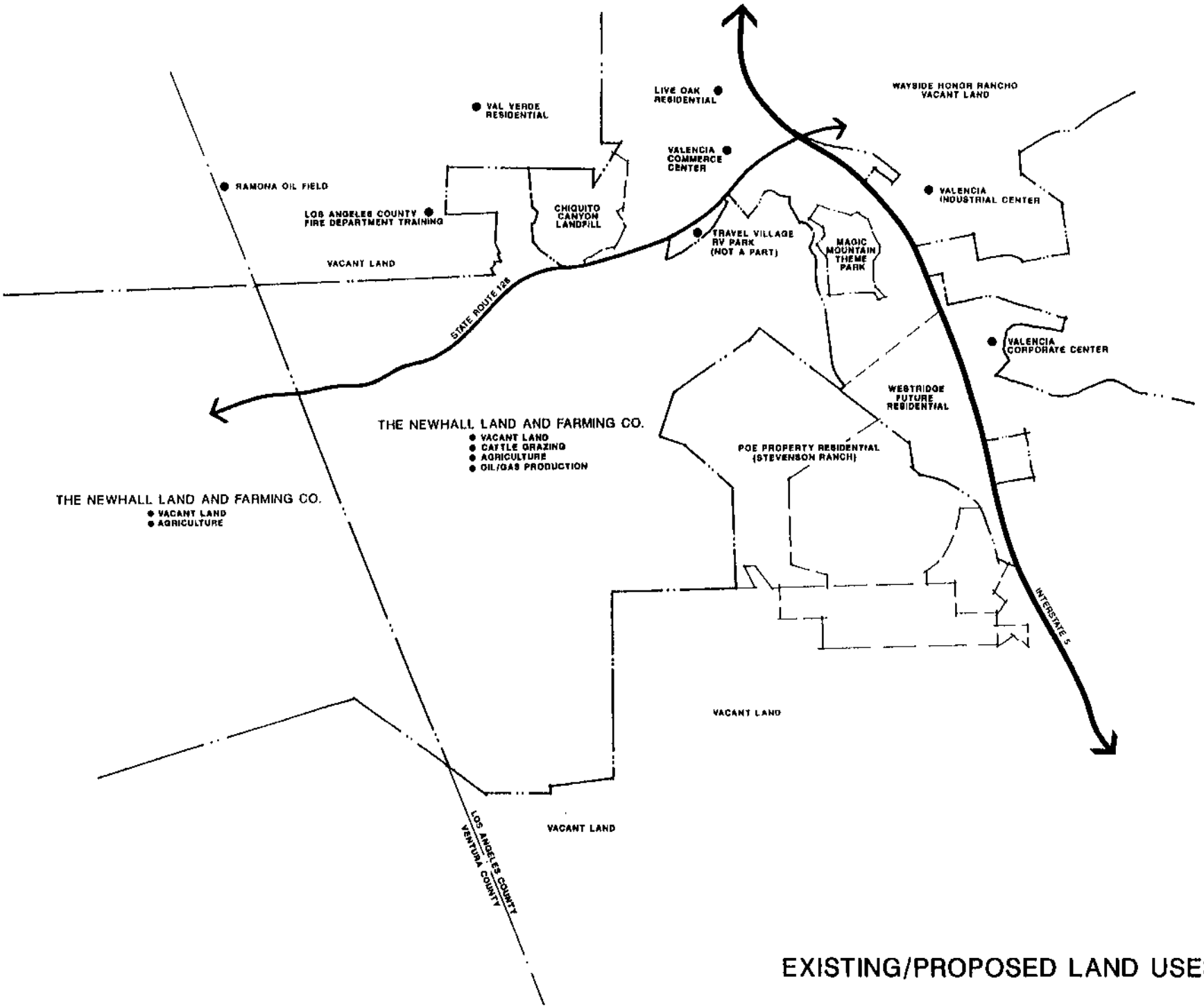
NEWHALL RANCH

VICINITY MAP



CONCEPT MASTER PLAN

- RESIDENTIAL
- VILLAGE CENTERS
- BUSINESS PARK
- VISITOR CENTER
- ESTATES/ OPEN AREAS
- PARKS, RECREATION & OPEN AREAS



EXISTING/PROPOSED LAND USES

10. Water and sewer service:

	Domestic Water	Public Sewers
Does service exist at the site?	~~Y~~ [N]	~~Y~~ [N]
If yes, do purveyors have capacity to meet demand of project and all other approved projects?	[Y] [N]	[Y] [N]

If domestic water or public sewers are not available, how will these services be provided? The project site is within Castaic Lake Water Agency and Valencia Water Company district boundaries. Water will be imported to the site via the Castaic Lake Water Agency and Valencia Water Company, as well as from groundwater withdrawal. Wastewater will be treated by a new treatment plant to be located on site. The treatment plant will be located within a new sanitation district which is being proposed as part of this project.

Residential Projects:

11. Number and type of units: 24,542 dwelling units, in a wide range of densities.

12. Schools:
What school district(s) serve the property? Wm. S. Hart Union High School District, Castaic Elementary School District, and Newhall Elementary School District.

Are existing school facilities adequate to meet project needs? ~~Y~~ [N]

If not, what provisions will be made for additional classrooms? Schools sites will be reserved within the Specific Plan area to accommodate projected student demands. Applicant will pay fees as required by State law and as further required by the Valley-wide Joint Fee Resolution.

Non-Residential Projects:

13. Distance to nearest residential use or sensitive use (school, hospital, etc.) Approximately 1/4 of a mile to the north of the site is the community of Val Verde. Approximately one mile to the northeast is Live Oak Elementary School and the Live Oak Community. Stevenson Ranch and other residential areas are approximately two miles to the east and south of the project site. Henry Mayo Newhall Hospital is approximately three miles east of the project site.

14. Number and floor area of buildings: Unknown at this time.

15. Number of employees and shifts: Unknown at this time.

16. Maximum employees per shift: N/A 17. Operating Hours: N/A

18. Identify any: End products: Unknown at this time.

Waste products: Other than typical commercial refuse, unknown at this time.

Means of disposal: Via truck to landfill.

19. Do project operations use, store, or produce hazardous substances such as oil, pesticides, chemicals, paints, or radioactive materials? [Y] ~~N~~ If yes, explain: Possibly as part of the commercial or business park uses.

20. Do your operations require any pressurized tanks? [Y] [N] If yes, explain: Maybe. Site would presumably contain gasoline stations and business park uses could possibly contain pressurized tanks.

21. Identify any flammable, reactive, or explosive materials to be located on-site: Oil and Natural Gas. Related tanks and pipelines exist onsite and may remain.

22. Will delivery or shipment trucks travel through residential areas to reach the nearest highway? ~~Y~~ [N] If yes, explain: _____

B. ENVIRONMENTAL INFORMATION

1. **Environmental Setting -- Project Site**

   a. Existing use/structures: Oil and natural gas extraction operations including small support office structures, agricultural and cattle grazing operations including small support structures (e.g., ranch housing, small offices and storage), and vacant land.

   b. Topography/slopes: Varied, site elevations range from a low of approximately 825 feet above mean sea level to a high of approximately 3,200 above mean sea level. (See attached slope map)

   c.* Vegetation: Upland, riparian, and aquatic habitats exist on property.

   d.* Animals: Varied, including several species of amphibians, reptiles, birds, mammals and fish.

   e.* Watercourses: Santa Clara River, Salt Creek, Potrero Creek, Chiquito Creek, Long Canyon Creek, San Martinez Grande Creek, and other minor drainages.

   f. Cultural/historical resources: Both pre-historic Native American resources and historic resources.

   g. Other: Southern California Edison Company overhead electricity transmission distribution towers/lines, SR 126, and various water, oil and natural gas transmission pipelines.

2. **Environmental Setting -- Surrounding Area**

   a. Existing use/structures: Ventura County: Agriculture with supporting office/storage and housing, vacant land. Los Angeles County: Valencia Commerce Center, Chiquito Landfill, oil fields, residential, and County Fire Department training site are all north of SR 126. To east and south are Magic Mountain Theme Park and vacant land.

   b. Topography/slopes: Comparable to the project site ranging from relatively flat land in the Santa Clara River flood plain to slopes in excess of 50 percent in surrounding mountains.

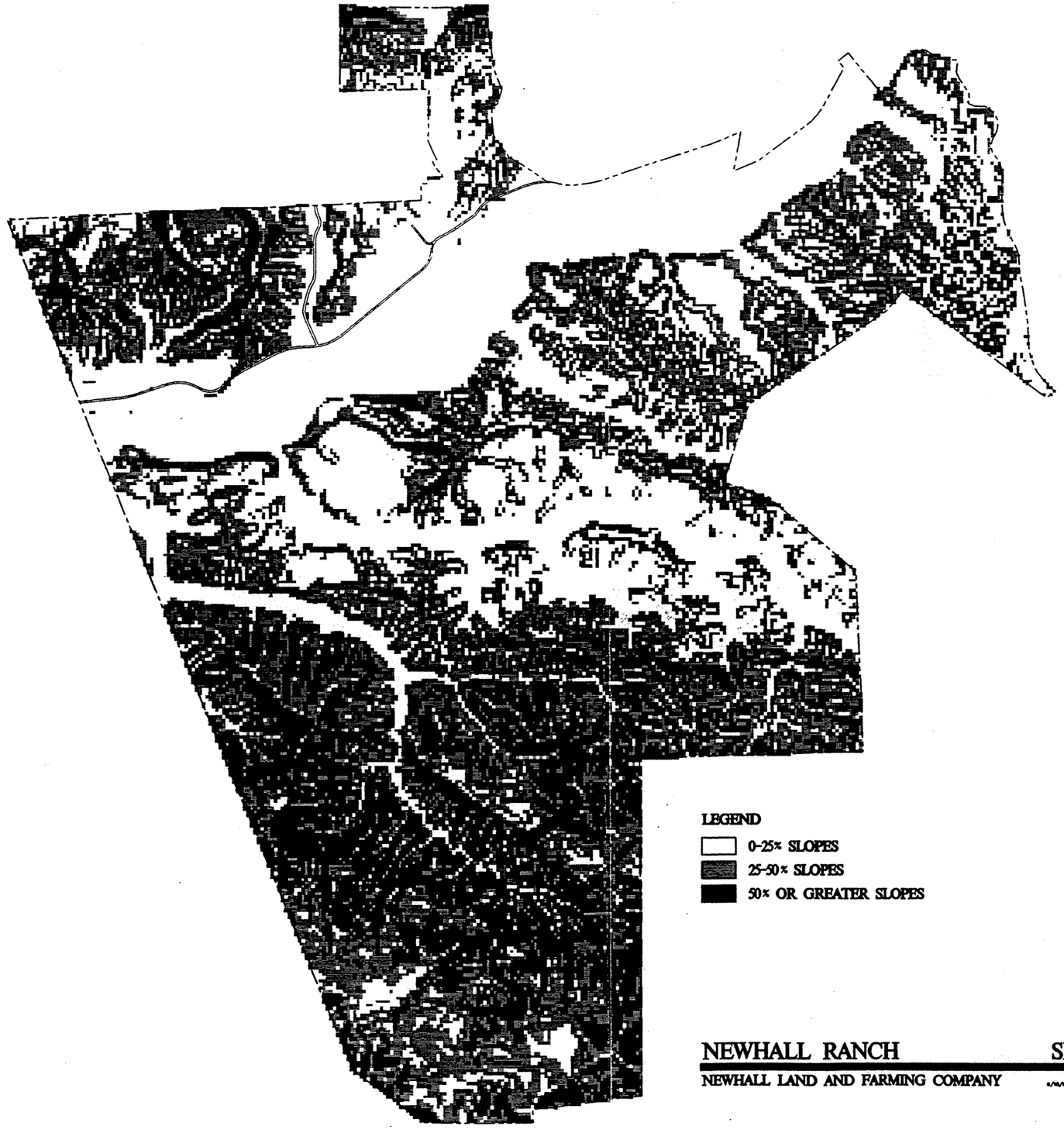
   c.* Vegetation: Similar to project site in undeveloped areas.

   d.* Animals: Similar to project site in undeveloped areas.

   e.* Watercourses: Santa Clara River, Castaic Creek, and other minor water courses tributary to the Santa Clara River.

   f. Cultural/historical resources: Both pre-historic Native American resources and historic resources.

* Answers are not required if the area does not contain natural, undeveloped land.



LEGEND

- 0-25% SLOPES
- 25-50% SLOPES
- 50% OR GREATER SLOPES

NEWHALL RANCH

SLOPE ANALYSIS

NEWHALL LAND AND FARMING COMPANY

FORMA

g. Other: Southern California Edison Company overhead electricity transmission distribution towers/lines, Interstate 5, SR 126, and various water, oil and natural gas transmission pipelines.

3. Are there any major trees on the site, including oak trees? [Y] ~~N~~ If yes, type and number: Oak trees, willow trees, cottonwood trees, and various others. Numbers are unknown at this time.

4. Will any natural watercourses, surface flow patterns, etc., be changed through project development? [Y] ~~N~~
If yes, explain: Santa Clara River and major creeks will have natural bottom and vegetation with rip-rap bank stabilization as necessary for erosion control. Lesser watercourses may be modified for erosion control where necessary.

5. Grading
Will the project require grading? [Y] ~~N~~ If yes, how many cubic yards: Amount of grading required unknown at this time.

Will it be balanced on site? [Y] ~~N~~ If not balanced, how will it be deposited? _____

_____

6. Are there any identifiable landslides or other major geologic hazards on the property (including uncompacted fill)? [Y] ~~N~~ If yes, explain: North/south trending Salt Creek Fault. Major and minor landslides in upland portions of site, with largest in area to remain undeveloped.

7. Is the property located within a high fire hazard area (hillsides with moderately dense vegetation)? [Y] ~~N~~
Distance to nearest fire station: 1/4 mile to Castaic Junction and approximately two miles to Pico Canyon.

8. Noise:
Existing noise sources at site: Vehicular traffic on SR 126, oil operations (wells and pumps) and agricultural operations (farm machinery).

Noise to be generated by project: Noises typical of urban land uses (e.g., automobile traffic, general human activity, etc.)

9. Fumes:
Odors generated by project: Possibly from proposed wastewater treatment plant, none known from other proposed land uses at this time.

Could toxic fumes be generated? Possibly from proposed wastewater treatment plant, none known from other proposed land uses at this time.

10. What energy-conserving designs or material will be used? At a minimum, those required by County and State governments. Project may incorporate other measures which are unknown at this time.

CERTIFICATION I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this initial evaluation to the best of my ability, and the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: June 17, 1994 Gloria Glem
(Signature)

For: The Newhall Land and Farming Company

APPENDIX L
Impact Summary Matrix

Appendix L
Sensitive Species Impacts Matrix, Newhall Ranch Project

Candidate Plant Observed, Listed Plants with Potential Occurrence

Species *Scientific Name* Common Name	*Calystegia peirsonii* Peirson's Morning-glory	*Dodecahema leptoceras* Slender-horned Spineflower	*Orcuttia californica* California Orcutt Grass	*Pentachaeta lyonii* Lyon's Pentachaeta
Habitat present and species is reasonably expected to occur on-site? (Yes/No)	Observed on site = Yes.	Habitat present; Not observed on site; Low occurrence potential = No.	Habitat not present; Not observed on site; Low occurrence potential = No.	Habitat present; Not observed on site; Low occurrence potential = No.
Species impacted directly by habitat loss? (Yes/No)	Yes.	N/A.	N/A.	N/A.
Habitat loss substantial? (Yes/No)	Yes.	N/A.	N/A.	N/A.
Species impacted indirectly on adjacent lands by edge effects? (Yes/No)	No.	N/A.	N/A.	N/A.
Potential to eliminate species on-site?	No.	N/A.	N/A.	N/A.
Potential to reduce population size below self sustaining levels?	No.	N/A.	N/A.	N/A.
Potential for substantial reduction in numbers of individuals?	Yes.	N/A.	N/A.	N/A.
Potential restriction of range of rare or endangered species?	N/A.	N/A.	N/A.	N/A.
Impact significant? (Yes/No)	No.	N/A.	N/A.	N/A.
Mitigation	N/A.	N/A.	N/A.	N/A.

Appendix L (con't.)
Sensitive Species Impacts Matrix, Newhall Ranch Project

Species *Scientific Name* Common Name	*Berberis nevinii* Nevin's Barberry	*Hemizonia minthornii* Santa Susana Tarplant	*Astragalus brauntonii* Braunton's Milk-vetch	*Calochortus clavatus* var. *gracilis* Slender Mariposa Lily
Habitat present and species is reasonably expected to occur on-site? (Yes/No)	Habitat present; Not observed on site; Moderate occurrence potential = Yes.	Habitat present; Not observed on site; Low occurrence potential = No.	Habitat present; Not observed on site; Low occurrence potential = No.	Habitat present; Not observed on site; Low occurrence potential = No.
Species impacted directly by habitat loss? (Yes/No)	If present = Yes.	N/A.	N/A.	N/A.
Habitat loss substantial? (Yes/No)	Yes.	N/A.	N/A.	N/A.
Species impacted indirectly on adjacent lands by edge effects? (Yes/No)	No.	N/A.	N/A.	N/A.
Potential to eliminate species on-site?	Not likely.	N/A.	N/A.	N/A.
Potential to reduce population size below self sustaining levels?	Not likely.	N/A.	N/A.	N/A.
Potential for substantial reduction in numbers of individuals?	Not likely.	N/A.	N/A.	N/A.
Potential restriction of range of rare or endangered species?	N/A.	N/A.	N/A.	N/A.
Impact significant? (Yes/No)	None anticipated = No.	N/A.	N/A.	N/A.
Mitigation	N/A.	N/A.	N/A.	N/A.

Appendix L (con't.)
Sensitive Species Impacts Matrix, Newhall Ranch Project

Species *Scientific Name* Common Name	*Calochortus plummerae* Plummer's Mariposa Lily	*Chorizanthe parryi* ssp. *fernandina* San Fernando Valley Spineflower	*Delphinium parryi* ssp. *blochmaniae* Dune Larkspur	*Dudleya blochmaniae* ssp. *blochmaniae* Blochman's Dudleya
Habitat present and species is reasonably expected to occur on-site? (Yes/No)	Habitat present; Not observed on site; Low occurrence potential = No.	Habitat present; Not observed on site; Low occurrence potential = No.	Habitat not present; Not observed on site; Low occurrence potential = No.	Habitat not present; Not observed on site; Low occurrence potential = No.
Species impacted directly by habitat loss? (Yes/No)	N/A.	N/A.	N/A.	N/A.
Habitat loss substantial? (Yes/No)	N/A.	N/A.	N/A.	N/A.
Species impacted indirectly on adjacent lands by edge effects? (Yes/No)	N/A.	N/A.	N/A.	N/A.
Potential to eliminate species on-site?	N/A.	N/A.	N/A.	N/A.
Potential to reduce population size below self sustaining levels?	N/A.	N/A.	N/A.	N/A.
Potential for substantial reduction in numbers of individuals?	N/A.	N/A.	N/A.	N/A.
Potential restriction of range of rare or endangered species?	N/A.	N/A.	N/A.	N/A.
Impact significant? (Yes/No)	N/A.	N/A.	N/A.	N/A.
Mitigation	N/A.	N/A.	N/A.	N/A.

Appendix L (con't.)
Sensitive Species Impacts Matrix, Newhall Ranch Project

Species *Scientific Name* Common Name	*Dudleya multicaulis* Many-stemmed Dudleya	*Harpagonella palmeri* Palmer's Grapplinghook	*Lilium humboldtii* var. *ocellatum* Ocellated Humboldt Lily	*Opuntia basilaris* var. *brachyclada* Short-joint Beavertail Cactus
Habitat present and species is reasonably expected to occur on-site? (Yes/No)	Marginal habitat present; Not observed on site; Low occurrence potential = No.	Marginal habitat present; Not observed on site; Low occurrence potential = No.	Marginal habitat present; Not observed on site; Low occurrence potential = No.	Habitat present; Not observed on site; Low occurrence potential = No.
Species impacted directly by habitat loss? (Yes/No)	N/A.	N/A.	N/A.	N/A.
Habitat loss substantial? (Yes/No)	N/A.	N/A.	N/A.	N/A.
Species impacted indirectly on adjacent lands by edge effects? (Yes/No)	N/A.	N/A.	N/A.	N/A.
Potential to eliminate species on-site?	N/A.	N/A.	N/A.	N/A.
Potential to reduce population size below self sustaining levels?	N/A.	N/A.	N/A.	N/A.
Potential for substantial reduction in numbers of individuals?	N/A.	N/A.	N/A.	N/A.
Potential restriction of range of rare or endangered species?	N/A.	N/A.	N/A.	N/A.
Impact significant? (Yes/No)	N/A.	N/A.	N/A.	N/A.
Mitigation	N/A.	N/A.	N/A.	N/A.

Appendix L (con't.)
Sensitive Species Impacts Matrix, Newhall Ranch Project

Species *Scientific Name* Common Name	*Acanthomintha obovata* ssp. *cordata* Heart-leaved Thorn-mint	*Androsace elongata* ssp. *acuta* California Androsace	*Baccharis plummerae* ssp. *plummerae* Plummer's Baccharis	*Boykinia rotundifolia* Round-leaved Boykinia
Habitat present and species is reasonably expected to occur on-site? (Yes/No)	Habitat present; Not observed on site; Low occurrence potential = No.	Habitat present; Not observed on site; Low occurrence potential = No.	Habitat present; Not observed on site; Low occurrence potential = No.	Habitat present; Not observed on site; Moderate occurrence potential = Yes.
Species impacted directly by habitat loss? (Yes/No)	N/A.	N/A.	N/A.	If present = Yes.
Habitat loss substantial? (Yes/No)	N/A.	N/A.	N/A.	Yes.
Species impacted indirectly on adjacent lands by edge effects? (Yes/No)	N/A.	N/A.	N/A.	No.
Potential to eliminate species on-site?	N/A.	N/A.	N/A.	Not likely.
Potential to reduce population size below self sustaining levels?	N/A.	N/A.	N/A.	Not likely.
Potential for substantial reduction in numbers of individuals?	N/A.	N/A.	N/A.	Not likely.
Potential restriction of range of rare or endangered species?	N/A.	N/A.	N/A.	N/A.
Impact significant? (Yes/No)	N/A.	N/A.	N/A.	No.
Mitigation	N/A.	N/A.	N/A.	N/A.

Appendix L (con't.)
Sensitive Species Impacts Matrix, Newhall Ranch Project

Species *Scientific Name* Common Name	*Calandrinia breweri* Brewer's Calandrinia	*Calochortus catalinae* Catalina Mariposa Lily	*Chorizanthe procumbens* Prostrate Spineflower	*Convolvulus simulans* Small-flowered Morning-glory
Habitat present and species is reasonably expected to occur on-site? (Yes/No)	Habitat present; Not observed on site; Low occurrence potential = No.	Habitat present; Not observed on site; Low occurrence potential = No.	Habitat not present; Not observed on site; Low occurrence potential = No.	Habitat not present; Not observed on site; Low occurrence potential = No.
Species impacted directly by habitat loss? (Yes/No)	N/A.	N/A.	N/A.	N/A.
Habitat loss substantial? (Yes/No)	N/A.	N/A.	N/A.	N/A.
Species impacted indirectly on adjacent lands by edge effects? (Yes/No)	N/A.	N/A.	N/A.	N/A.
Potential to eliminate species on-site?	N/A.	N/A.	N/A.	N/A.
Potential to reduce population size below self sustaining levels?	N/A.	N/A.	N/A.	N/A.
Potential for substantial reduction in numbers of individuals?	N/A.	N/A.	N/A.	N/A.
Potential restriction of range of rare or endangered species?	N/A.	N/A.	N/A.	N/A.
Impact significant? (Yes/No)	N/A.	N/A.	N/A.	N/A.
Mitigation	N/A.	N/A.	N/A.	N/A.

Appendix L (con't.)
Sensitive Species Impacts Matrix, Newhall Ranch Project

Species *Scientific Name* Common Name	*Galium cliftonsmithii* Santa Barbara Bedstraw	*Juncus acutus* ssp. *leopoldii* Southwestern Spiny Rush	*Microseris douglasii* ssp. *platycarpha* Small-flowered Microseris	*Mucronea californica* California Spineflower
Habitat present and species is reasonably expected to occur on-site? (Yes/No)	Habitat present; Not observed on site; Low occurrence potential = No.	Marginal habitat present; Not observed on site; Low occurrence potential = No.	Marginal habitat present; Not observed on site; Low occurrence potential = No.	Marginal habitat present; Not observed on site; Low occurrence potential = No.
Species impacted directly by habitat loss? (Yes/No)	N/A.	N/A.	N/A.	N/A.
Habitat loss substantial? (Yes/No)	N/A.	N/A.	N/A.	N/A.
Species impacted indirectly on adjacent lands by edge effects? (Yes/No)	N/A.	N/A.	N/A.	N/A.
Potential to eliminate species on-site?	N/A.	N/A.	N/A.	N/A.
Potential to reduce population size below self sustaining levels?	N/A.	N/A.	N/A.	N/A.
Potential for substantial reduction in numbers of individuals?	N/A.	N/A.	N/A.	N/A.
Potential restriction of range of rare or endangered species?	N/A.	N/A.	N/A.	N/A.
Impact significant? (Yes/No)	N/A.	N/A.	N/A.	N/A.
Mitigation	N/A.	N/A.	N/A.	N/A.

Appendix L (con't.)
Sensitive Species Impacts Matrix, Newhall Ranch Project

Species *Scientific Name* Common Name	*Nemacladus gracilis* Slender Nemacladus	*Perideridia pringlei* Pringle's Yampah	*Gasterosteus aculeatus williamsoni* Unarmored Threespine Stickleback	*Vireo bellii pusillus* Least Bell's Vireo
Habitat present and species is reasonably expected to occur on-site? (Yes/No)	Habitat present; Not observed on site; Low occurrence potential = No.	Marginal habitat present; Not observed on site; Low occurrence potential = No.	Habitat present only in Santa Clara River; Observed on site = Yes.	Habitat present along Santa Clara River; Observed on site = Yes.
Species impacted directly by habitat loss? (Yes/No)	N/A.	N/A.	No direct loss of habitat = No.	Direct loss of occupied or occupiable habitat = Yes.
Habitat loss substantial? (Yes/No)	N/A.	N/A.	N/A.	Yes.
Species impacted indirectly on adjacent lands by edge effects? (Yes/No)	N/A.	N/A.	Impacts from runoff = Yes.	Yes.
Potential to eliminate species on-site?	N/A.	N/A.	Yes, due to indirect impacts.	No.
Potential to reduce population size below self sustaining levels?	N/A.	N/A.	Yes, due to indirect impacts.	No.
Potential for substantial reduction in numbers of individuals?	N/A.	N/A.	Yes, due to indirect impacts.	Yes.
Potential restriction of range of rare or endangered species?	N/A.	N/A.	Yes, due to indirect impacts.	Yes.
Impact significant? (Yes/No)	N/A.	N/A.	Yes; Indirect impacts.	Yes.
Mitigation	N/A.	N/A.	NPDES permit conditions.	Riparian revegetation.

Appendix L (con't.)
Sensitive Species Impacts Matrix, Newhall Ranch Project

Species *Scientific Name* Common Name	*Empidonax traillii* Southwestern Willow Flycatcher	*Gila orcutti* Arroyo Chub	*Catostomus santaanae* Santa Ana Sucker	*Scaphiopus hammondii* Western Spadefoot Toad
Habitat present and species is reasonably expected to occur on-site? (Yes/No)	Habitat present along Santa Clara River; Observed on site as migrant = Yes.	Habitat present only in Santa Clara River; Observed on site = Yes.	Habitat present only in Santa Clara River; Observed on site = Yes.	Habitat present in and adjacent to ponds, and Santa Clara River and tributaries; Observed on site = Yes.
Species impacted directly by habitat loss? (Yes/No)	Direct loss of occupied or occupiable habitat = Yes.	No direct loss of habitat = No.	No direct loss of habitat = No.	Direct loss of occupied or occupiable habitat = Yes.
Habitat loss substantial? (Yes/No)	Yes.	N/A.	N/A.	Yes.
Species impacted indirectly on adjacent lands by edge effects? (Yes/No)	Yes.	Impacts from runoff = Yes.	Impacts from runoff = Yes.	Yes; Also impacts from runoff.
Potential to eliminate species on-site?	No.	Yes, due to indirect impacts.	Yes, due to indirect impacts.	No.
Potential to reduce population size below self sustaining levels?	No.	Yes, due to indirect impacts.	Yes, due to indirect impacts.	No.
Potential for substantial reduction in numbers of individuals?	Yes.	Yes, due to indirect impacts.	Yes, due to indirect impacts.	Yes.
Potential restriction of range of rare or endangered species?	Yes.	N/A.	N/A.	N/A.
Impact significant? (Yes/No)	Yes.	No.	No.	No.
Mitigation	Riparian revegetation.	NPDES permit conditions.	NPDES permit conditions.	Riparian revegetation, NPDES permit conditions.

Appendix L (con't.)
Sensitive Species Impacts Matrix, Newhall Ranch Project

Species *Scientific Name* Common Name	*Clemmys marmorata pallida* Southwestern Pond Turtle	*Cnemidophorus tigris multiscutatus* Coastal Western Whiptail	*Phrynosoma coronatum blainvillii* San Diego Horned Lizard	*Phrynosoma coronatum frontale* California Horned Lizard
Habitat present and species is reasonably expected to occur on-site? (Yes/No)	Habitat present in and adjacent to Santa Clara River and larger tributaries; Observed on site = Yes.	Habitat present; Observed on site = Yes.	Habitat present; Observed on site = Yes.	Habitat present; Observed on site = Yes.
Species impacted directly by habitat loss? (Yes/No)	Direct loss of occupied or occupiable habitat = Yes.	Direct loss of occupied or occupiable habitat = Yes.	Direct loss of occupied or occupiable habitat = Yes.	Direct loss of occupied or occupiable habitat = Yes.
Habitat loss substantial? (Yes/No)	Yes.	Yes.	Yes.	Yes.
Species impacted indirectly on adjacent lands by edge effects? (Yes/No)	Yes.	Yes.	Yes.	Yes.
Potential to eliminate species on-site?	No.	No.	No.	No.
Potential to reduce population size below self sustaining levels?	No.	No.	No.	No.
Potential for substantial reduction in numbers of individuals?	Yes.	Yes.	Yes.	Yes.
Potential restriction of range of rare or endangered species?	N/A.	N/A.	N/A.	N/A.
Impact significant? (Yes/No)	No.	No.	No.	No.
Mitigation	Riparian revegetation, NPDES permit conditions.	N/A	N/A	N/A

Appendix L (con't.)
Sensitive Species Impacts Matrix, Newhall Ranch Project

Species *Scientific Name* Common Name	*Thamnophis hammondii hammondii* Two-striped Garter Snake	*Aimophila ruficeps canescens* Southern California Rufous-crowned Sparrow	*Agelaius tricolor* Tricolored Blackbird	*Lepus californicus bennettii* San Diego Black-tailed Jackrabbit
Habitat present and species is reasonably expected to occur on-site? (Yes/No)	Habitat present in and adjacent to ponds, and Santa Clara River and tributaries; Observed on site = Yes.	Habitat present; Observed on site = Yes.	Habitat present in and adjacent to ponds, and Santa Clara River and tributaries; Observed on site = Yes.	Habitat present; Observed on site = Yes.
Species impacted directly by habitat loss? (Yes/No)	Direct loss of occupied or occupiable habitat = Yes.	Direct loss of occupied or occupiable habitat = Yes.	Direct loss of occupied or occupiable habitat = Yes.	Direct loss of occupied or occupiable habitat = Yes.
Habitat loss substantial? (Yes/No)	Yes.	Yes.	Yes.	Yes.
Species impacted indirectly on adjacent lands by edge effects? (Yes/No)	Yes; Also impacts from runoff.	Yes.	Yes.	Yes.
Potential to eliminate species on-site?	No.	No.	No.	No.
Potential to reduce population size below self sustaining levels?	No.	No.	No.	No.
Potential for substantial reduction in numbers of individuals?	Yes.	Yes.	Yes.	Yes.
Potential restriction of range of rare or endangered species?	N/A.	N/A.	N/A.	N/A.
Impact significant? (Yes/No)	No.	No.	No.	No.
Mitigation	Riparian revegetation, NPDES permit conditions.	N/A	Riparian revegetation.	N/A

Appendix L (con't.)
Sensitive Species Impacts Matrix, Newhall Ranch Project

Species *Scientific Name* Common Name	*Neotoma lepida intermedia* San Diego Desert Woodrat	*Elanus leucurus* White-tailed Kite	*Circus cyaneus* Northern Harrier	*Accipiter cooperii* Cooper's Hawk
Habitat present and species is reasonably expected to occur on-site? (Yes/No)	Habitat present; Observed on site = Yes.	Habitat present; Observed flying over site = Yes.	Habitat present; Observed flying over site = Yes.	Habitat present; Observed on site = Yes.
Species impacted directly by habitat loss? (Yes/No)	Direct loss of occupied or occupiable habitat = Yes.	Direct loss of occupied or occupiable habitat = Yes.	Direct loss of occupied or occupiable habitat = Yes.	Direct loss of occupied or occupiable habitat = Yes.
Habitat loss substantial? (Yes/No.	Yes.	Yes.	Yes.	Yes.
Species impacted indirectly on adjacent lands by edge effects? (Yes/No)	Yes.	Yes.	Yes.	Yes.
Potential to eliminate species on-site?	No.	No.	No.	No.
Potential to reduce population size below self sustaining levels?	No.	No.	No.	No.
Potential for substantial reduction in numbers of individuals?	Yes.	Yes.	Yes.	Yes.
Potential restriction of range of rare or endangered species?	N/A.	N/A.	N/A.	N/A.
Impact significant? (Yes/No)	No.	No.	No.	No.
Mitigation	N/A.	N/A.	N/A.	Riparian revegetation.

Appendix L (con't.)
Sensitive Species Impacts Matrix, Newhall Ranch Project

Species *Scientific Name* Common Name	*Pyrocephalus rubinus flammeus* Vermillion Flycatcher	*Eremophila alpestris* Horned Lark	*Lanius ludovicianus* Loggerhead Shrike	*Dendroica petechia brewsteri* Yellow Warbler
Habitat present and species is reasonably expected to occur on-site? (Yes/No)	Habitat present along Santa Clara River; Observed on site = Yes.	Habitat present; Observed on site = Yes.	Habitat present; Observed on site = Yes.	Habitat present along Santa Clara River; Observed on site = Yes.
Species impacted directly by habitat loss? (Yes/No)	Direct loss of occupied or occupiable habitat = Yes.	Direct loss of occupied or occupiable habitat = Yes.	Direct loss of occupied or occupiable habitat = Yes.	Direct loss of occupied or occupiable habitat = Yes.
Habitat loss substantial? (Yes/No.	Yes.	Yes.	Yes.	Yes.
Species impacted indirectly on adjacent lands by edge effects? (Yes/No)	Yes.	Yes.	Yes.	Yes.
Potential to eliminate species on-site?	No.	No.	No.	No.
Potential to reduce population size below self sustaining levels?	No.	No.	No.	No.
Potential for substantial reduction in numbers of individuals?	Yes.	Yes.	Yes.	Yes.
Potential restriction of range of rare or endangered species?	N/A.	N/A.	N/A.	N/A.
Impact significant? (Yes/No)	No.	No.	No.	No.
Mitigation	Riparian revegetation.	N/A.	N/A.	Riparian revegetation.

Appendix L (con't.)
Sensitive Species Impacts Matrix, Newhall Ranch Project

Species *Scientific Name* Common Name	*Icteria virens* Yellow-breasted Chat	*Piranga rubra rubra* Summer Tanager	*Felis concolor* Mountain Lion	*Ardea herodias herodias* Great Blue Heron
Habitat present and species is reasonably expected to occur on-site? (Yes/No)	Habitat present along Santa Clara River; Observed on site = Yes.	Habitat present along Santa Clara River; Observed on site = Yes.	Habitat present; Observed on site = Yes.	Habitat present along Santa Clara River and tributaries; Observed on site = Yes.
Species impacted directly by habitat loss? (Yes/No)	Direct loss of occupied or occupiable habitat = Yes.	Direct loss of occupied or occupiable habitat = Yes.	Direct loss of occupied or occupiable habitat = Yes.	Direct loss of occupied or occupiable habitat = Yes.
Habitat loss substantial? (Yes/No.	Yes.	Yes.	Yes.	Yes.
Species impacted indirectly on adjacent lands by edge effects? (Yes/No)	Yes.	Yes.	Yes.	Yes.
Potential to eliminate species on-site?	No.	No.	No.	No.
Potential to reduce population size below self sustaining levels?	No.	No.	No.	No.
Potential for substantial reduction in numbers of individuals?	Yes.	Yes.	No.	Yes.
Potential restriction of range of rare or endangered species?	N/A.	N/A.	N/A.	N/A.
Impact significant? (Yes/No)	No.	No.	No.	No.
Mitigation	Riparian revegetation.	Riparian revegetation.	N/A.	Riparian revegetation.

Appendix L (con't.)
Sensitive Species Impacts Matrix, Newhall Ranch Project

Species *Scientific Name* Common Name	*Casmerodius albus* Great Egret	*Egretta thula thula* Snowy Egret	*Nycticorax nycticorax hoactli* Black-crowned Night Heron	*Pieris chloridice beckeri* Becker's White Butterfly
Habitat present and species is reasonably expected to occur on-site? (Yes/No)	Habitat present along Santa Clara River and tributaries; Observed on site = Yes.	Habitat present along Santa Clara River and tributaries; Observed on site = Yes.	Habitat present along Santa Clara River and tributaries; Observed on site = Yes.	Habitat present; Observed on site = Yes.
Species impacted directly by habitat loss? (Yes/No)	Direct loss of occupied or occupiable habitat = Yes.	Direct loss of occupied or occupiable habitat = Yes.	Direct loss of occupied or occupiable habitat = Yes.	Direct loss of occupied or occupiable habitat = Yes.
Habitat loss substantial? (Yes/No.	Yes.	Yes.	Yes.	Yes.
Species impacted indirectly on adjacent lands by edge effects? (Yes/No)	Yes.	Yes.	Yes.	No.
Potential to eliminate species on-site?	No.	No.	No.	No.
Potential to reduce population size below self sustaining levels?	No.	No.	No.	No.
Potential for substantial reduction in numbers of individuals?	Yes.	Yes.	Yes.	Yes.
Potential restriction of range of rare or endangered species?	N/A.	N/A.	N/A.	N/A.
Impact significant? (Yes/No)	No.	No.	No.	No.
Mitigation	Riparian revegetation.	Riparian revegetation.	Riparian revegetation.	N/A.

Appendix L (con't.)
Sensitive Species Impacts Matrix, Newhall Ranch Project

Species *Scientific Name* Common Name	*Colias alexandra harfordii* Harford's Sulfur Butterfly	*Argynnis callippe comstocki* Comstock's Fritillary	*Melitaea gabbii gabbii* Gabb's Checkerspot	*Liminitis lorquini lorquini* Lorquin's Admiral
Habitat present and species is reasonably expected to occur on-site? (Yes/No)	Habitat present; Observed on site = Yes.	Habitat present; Observed on site = Yes.	Habitat present; Observed on site = Yes.	Habitat present along Santa Clara River and tributaries; Observed on site = Yes.
Species impacted directly by habitat loss? (Yes/No)	Direct loss of occupied or occupiable habitat = Yes.	Direct loss of occupied or occupiable habitat = Yes.	Direct loss of occupied or occupiable habitat = Yes.	Direct loss of occupied or occupiable habitat = Yes.
Habitat loss substantial? (Yes/No.	Yes.	Yes.	Yes.	Yes.
Species impacted indirectly on adjacent lands by edge effects? (Yes/No)	No.	No.	Yes.	No.
Potential to eliminate species on-site?	No.	No.	No.	No.
Potential to reduce population size below self sustaining levels?	No.	No.	No.	No.
Potential for substantial reduction in numbers of individuals?	Yes.	Yes.	Yes.	Yes.
Potential restriction of range of rare or endangered species?	N/A.	N/A.	N/A.	N/A.
Impact significant? (Yes/No)	No.	No.	No.	No.
Mitigation	N/A.	N/A.	N/A.	Riparian revegetation.

Appendix L (con't.)
Sensitive Species Impacts Matrix, Newhall Ranch Project

Species *Scientific Name* Common Name	*Lycaena arota nubila* Cloudy Copper	*Lycaena gorgon* Gorgon Copper	*Bufo microscaphus californicus* Arroyo Toad	*Gymnogyps californianus* California Condor
Habitat present and species is reasonably expected to occur on-site? (Yes/No)	Habitat present; Observed on site = Yes.	Habitat present; Observed on site = Yes.	Habitat present along Santa Clara River and tributaries; Not observed on site; Moderate occurrence potential = Yes.	Habitat present; Not observed on site; Low occurrence potential = No.
Species impacted directly by habitat loss? (Yes/No)	Direct loss of occupied or occupiable habitat = Yes.	Direct loss of occupied or occupiable habitat = Yes.	If present = Yes.	N/A.
Habitat loss substantial? (Yes/No.	Yes.	Yes.	Yes.	N/A.
Species impacted indirectly on adjacent lands by edge effects? (Yes/No)	No.	No.	If present = Yes.	N/A.
Potential to eliminate species on-site?	No.	No.	Not likely.	N/A.
Potential to reduce population size below self sustaining levels?	No.	No.	Not likely.	N/A.
Potential for substantial reduction in numbers of individuals?	Yes.	Yes.	If present = Yes.	N/A.
Potential restriction of range of rare or endangered species?	N/A.	N/A.	Not anticipated = No.	N/A.
Impact significant? (Yes/No)	No.	No.	None anticipated = No.	N/A.
Mitigation	N/A.	N/A.	Riparian revegetation.	N/A.

Appendix L (con't.)
Sensitive Species Impacts Matrix, Newhall Ranch Project

Species *Scientific Name* Common Name	*Falco peregrinus anatum* American Peregrine Falcon	*Polioptila californica californica* Coastal California Gnatcatcher	*Coccyzus americanus occidentalis* Western Yellow-billed Cuckoo	*Rana aurora draytonii* California Red-legged Frog
Habitat present and species is reasonably expected to occur on-site? (Yes/No)	Habitat present; Not observed on site; Low occurrence potential = No.	Habitat present; Not observed on site; Low occurrence potential = No.	Habitat present along Santa Clara river; Not observed on site; Low occurrence potential = No.	Habitat present along Santa Clara River; Not observed on site; Low occurrence potential = No.
Species impacted directly by habitat loss? (Yes/No)	N/A.	N/A.	N/A.	N/A.
Habitat loss substantial? (Yes/No)	N/A.	N/A.	N/A.	N/A.
Species impacted indirectly on adjacent lands by edge effects? (Yes/No)	N/A.	N/A.	N/A.	N/A.
Potential to eliminate species on-site?	N/A.	N/A.	N/A.	N/A.
Potential to reduce population size below self sustaining levels?	N/A.	N/A.	N/A.	N/A.
Potential for substantial reduction in numbers of individuals?	N/A.	N/A.	N/A.	N/A.
Potential restriction of range of rare or endangered species?	N/A.	No.	No.	N/A.
Impact significant? (Yes/No)	N/A.	N/A.	N/A.	N/A.
Mitigation	N/A.	N/A.	N/A.	N/A.

Appendix L (con't.)
Sensitive Species Impacts Matrix, Newhall Ranch Project

Species *Scientific Name* Common Name	*Anniella pulchra pulchra* Silvery Legless Lizard	*Salvadora hexalepis virgultea* Coast Patch-nosed Snake	*Athene cunicularia hypugaea* Western Burrowing Owl	*Amphispiza belli belli* Bell's Sage Sparrow
Habitat present and species is reasonably expected to occur on-site? (Yes/No)	Habitat present; Not observed on site; High occurrence potential = Yes.	Habitat present; Not observed on site; Moderate to high occurrence potential = Yes.	Habitat present; Not observed on site; Moderate occurrence potential = Yes.	Habitat present; Not observed on site; Moderate occurrence potential = Yes.
Species impacted directly by habitat loss? (Yes/No)	If present = Yes.	If present = Yes.	If present = Yes.	If present = Yes.
Habitat loss substantial? (Yes/No)	Yes.	Yes.	Yes.	Yes.
Species impacted indirectly on adjacent lands by edge effects? (Yes/No)	If present = Yes.	If present = Yes.	No.	If present = Yes.
Potential to eliminate species on-site?	Not likely.	Not likely.	Not likely.	Not likely.
Potential to reduce population size below self sustaining levels?	Not likely.	Not likely.	Not likely.	Not likely.
Potential for substantial reduction in numbers of individuals?	If present = Yes.	If present = Yes.	If present = Yes.	If present = Yes.
Potential restriction of range of rare or endangered species?	N/A.	N/A.	N/A.	N/A.
Impact significant? (Yes/No)	No.	No.	No.	No.
Mitigation	N/A.	N/A.	N/A.	N/A.

Appendix L (con't.)
Sensitive Species Impacts Matrix, Newhall Ranch Project

Species *Scientific Name* Common Name	*Euderma maculatum* Spotted Bat	*Plecotus townsendii pallescens* Pale Townsend's Big-eared Bat	*Eumops perotis californicus* Greater Western Mastiff-bat	*Perognathus longimembris brevinasus* Los Angeles Little Pocket Mouse
Habitat present and species is reasonably expected to occur on-site? (Yes/No)	Habitat present; Not observed on site; Low occurrence potential = No.	Habitat present; Not observed on site; Moderate occurrence potential = Yes.	Habitat present; Not observed on site; Moderate occurrence potential = Yes.	Habitat present; Not observed on site; Low occurrence potential = No.
Species impacted directly by habitat loss? (Yes/No)	N/A.	If present = Yes.	If present = Yes.	N/A.
Habitat loss substantial? (Yes/No)	N/A.	Yes.	Yes.	N/A.
Species impacted indirectly on adjacent lands by edge effects? (Yes/No)	N/A.	No.	No.	N/A.
Potential to eliminate species on-site?	N/A.	Not likely.	Not likely.	N/A.
Potential to reduce population size below self sustaining levels?	N/A.	Not likely.	Not likely.	N/A.
Potential for substantial reduction in numbers of individuals?	N/A.	Not likely.	Not likely.	N/A.
Potential restriction of range of rare or endangered species?	N/A.	N/A.	N/A.	N/A.
Impact significant? (Yes/No)	N/A.	No.	No.	N/A.
Mitigation	N/A.	N/A.	N/A.	N/A.

Appendix L (con't.)
Sensitive Species Impacts Matrix, Newhall Ranch Project

Species *Scientific Name* Common Name	*Accipiter striatus* Sharp-shinned Hawk	*Aquila chrysaetos* Golden Eagle	*Falco mexicanus* Prairie Falcon	*Taxidea taxus* American Badger
Habitat present and species is reasonably expected to occur on-site? (Yes/No)	Habitat present along Santa Clara River and tributaries; Not observed on site; Moderate occurrence potential = Yes.	Habitat present; Not observed on site; Moderate occurrence potential = Yes.	Habitat present; Not observed on site; Low occurrence potential = No.	Habitat present; Not observed on site; Moderate occurrence potential = Yes.
Species impacted directly by habitat loss? (Yes/No)	If present = Yes.	If present = Yes.	N/A.	If present = Yes.
Habitat loss substantial? (Yes/No)	Yes.	Yes.	N/A.	Yes.
Species impacted indirectly on adjacent lands by edge effects? (Yes/No)	No.	If present = Yes.	N/A.	No.
Potential to eliminate species on-site?	Not likely.	Not likely.	N/A.	Not likely.
Potential to reduce population size below self sustaining levels?	Not likely.	Not likely.	N/A.	Not likely.
Potential for substantial reduction in numbers of individuals?	If present = Yes.	Not likely.	N/A.	Not likely.
Potential restriction of range of rare or endangered species?	N/A.	N/A.	N/A.	N/A.
Impact significant? (Yes/No)	No.	No.	N/A.	No.
Mitigation	Riparian revegetation.	N/A.	N/A.	N/A.

Appendix L (con't.)
Sensitive Species Impacts Matrix, Newhall Ranch Project

Species *Scientific Name* Common Name	*Papilio indra pergamus* Edward's Swallowtail	*Melitaea leanira wrightii* Wright's Leanira Checkerspot	*Satyrium sylvinum desertorum* Southern Sylvan Hairstreak	*Lycaena helloides* Purplish Copper
Habitat present and species is reasonably expected to occur on-site? (Yes/No)	Habitat present; Not observed on site; Low occurrence potential = No.	Habitat present; Not observed on site; Low occurrence potential = No.	Habitat present; Not observed on site; Low occurrence potential = No.	Habitat present; Not observed on site; Low occurrence potential = No.
Species impacted directly by habitat loss? (Yes/No)	N/A.	N/A.	N/A.	N/A.
Habitat loss substantial? (Yes/No)	N/A.	N/A.	N/A.	N/A.
Species impacted indirectly on adjacent lands by edge effects? (Yes/No)	N/A.	N/A.	N/A.	N/A.
Potential to eliminate species on-site?	N/A.	N/A.	N/A.	N/A.
Potential to reduce population size below self sustaining levels?	N/A.	N/A.	N/A.	N/A.
Potential for substantial reduction in numbers of individuals?	N/A.	N/A.	N/A.	N/A.
Potential restriction of range of rare or endangered species?	N/A.	N/A.	N/A.	N/A.
Impact significant? (Yes/No)	N/A.	N/A.	N/A.	N/A.
Mitigation	N/A.	N/A.	N/A.	N/A.

Appendix L (con't.)
Sensitive Species Impacts Matrix, Newhall Ranch Project

Species *Scientific Name* Common Name	*Glaucopsyche piasus sagittigera* Coastal Arrowhead Blue	*Copaeodes aurantica* Hewitson's Skipper	*Hesperia comma leussleri* Leussler's Skipper	*Hesperia colombia* Colombia Skipper
Habitat present and species is reasonably expected to occur on-site? (Yes/No)	Habitat present; Not observed on site; Low occurrence potential = No.	Habitat present; Not observed on site; Low occurrence potential = No.	Habitat present; Not observed on site; Moderate occurrence potential = Yes.	Habitat present; Not observed on site; Moderate occurrence potential = Yes.
Species impacted directly by habitat loss? (Yes/No)	N/A.	N/A.	If present = Yes.	If present = Yes.
Habitat loss substantial? (Yes/No)	N/A.	N/A.	Yes.	Yes.
Species impacted indirectly on adjacent lands by edge effects? (Yes/No)	N/A.	N/A.	No.	No.
Potential to eliminate species on-site?	N/A.	N/A.	Not likely.	Not likely.
Potential to reduce population size below self sustaining levels?	N/A.	N/A.	Not likely.	Not likely.
Potential for substantial reduction in numbers of individuals?	N/A.	N/A.	Not likely.	Not likely.
Potential restriction of range of rare or endangered species?	N/A.	N/A.	N/A.	N/A.
Impact significant? (Yes/No)	N/A.	N/A.	No.	No.
Mitigation	N/A.	N/A.	N/A.	N/A.

Appendix L (con't.)
Sensitive Species Impacts Matrix, Newhall Ranch Project

Species *Scientific Name* Common Name	*Pholisora catullus* Common Sootywing
Habitat present and species is reasonably expected to occur on-site? (Yes/No)	Habitat present; Not observed on site; Low occurrence potential = No.
Species impacted directly by habitat loss? (Yes/No)	N/A.
Habitat loss substantial? (Yes/No)	N/A.
Species impacted indirectly on adjacent lands by edge effects? (Yes/No)	N/A.
Potential to eliminate species on-site?	N/A.
Potential to reduce population size below self sustaining levels?	N/A.
Potential for substantial reduction in numbers of individuals?	N/A.
Potential restriction of range of rare or endangered species?	N/A.
Impact significant? (Yes/No)	N/A.
Mitigation	N/A.

APPENDIX M
Natural Diversity Data Base

** California Department of Fish and Game ***** Natural Diversity Data Base **

* *

* ACCIPITER COOPERII *

* Coopers Hawk *

* ---------Status---------- NDDB Element Ranks --------Other Lists--------- *

* Federal: None Global: G4 CDFG: Special Concern *

* State: None State: S3 Audubon: Blue List *

* CNPS List: *

* ---Habitat Associations--- CNPS RED Code: *

* General: WOODLAND, CHIEFLY OF OPEN, INTERRUPTED OR MARGINAL TYPE. *

* Microhabitat: NEST SITES MAINLY IN RIPARIAN GROWTHS OF DECIDUOUS TREES, AS IN CANYON BOTTOMS ON RIVER FLOOD-PLAINS; ALSO, LIVE OAKS. *

*** Element ID: ABNKC12040 *

Occurrence Number: 43 --Dates Last Seen--

Quality: Unknown Element: 1979/XX/XX

Type: Natural/Native occurrence Site: 1979/XX/XX

Presence: Presumed Extant

Trend: Unknown

Main Info Source: WEBSTER, R. 1980 (PERS)

Quad Summary: Val Verde (3411846)

County(ies): Ventura

Location: SANTA CLARA RIVER, 3-4 MI E PIRU.

Lat/Long: 34d 24m 20s / 118d 43m 14s Township: 04N

UTM: Zone-11 N3808266 E341847 Range: 18W

Mapping Precision: NON-SPECIFIC (1 Mile) Section: UN XX Qtr

Symbol Type: POINT Meridian: S

Group Number: 00654 More Information? N Acres: 0

Map Index Number: 00654 More Map Detail? Y Elevation: 750 ft

Threats:

Comments: General Notes - PAIR OBSERVED IN 1979 BY WEBSTER. NESTING ACTIVITY UNKNOWN.

Owner/Manager - UNKNOWN

** California Department of Fish and Game ***** Natural Diversity Data Base **
* *
* COCCYZUS AMERICANUS OCCIDENTALIS *
* Western Yellow Billed Cuckoo *
* ---------Status---------- NDDB Element Ranks --------Other Lists--------- *
* Federal: None Global: G5T2T3 CDFG: *
* State: Endangered State: S1 Audubon: Blue List *
* CNPS List: *
* ---Habitat Associations--- CNPS RED Code: *
* General: RIPARIAN FOREST NESTER, ALONG THE BROAD, LOWER FLOOD-BOTTOMS OF LARGER RIVER SYSTEMS. *
* Microhabitat: NESTS IN RIPARIAN JUNGLES OF WILLOW, OFTEN MIXED WITH COTTONWOODS, W/ LOWER STORY OF BLACKBERRY, NETTLES, OR WILD GRAPE. *
*** Element ID: ABNRB02022 *
Occurrence Number: 130 --Dates Last Seen--
Quality: Unknown Element: 1979/07/04
Type: Natural/Native occurrence Site: 1979/07/04
Presence: Presumed Extant
Trend: Unknown
Main Info Source: WEBSTER, R. 1980 (PERS)
Quad Summary: Val Verde (3411846)
County(ies): Ventura
Location: SANTA CLARA RIVER 3-4 MI E PIRU.
Lat/Long: 34d 24m 20s / 118d 43m 14s Township: 04N
UTM: Zone-11 N3808266 E341847 Range: 18W
Mapping Precision: NON-SPECIFIC (1 Mile) Section: UN XX Qtr
Symbol Type: POINT Meridian: S
Group Number: 00654 More Information? N Acres: 0
Map Index Number: 00654 More Map Detail? Y Elevation: 750 ft
Threats:
Comments: General Notes - ONE CUCKOO OBSERVED BY WEBSTER FROM 23 JUN TO 4 JUL, 1979.
Owner/Manager - UNKNOWN

** California Department of Fish and Game ***** Natural Diversity Data Base **

* *

* ATHENE CUNICULARIA *

* Burrowing Owl *

* ---------Status---------- NDDB Element Ranks --------Other Lists--------- *

* Federal: None Global: G4 CDFG: Special Concern *

* State: None State: S2 Audubon: Special Concern *

* CNPS List: *

* ---Habitat Associations--- CNPS RED Code: *

*General: FOUND IN OPEN, DRY ANNUAL OR PERENIAL GRASSLANDS, DESERTS & SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION. *

* Microhabitat: SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL. *

*** Element ID: ABNSB10010 *

Occurrence Number: 85 --Dates Last Seen--

Quality: Fair Element: 1990/03/27

Type: Natural/Native occurrence Site: 1990/03/27

Presence: Presumed Extant

Trend: Stable

Main Info Source: WISHNER, C. 1990 (OBS)

Quad Summary: Santa Susana (3411836)

County(ies): Ventura

Location: UPPER DRY CANYON, APPROX 2 MI N OF SIMI VALLEY, S OF BIG MOUNTAIN.

Lat/Long: 34d 18m 48s / 118d 44m 06s Township: 03N

UTM: Zone-11 N3798077 E340354 Range: 18W

Mapping Precision: NON-SPECIFIC (0 Mile) Section: 26 SW Qtr

Symbol Type: POLYGON Meridian: S

Group Number: More Information? N Acres: 512.6

Map Index Number: 17045 More Map Detail? N Elevation: 1300 ft

Threats: OVERGRAZED RANGELAND. PROPOSED GOLF COURSE. HELICOPTER FLIGHT SCHOOL TEST AREA.

Comments: Ecological Notes - ANNUAL GRASSLAND WITH SPARSE COASTAL SAGE SCRUB; DIVERSE TOPOGRAPHY. ABUNDANT GROUND SQUIRREL BURROWS AVAILABLE.

General Notes - OBSERVED IN LOW SLOPES AT THE BASE OF BIG MOUNTAIN. AREA IS VERY SCENIC; USED AS A MOVIE SET AND AS A BACKDROP.

Owner/Manager - PVT-MARUFUJI AMERICA

** California Department of Fish and Game ***** Natural Diversity Data Base **
* *
* VIREO BELLII PUSILLUS *
* Least Bells Vireo *
* ---------Status---------- NDDB Element Ranks --------Other Lists--------- *
* Federal: Endangered Global: G5T2 CDFG: *
* State: Endangered State: S2 Audubon: Special Concern *
* CNPS List: *
* ---Habitat Associations--- CNPS RED Code: *
* General: SUMMER RESIDENT OF S CALIFORNIA. INHABITS LOW RIPARIAN GROWTH IN VIC OF WATER OR IN DRY RIVER BOTTOMS; BELOW 2000 FT. *
* Microhabitat: NESTS PLACED ALONG MARGINS OF BUSHES OR ON TWIGS PROJECTING INTO PATHWAYS, USUALLY WILLOW, BACCHARIS, MESQUITE. *
*** Element ID: ABPBW01114 *
Occurrence Number: 42 --Dates Last Seen--
Quality: Unknown Element: 1980/07/XX
Type: Natural/Native occurrence Site: 1980/07/XX
Presence: Presumed Extant
Trend: Unknown
Main Info Source: WEBSTER R. E. 1980 (PERS)
Quad Summary: Val Verde (3411846)
County(ies): Ventura
Location: SANTA CLARA RIVER, 3-4 MI E PIRU.
Lat/Long: 34d 24m 20s / 118d 43m 14s Township: 04N
UTM: Zone-11 N3808266 E341847 Range: 18W
Mapping Precision: NON-SPECIFIC (1 Mile) Section: UN XX Qtr
Symbol Type: POINT Meridian: S
Group Number: 00654 More Information? N Acres: 0
Map Index Number: 00654 More Map Detail? N Elevation: 750 ft
Threats: COWBIRDS OBSERVED IN THE AREA.
Comments: Distribution Notes - HABITAT IS ONE OF THE LAST REMNANTS OF RIPARIAN VEGETATION IN THE AREA.
Ecological Notes - HABITAT IS THICK RIPARIAN VEGETATION ON THE SOUTH BANK OF THE SANTA CLARA RIVER, WHICH SUPPORTS A WIDE VARIETY OF BREEDING BIRD SPECIES.
General Notes - 11 SINGING BELL'S VIREOS HEARD IN 1979.
Owner/Manager - UNKNOWN

** California Department of Fish and Game ***** Natural Diversity Data Base **

* *

* VIREO BELLII PUSILLUS *

* Least Bells Vireo *

* ---------Status---------- NDDB Element Ranks --------Other Lists--------- *

* Federal: Endangered Global: G5T2 CDFG: *

* State: Endangered State: S2 Audubon: Special Concern *

* CNPS List: *

* ---Habitat Associations--- CNPS RED Code: *

* General: SUMMER RESIDENT OF S CALIFORNIA. INHABITS LOW RIPARIAN GROWTH IN VIC OF WATER OR IN DRY RIVER BOTTOMS; BELOW 2000 FT. *

* Microhabitat: NESTS PLACED ALONG MARGINS OF BUSHES OR ON TWIGS PROJECTING INTO PATHWAYS, USUALLY WILLOW, BACCHARIS, MESQUITE. *

*** Element ID: ABPBW01114 *

Occurrence Number: 149 --Dates Last Seen--

Quality: Fair Element: 1988/06/18

Type: Natural/Native occurrence Site: 1988/06/18

Presence: Presumed Extant

Trend: Unknown

Main Info Source: SULLY, J. 1988 (OBS)

Quad Summary: Newhall (3411845)

County(ies): Los Angeles

Location: 0.6 MI SECTION OF CASTAIC CREEK, FROM 0.1 MI NE OF GAGING STATION, CONTINUING NE, TO 0.75 MI SW NEWHALL RANCH.

Lat/Long: 34d 25m 55s / 118d 37m 20s Township: 04N

UTM: Zone-11 N3811057 E350931 Range: 17W

Mapping Precision: NON-SPECIFIC (0 Mile) Section: UN XX Qtr

Symbol Type: POLYGON Meridian: S

Group Number: More Information? N Acres: 161

Map Index Number: 20308 More Map Detail? N Elevation: 1000 ft

Threats: THREATENED BY DEVELOPMENT, OFF-ROAD VEHICLES, OTHER RECREATIONAL USES, THE PRESENCE OF COWBIRDS.

Comments: Ecological Notes - SOUTHERN WILLOW SCRUB; DOMINANTS: WILLOW, COTTONWOOD, SYCAMORE

General Notes - 3-4 SINGING INDIVIDUALS (MALES?) OBS JUNE 14 AND 18, 1988 ALONG CREEK

Owner/Manager - PVT

** California Department of Fish and Game ***** Natural Diversity Data Base **
* *
* DENDROICA PETECHIA BREWSTERI *
* Yellow Warbler *
* ---------Status---------- NDDB Element Ranks --------Other Lists--------- *
* Federal: None Global: G5T3? CDFG: Special Concern *
* State: None State: S2 Audubon: *
* CNPS List: *
* ---Habitat Associations--- CNPS RED Code: *
* General: Not available at this time. *
* Microhabitat: Not available at this time. *
*** Element ID: ABPBX03018 *
Occurrence Number: 63 --Dates Last Seen--
Quality: Unknown Element: 1979/XX/XX
Type: Natural/Native occurrence Site: 1979/XX/XX
Presence: Presumed Extant
Trend: Unknown
Main Info Source: WEBSTER, R. 1980 (PERS)
Quad Summary: Val Verde (3411846)
County(ies): Ventura
Location: SANTA CLARA RIVER, 3-4 MI E OF PIRU.
Lat/Long: 34d 24m 20s / 118d 43m 14s Township: 04N
UTM: Zone-11 N3808266 E341847 Range: 18W
Mapping Precision: NON-SPECIFIC (1 Mile) Section: UN XX Qtr
Symbol Type: POINT Meridian: S
Group Number: 00654 More Information? N Acres: 0
Map Index Number: 00654 More Map Detail? Y Elevation: 750 ft
Threats:
Comments: Distribution Notes - ONE YELLOW WARBLER OBS. Ecological Notes
- PARCEL OF THICK RIPARIAN VEG ON SOUTH BANK OF THE RIVER.
Owner/Manager - UNKNOWN

** California Department of Fish and Game ***** Natural Diversity Data Base **

* *

* ICTERIA VIRENS *

* Yellow Breasted Chat *

* ---------Status---------- NDDB Element Ranks --------Other Lists--------- *

* Federal: None Global: G5 CDFG: Special Concern *

* State: None State: S3 Audubon: *

* CNPS List: *

* ---Habitat Associations--- CNPS RED Code: *

* General: SUMMER RESIDENT; INHABITS RIPARIAN THICKETS OF WILLOW AND OTHER BRUSHY TANGLES NEAR WATERCOURSES. *

* Microhabitat: NESTS IN LOW, DENSE RIPARIAN, CONSISTING OF WILLOW, BLACKBERRY, WILD GRAPE; FORAGE AND NEST W/IN 10 FT OF GROUND. *

*** Element ID: ABPBX24010 *

Occurrence Number: 43 --Dates Last Seen--

Quality: Unknown Element: 1979/XX/XX

Type: Natural/Native occurrence Site: 1979/XX/XX

Presence: Presumed Extant

Trend: Unknown

Main Info Source: WEBSTER, R. 1980 (PERS)

Quad Summary: Val Verde (3411846)

County(ies): Ventura

Location: SANTA CLARA RIVER, 3-4 MI E PIRU.

Lat/Long: 34d 24m 20s / 118d 43m 14s Township: 04N

UTM: Zone-11 N3808266 E341847 Range: 18W

Mapping Precision: NON-SPECIFIC (1 Mile) Section: UN XX Qtr

Symbol Type: POINT Meridian: S

Group Number: 00654 More Information? N Acres: 0

Map Index Number: 00654 More Map Detail? Y Elevation: 750 ft

Threats:

Comments: Distribution Notes - THREE YELLOW-BREATED CHATS OBS IN A PARCEL OF THICK RIPARIAN VEG ON SOUTH BANK OF THE RIVER.

Owner/Manager - UNKNOWN

** California Department of Fish and Game ***** Natural Diversity Data Base **
* *
* CATOSTOMUS SANTAANAE *
* Santa Ana Sucker *
* ---------Status---------- NDDB Element Ranks --------Other Lists--------- *
* Federal: Category 2 Global: G1G2 CDFG: Special Concern *
* State: None State: S1S2 Audubon: *
* CNPS List: *
* ---Habitat Associations--- CNPS RED Code: *
* General: ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS. *
* Microhabitat: HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, CLEAR WATER, & ALGAE. *
*** Element ID: AFCJC02190 *
Occurrence Number: 6 --Dates Last Seen--
Quality: Unknown Element: 1975/07/12
Type: Natural/Native occurrence Site: 1975/07/12
Presence: Presumed Extant
Trend: Unknown
Main Info Source: WELLS & DIANA, 1975 (LIT)
Quad Summary: Val Verde (3411846), Newhall (3411845)
County(ies): Los Angeles
Location: HASLEY CYN. 3.2 KM E OF VAL VERDE. SANTA CLARA RIV DRAINAGE.
Lat/Long: 34d 26m 55s / 118d 37m 38s Township: 04N
UTM: Zone-11 N3812903 E350513 Range: 17W
Mapping Precision: NON-SPECIFIC (1 Mile) Section: 11 NW Qtr
Symbol Type: POINT Meridian: S
Group Number: 00850 More Information? N Acres: 0
Map Index Number: 00850 More Map Detail? N Elevation: 1100 ft
Threats:
Comments: Ecological Notes - ONE TAKEN. BANK PLANTS ARE WILLOW, SALT CEDAR & COTTONWOOD. Owner/Manager - PVT

** California Department of Fish and Game ***** Natural Diversity Data Base **
* *
* CATOSTOMUS SANTAANAE *
* Santa Ana Sucker *
* ---------Status---------- NDDB Element Ranks --------Other Lists--------- *
* Federal: Category 2 Global: G1G2 CDFG: Special Concern *
* State: None State: S1S2 Audubon: *
* CNPS List: *
* ---Habitat Associations--- CNPS RED Code: *
* General: ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS. *
* Microhabitat: HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, CLEAR WATER, & ALGAE. *
*** Element ID: AFCJC02190 *
Occurrence Number: 9 --Dates Last Seen--
Quality: Unknown Element: 1983/XX/XX
Type: Natural/Native occurrence Site: 1983/XX/XX
Presence: Presumed Extant
Trend: Unknown
Main Info Source: WELLS & DIANA, 1975 (LIT)
Quad Summary: Piru (3411847), Santa Paula (3411931), Moorpark (3411838), Fillmore (3411848), Val Verde (3411846), Newhall (3411845)
County(ies): Los Angeles, Ventura
Location: SANTA CLARA RIVER DRAINAGE FROM SAN FRANCISQUITO CYN TO VICINITY OF SANTA PAULA.
Lat/Long: 34d 22m 10s / 118d 59m 08s Township: 04N
UTM: Zone-11 N3804717 E317423 Range: 18W
Mapping Precision: SPECIFIC (0 Mile) Section: UN XX Qtr
Symbol Type: POLYGON Meridian: S
Group Number: 00497 More Information? N Acres: 3054.2
Map Index Number: 00497 More Map Detail? N Elevation: 1055 ft
Threats:
Comments: Ecological Notes - AT STA 4, 14 WERE TAKEN. AT STA 5, 3 TAKEN. HYBRIDIZES W/ OWENS SUCKER IN LOWER PARTS OF DRAINAGE (S OF FILMORE). 18 TAKEN FROM SESPE CR, 1975. INCL S HALF PIRU CREEK.
Owner/Manager - PVT

** California Department of Fish and Game ***** Natural Diversity Data Base **

* *

* CATOSTOMUS SANTAANAE *

* Santa Ana Sucker *

* ---------Status---------- NDDB Element Ranks --------Other Lists--------- *

* Federal: Category 2 Global: G1G2 CDFG: Special Concern *

* State: None State: S1S2 Audubon: *

* CNPS List: *

* ---Habitat Associations--- CNPS RED Code: *

* General: ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS. *

* Microhabitat: HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, CLEAR WATER, & ALGAE. *

*** Element ID: AFCJC02190 *

Occurrence Number: 12 --Dates Last Seen--

Quality: Unknown Element: 1975/07/11

Type: Natural/Native occurrence Site: 1975/07/11

Presence: Presumed Extant

Trend: Unknown

Main Info Source: WELLS & DIANA 1975 (LIT)

Quad Summary: Piru (3411847), Val Verde (3411846), Cobblestone Mtn. (3411857)

County(ies): Ventura

Location: N PART PIRU CREEK, N OF & INCL PIRU LAKE; S OF ELLIS APIARY CAMPGROUND.

Lat/Long: 34d 28m 60s / 118d 45m 18s Township: 03N

UTM: Zone-11 N3816947 E338832 Range: 18W

Mapping Precision: SPECIFIC (0 Mile) Section: 15 SW Qtr

Symbol Type: POLYGON Meridian: S

Group Number: 00563 More Information? N Acres: 1447.3

Map Index Number: 00563 More Map Detail? Y Elevation: 1100 ft

Threats:

Comments: General Notes - 19 TAKEN IN 1975.

Owner/Manager - USFS-LOS PADRES & ANGELES NF

** California Department of Fish and Game ***** Natural Diversity Data Base **

* *

* GASTEROSTEUS ACULEATUS WILLIAMSONI *

* Unarmored Threespine Stickleback *

* ---------Status---------- NDDB Element Ranks --------Other Lists--------- *

* Federal: Endangered Global: G5T1 CDFG: *

* State: Endangered State: S1.2 Audubon: *

* CNPS List: *

* ---Habitat Associations--- CNPS RED Code: *

* General: WEEDY POOLS, BACKWATERS, AND AMONG EMERGENT VEGETATION AT THE STREAM EDGE IN SMALL SOUTHERN CALIFORNIA STREAMS. *

* Microhabitat: COOL (<24 C), CLEAR WATER WITH ABUNDANT VEGETATION. *

*** Element ID: AFCPA03011 *

Occurrence Number: 3 --Dates Last Seen--

Quality: Unknown Element: 1987/XX/XX

Type: Natural/Native occurrence Site: 1987/XX/XX

Presence: Presumed Extant

Trend: Unknown

Main Info Source: U.S. FISH & WILDLIFE SERV 1977 (PUBL)

Quad Summary: Val Verde (3411846), Newhall (3411845)

County(ies): Los Angeles

Location: SANTA CLARA RIVER, LOS ANGELES CO.

Lat/Long: 34d 25m 10s / 118d 37m 41s Township: 04N

UTM: Zone-11 N3809679 E350375 Range: 17W

Mapping Precision: NON-SPECIFIC (0 Mile) Section: UN XX Qtr

Symbol Type: POLYGON Meridian: S

Group Number: 00854 More Information? N Acres: 399.1

Map Index Number: 00854 More Map Detail? N Elevation: 950 ft

Threats: AFRICAN CLAWED FROGS.

Comments: Distribution Notes - FROM JUCTION WITH SAN MARTINEZ GRANDE CANYON UPSTREAM TO I-5 CROSSING.

Owner/Manager - PVT

** California Department of Fish and Game ***** Natural Diversity Data Base **
* *
* CLEMMYS MARMORATA PALLIDA *
* Southwestern Pond Turtle *
* ---------Status---------- NDDB Element Ranks --------Other Lists--------- *
* Federal: Category 1 Global: G4T2T3 CDFG: Special Concern *
* State: None State: S2 Audubon: *
* CNPS List: *
* ---Habitat Associations--- CNPS RED Code: *
* General: INHABITS PERMANENT OR NEARLY PERMANENT BODIES OF WATER IN MANY HABITAT TYPES; BELOW 6000 FT ELEV. *
* Microhabitat: REQUIRE BASKING SITES SUCH AS PARTIALLY SUBMERGED LOGS, VEGETATION MATS, OR OPEN MUD BANKS. *
*** Element ID: ARAAD02032 *
Occurrence Number: 65 --Dates Last Seen--
Quality: Unknown Element: 1987/XX/XX
Type: Natural/Native occurrence Site: 1987/XX/XX
Presence: Presumed Extant
Trend: Unknown
Main Info Source: BRATTSTROM AND MESSER, 1988 (LIT)
Quad Summary: Piru (3411847), Val Verde (3411846)
County(ies): Ventura
* SENSITIVE *
Location: Locational Information Supressed - Call Local California Department of Fish and Game Office for Details
Lat/Long: Township:
UTM: Range:
Mapping Precision: Section: Qtr
Symbol Type: Meridian:
Group Number: More Information? Acres: 0
Map Index Number: More Map Detail? Elevation:
Threats:
Comments: Locational Information Supressed - Call Local California Department of Fish and Game Office for Details

** California Department of Fish and Game ***** Natural Diversity Data Base **

* *

* PHRYNOSOMA CORONATUM BLAINVILLEI *

* San Diego Horned Lizard *

* *

* ---------Status---------- NDDB Element Ranks --------Other Lists--------- *

* Federal: Category 2 Global: G4T3 CDFG: Special Concern *

* State: None State: S2 Audubon: *

* CNPS List: *

* ---Habitat Associations--- CNPS RED Code: *

* General: INHABITS COASTAL SAGE SCRUB AND CHAPARRAL IN ARID AND SEMI-ARID CLIMATE CONDIT. *

* Microhabitat: PREFERS FRIABLE, ROCKY, OR SHALLOW SANDY SOILS. *

*** Element ID: ARACF12021 *

Occurrence Number: 145 --Dates Last Seen--

Quality: Unknown Element: 1934/05/XX

Type: Natural/Native occurrence Site: 1934/05/XX

Presence: Presumed Extant

Trend: Unknown

Main Info Source: BRODE, J. 1986 (PERS)

Quad Summary: Newhall (3411845)

County(ies): Los Angeles

Location: SAUGUS, SOUTH OF SOLEDAD CANYON.

Lat/Long: 34d 24m 37s / 118d 32m 34s Township: 04N

UTM: Zone-11 N3808531 E358206 Range: 16W

Mapping Precision: NON-SPECIFIC (1 Mile) Section: UN XX Qtr

Symbol Type: POINT Meridian: S

Group Number: 01087 More Information? N Acres: 0

Map Index Number: 01087 More Map Detail? N Elevation: 1180 ft

Threats:

Comments: General Notes - LACM SPECIMEN #19853. Owner/Manager - UNKNOWN

** California Department of Fish and Game ***** Natural Diversity Data Base **

* *

* PHRYNOSOMA CORONATUM BLAINVILLEI *

* San Diego Horned Lizard *

* *

* ---------Status---------- NDDB Element Ranks --------Other Lists--------- *

* Federal: Category 2 Global: G4T3 CDFG: Special Concern *

* State: None State: S2 Audubon: *

* CNPS List: *

* ---Habitat Associations--- CNPS RED Code: *

* General: INHABITS COASTAL SAGE SCRUB AND CHAPARRAL IN ARID AND SEMI-ARID CLIMATE CONDIT. *

* Microhabitat: PREFERS FRIABLE, ROCKY, OR SHALLOW SANDY SOILS. *

*** Element ID: ARACF12021 *

Occurrence Number: 203 --Dates Last Seen--

Quality: Unknown Element: 1947/05/31

Type: Natural/Native occurrence Site: 1947/05/31

Presence: Presumed Extant

Trend: Unknown

Main Info Source: BRODE, J. 1986 (PERS)

Quad Summary: Oat Mountain (3411835), Santa Susana (3411836)

County(ies): Los Angeles

Location: S DEVIL CANYON, SANTA SUSANA MTNS, 5 MI W OF GRANADA HILLS.

Lat/Long: 34d 17m 13s / 118d 36m 38s Township: 02N

UTM: Zone-11 N3794954 E351766 Range: 17W

Mapping Precision: NON-SPECIFIC (1 Mile) Section: 01 NE Qtr

Symbol Type: POINT Meridian: S

Group Number: 00880 More Information? N Acres: 0

Map Index Number: 00880 More Map Detail? N Elevation: 1450 ft

Threats:

Comments: General Notes - LACM SPECIMEN #19883.

Owner/Manager - PVT

** California Department of Fish and Game ***** Natural Diversity Data Base **

* *

* SOUTHERN CALIFORNIA THREESPINE STICKLEBACK STREAM *

* Southern California Threespine Stickleback *

* ---------Status---------- NDDB Element Ranks --------Other Lists--------- *

* Federal: None Global: CDFG: *

* State: None State: Audubon: *

* CNPS List: *

* ---Habitat Associations--- CNPS RED Code: *

* General: Not available at this time. *

* Microhabitat: Not available at this time. *

*** Element ID: CARE2320CA *

Occurrence Number: 4 --Dates Last Seen--

Quality: Unknown Element: 1987/XX/XX

Type: Natural/Native occurrence Site: 1987/XX/XX

Presence: Presumed Extant

Trend: Unknown

Main Info Source: MOYLE, PETER 1991 (LIT)

Quad Summary: Val Verde (3411846), Newhall (3411845)

County(ies): Los Angeles

Location: SANTA CLARA RIVER, DOWNSTREAM OF INTERSTATE HWY 5, LOS ANGELES COUNTY.

Lat/Long: 34d 25m 10s / 118d 37m 41s Township: 04N

UTM: Zone-11 N3809679 E350375 Range: 17W

Mapping Precision: NON-SPECIFIC (0 Mile) Section: UN XX Qtr

Symbol Type: POLYGON Meridian: S

Group Number: More Information? Y Acres: 399.1

Map Index Number: 00854 More Map Detail? N Elevation: 950 ft

Threats: PREDATION BY AFRICAN CLAWED FROGS & OTHER INTRODUCED FISH, STREAM CHANNELIZATION ALLOWS INTRODUCED FISH TO MIGRATE.

Comments: Distribution Notes - FROM CONFLUENCE OF SAN MARTINEZ GRANDE CYN. CREEK UPSTREAM TO THE I-5 BRIDGE CROSSING.

Owner/Manager - PVT

California NDDB RareFind Report RECON
Date of Report: 07/01/95

** California Department of Fish and Game ***** Natural Diversity Data Base **
*
* HEMIZONIA MINTHORNII Santa Susana Tarplant *
* ---------Status---------- NDDB Element Ranks --------Other Lists--------- *
* Federal: Category 2 Global: G2 CDFG: *
* State: Rare State: S2.1 Audubon: *
*CNPS List: 1B --- CNPS RED Code: 2-2-3
--Habitat Associations--
General: CHAPARRAL, COASTAL SCRUB
* Microhabitat: ROCK OUTCROPS *
Element ID: PDAST4R0J0
Occurrence Number: 1 --Dates Last Seen--
Quality: Good Element: 1989/07/07
Type: Natural/Native occurrence Site: 1989/07/07
Presence: Presumed Extant
Trend: Decreasing
Main Info Source: BITTMAN & COCHRANE 1987 (OBS)
Quad Summary: Santa Susana (3411836)
County(ies): Los Angeles, Ventura
Location: JUST E OF SIMI VALLEY, S OF BLIND CANYON. INCLUDES ROCKY PEAK, HUMMINGBIRD RANCH, & AREA SOUTH TO SANTA SUSANA PASS.
Lat/Long: 34d 16m 51s / 118d 38m 45s Township: 02N
UTM: Zone-11 N3794321 E348496 Range: 17W
Mapping Precision: SPECIFIC (0 Mile) Section: UN XX Qtr
Symbol Type: POLYGON Meridian: S
Group Number: 00820 More Information? N Acres: 3223.4
Map Index Number: 00820 More Map Detail? N Elevation: 2000 ft
Threats: RECREATIONAL IMPACTS AND GRAZING THREATEN. PART OF OCCURRENCE EXTIRPATED ACCORDING TO SULLY (1984).

Comments: Distribution Notes - EXTENDS INTO LOS ANGELES COUNTY. ALSO IN T3N.
Ecological Notes - ON SANDSTONE OUTCROPS AND IN NONNATIVE GRASSLAND, OFTEN IN SEMI-SHADED WEST EXPOSURES. ASSOCIATED WITH SALVIA MELLIFERA, ERIOGONUM FASCICULATUM, ARTEMISIA CALIFORNICA, CERCOCARPUS BETULOIDES, BROMUS DIANDRUS.
General Notes - SOUTHEAST PORTION OF OCCURRENCE SEEN IN 1987; UNKNOWN WHEN LARGE AREA TO THE WEST AND NORTH SEEN BY KUHN. 200 PLANTS SEEN IN E PORTION BY JONS AND BOWLAND IN 1989. INCLUDES FORMER OCCURRENCES 2 AND 10.
Owner/Manager - PVT

** California Department of Fish and Game ***** Natural Diversity Data Base **
* *
* HEMIZONIA MINTHORNII Santa Susana Tarplant *
* ---------Status---------- NDDB Element Ranks --------Other Lists--------- *
* Federal: Category 2 Global: G2 CDFG: State: Rare
State: S2.1 Audubon: *
*CNPS List: 1B CNPS RED Code: 2-2-3 *
* ---Habitat Associations--- *
* General: CHAPARRAL, COASTAL SCRUB *
* Microhabitat: ROCK OUTCROPS *
*** Element ID: PDAST4R0J0 *
Occurrence Number: 3 --Dates Last Seen--
Quality: Unknown Element: 1987/XX/XX
Type: Natural/Native occurrence Site: 1987/XX/XX
Presence: Presumed Extant
Trend: Unknown
Main Info Source: HOLDEN, P.A. #615A OBI (HERB)
Quad Summary: Oat Mountain (3411835)
County(ies): Los Angeles
Location: ALONG OLD HWY 118, SANTA SUSANA MTS ABOUT 1.0 MI E OF CO. LINE, W OF TOPANGA CYN BLVD.
Lat/Long: 34d 16m 33s / 118d 36m 53s Township: 02N
UTM: Zone-11 N3793724 E351356 Range: 17W
Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: UN XX Qtr
Symbol Type: POINT Meridian: S
Group Number: 00867 More Information? N Acres: 0
Map Index Number: 00867 More Map Detail? N Elevation: 1250 ft
Threats:
Comments: Ecological Notes - "GROWING IN FULL SUN AND OPEN."
Owner/Manager - PVT

** California Department of Fish and Game ***** Natural Diversity Data Base **
* *
* HEMIZONIA MINTHORNII * Santa Susana Tarplant *
* ---------Status---------- NDDB Element Ranks --------Other Lists--------- *
* Federal: Category 2 Global: G2 CDFG: State: Rare
State: S2.1 Audubon: *
CNPS List: 1B CNPS RED Code: 2-2-3 *
* ---Habitat Associations--- *
* General: CHAPARRAL, COASTAL SCRUB *
* Microhabitat: ROCK OUTCROPS *
*** Element ID: PDAST4R0J0 *
Occurrence Number: 5 --Dates Last Seen--
Quality: Unknown Element: 1932/10/14
Type: Natural/Native occurrence Site: 1932/10/14
Presence: Presumed Extant
Trend: Unknown
Main Info Source: KECK, D.D. #1953 DS (HERB)
Quad Summary: Oat Mountain (3411835), Santa Susana (3411836)
County(ies): Los Angeles
Location: HILLSIDES JUST SOUTH OF HIGHWAY 118, NEAR CHATSWORTH, APPROX. 0.7 MILE WEST OF JUNCTION WITH TOPANGA CANYON BLVD.
Lat/Long: 34d 16m 17s / 118d 36m 28s Township: 02N
UTM: Zone-11 N3793216 E351986 Range: 17W
Mapping Precision: NON-SPECIFIC (1 Mile) Section: UN XX Qtr
Symbol Type: POINT Meridian: S
Group Number: 00890 More Information? N Acres: 0
Map Index Number: 00890 More Map Detail? N Elevation: 1025 ft
Threats:
Comments: Ecological Notes - INFREQUENT IN CHAPARRAL. General Notes - TYPE LOCALITY. Owner/Manager - UNKNOWN

** California Department of Fish and Game ***** Natural Diversity Data Base **

* *

* HEMIZONIA MINTHORNII * Santa Susana Tarplant *

* ---------Status---------- NDDB Element Ranks --------Other Lists-------- *

* Federal: Category 2 Global: G2 CDFG: State: Rare

State: S2.1 Audubon: *

CNPS List: 1B CNPS RED Code: 2-2-3 *

* ---Habitat Associations--- *

* General: CHAPARRAL, COASTAL SCRUB *

* Microhabitat: ROCK OUTCROPS *

*** Element ID: PDAST4R0J0 *

Occurrence Number: 7 --Dates Last Seen--

Quality: Unknown Element: XXXX/XX/XX

Type: Natural/Native occurrence Site: XXXX/XX/XX

Presence: Presumed Extant

Trend: Unknown

Main Info Source: KAPPLER, O.H. #1004 UCLA (HERB)

Quad Summary: Santa Susana (3411836)

County(ies): Ventura

Location: SANTA SUSANA MTNS. SILVERNALE RANCH, NEAR CHATSWORTH. CHATSWORTH PEAK.

Lat/Long: 34d 15m 22s / 118d 38m 29s Township: 02N

UTM: Zone-11 N3791577 E348866 Range: 17W

Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: UN XX Qtr

Symbol Type: POINT Meridian: S

Group Number: 00827 More Information? N Acres: 0

Map Index Number: 00827 More Map Detail? Y Elevation: 2100 ft

Threats:

Comments: Ecological Notes - SANDSTONE OUTCROPS AND CREVICES. General Notes - SEEN MORE RECENTLY THAN 1945 BY KUHN, BUT EXACT DATE UNKNOWN. Owner/Manager - UNKNOWN

** California Department of Fish and Game ***** Natural Diversity Data Base **
* *
* HEMIZONIA MINTHORNII Santa Susana Tarplant *
* ---------Status---------- NDDB Element Ranks --------Other Lists-------- *
* Federal: Category 2 Global: G2 CDFG: State: Rare
State: S2.1 Audubon: *
CNPS List: 1B CNPS RED Code: 2-2-3 *
* ---Habitat Associations--- *
* General: CHAPARRAL, COASTAL SCRUB *
* Microhabitat: ROCK OUTCROPS *
*** Element ID: PDAST4R0J0
Occurrence Number: 11 --Dates Last Seen--
Quality: Unknown Element: 1987/XX/XX
Type: Natural/Native occurrence Site: 1987/XX/XX
Presence: Presumed Extant Trend: Unknown
Main Info Source: JOHNSON, A. F. 1978 (PERS)
Quad Summary: Oat Mountain (3411835)
County(ies): Los Angeles
Location: CHATSWORTH, NEAR NORTH TERMINUS OF TOPANGA CYN BLVD & SIMI VALLEY FREEWAY.
Lat/Long: 34d 16m 37s / 118d 36m 10s Township: 02N
UTM: Zone-11 N3793830 E352458 Range: 16W
Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 07 NE Qtr
Symbol Type: POINT Meridian: S
Group Number: 00899 More Information? N Acres: 0
Map Index Number: 00899 More Map Detail? Y Elevation: 1250 ft
Threats: PART OF AREA PROPOSED FOR CHURCH FACILITY.
Comments: Distribution Notes - SMALL POPULATION SEEN IN 1978 OPPOSITE INDIAN HILLS TRAILER PARK. Ecological Notes - IN COASTAL SCRUB ON STEEP SANDSTONE OUTCROPS. ASSOCIATED WITH LOTUS SCOPARIUS, ADENOSTOMA FASCICULATUM, AND ARTEMISIA CALIFORNICA. General Notes - LESS THAN 500 PLANTS SEEN IN 1985 0.15 NORTH-NORTHWEST OF MAPPED LOCATION. Owner/Manager - PVT

** California Department of Fish and Game ***** Natural Diversity Data Base **

* *

* HEMIZONIA MINTHORNII Santa Susana Tarplant *

* --------Status---------- NDDB Element Ranks --------Other Lists--------- *

* Federal: Category 2 Global: G2 CDFG: State: Rare

State: S2.1 Audubon: *

* CNPS List: 1B CNPS RED Code: 2-2-3 *

* ---Habitat Associations--- *

* General: CHAPARRAL, COASTAL SCRUB *

* Microhabitat: ROCK OUTCROPS *

*** Element ID: PDAST4R0J0 *

Occurrence Number: 17 --Dates Last Seen--

Quality: Unknown Element: 1979/11/28

Type: Natural/Native occurrence Site: 1979/11/28

Presence: Presumed Extant

Trend: Unknown

Main Info Source: TANOWITZ & GORDON 1980 (LIT)

Quad Summary: Calabasas (3411826), Santa Susana (3411836)

County(ies): Ventura

Location: SIMI HILLS, SAGE RANCH 0.8 KM NW OF ROCKETDYNE LABORATORY ONBLACK CANYON ROAD.

Lat/Long: 34d 14m 34s / 118d 40m 57s Township: 02N

UTM: Zone-11 N3790162 E345059 Range: 17W

Mapping Precision: SPECIFIC (0 Mile) Section: UN XX Qtr

Symbol Type: POLYGON Meridian: S

Group Number: 00756 More Information? N Acres: 669.8

Map Index Number: 00756 More Map Detail? Y Elevation: 2197 ft

Threats:

Comments: Ecological Notes - SCATTERED ON OPEN ROCKY SANDSTONE OUTCROPS IN CREVICES WITH ERIOGONUM FASCICULATUM, RIBES INDECORUM, PRUNUS ILICIFOLIA, AND ERIODICTYON SP.

Owner/Manager -

** California Department of Fish and Game ***** Natural Diversity Data Base **

* *

* HEMIZONIA MINTHORNII Santa Susana Tarplant *

* ---------Status---------- NDDB Element Ranks --------Other Lists--------- *

* Federal: Category 2 Global: G2 CDFG: State: Rare

State: S2.1 Audubon: *

CNPS List: 1B CNPS RED Code: 2-2-3 *

* ---Habitat Associations--- *

* General: CHAPARRAL, COASTAL SCRUB Microhabitat: ROCK OUTCROPS *

*** Element ID: PDAST4R0J0 *

Occurrence Number: 18 --Dates Last Seen--

Quality: Unknown Element: XXXX/XX/XX

Type: Natural/Native occurrence Site: XXXX/XX/XX

Presence: Presumed Extant

Trend: Unknown

Main Info Source: KUHN, M. 1981 (MAP)

Quad Summary: Santa Susana (3411836)

County(ies): Ventura

Location: JUST E OF SANTA SUSANA KNOLLS, NEAR LOS ANGELES AVE & SP RR TRACKS, E END OF SIMI VALLEY.

Lat/Long: 34d 15m 37s / 118d 39m 36s Township: 02N

UTM: Zone-11 N3792063 E347153 Range: 17W

Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 16 NE Qtr

Symbol Type: POINT Meridian: S

Group Number: 00790 More Information? N Acres: 0

Map Index Number: 00790 More Map Detail? Y Elevation: 1100 ft

Threats:

Comments: General Notes - NONE. Owner/Manager - UNKNOWN

** California Department of Fish and Game ***** Natural Diversity Data Base **

* *

* HEMIZONIA MINTHORNII Santa Susana Tarplant *

* ---------Status---------- NDDB Element Ranks --------Other Lists--------- *

* Federal: Category 2 Global: G2 CDFG: State: Rare

State: S2.1 Audubon: *

* CNPS List: 1B * CNPS RED Code: 2-2-3

* ---Habitat Associations--- *

* General: CHAPARRAL, COASTAL SCRUB *

* Microhabitat: ROCK OUTCROPS *

*** Element ID: PDAST4R0J0

Occurrence Number: 25 --Dates Last Seen--

Quality: Unknown Element: 1987/03/05

Type: Natural/Native occurrence Site: 1987/03/05

Presence: Presumed Extant

Trend: Unknown

Main Info Source: BOWLAND, J. 1986 (OBS)

Quad Summary: Oat Mountain (3411835)

County(ies): Los Angeles

Location: NW OF CHATSWORTH, N OF HWY 118, SE OF FERN ANN FALLS.

Lat/Long: 34d 16m 46s / 118d 36m 37s Township: 02N

UTM: Zone-11 N3794118 E351772 Range: 17W

Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 01 SE Qtr

Symbol Type: POINT Meridian: S

Group Number: 00881 More Information? N Acres: 0

Map Index Number: 00881 More Map Detail? N Elevation: 1575 ft

Threats: RELOCATION AND ENLARGEMENT OF EXISTING WATER TANK WOULD REMOVE 70-100% OF PLANTS.

Comments: Ecological Notes - ON ROCKY SANDSTONE ASSOCIATED WITH SALVIA MELLIFERA, RHUS LAURINA, AND YUCCA WHIPPLEI.

General Notes - ABOUT 250 PLANTS SEEN. PLANTS TO BE TRANSPLANTED TO CUT SLOPES WILL BE TEMPORARILY STORED IN TUBS UNTIL GRADING COMPLETED. NO WORK SO FAR IN 1987.

Owner/Manager - COUNTY OF LOS ANGELES

** California Department of Fish and Game ***** Natural Diversity Data Base **

* *

* HEMIZONIA MINTHORNII Santa Susana Tarplant *

* ---------Status---------- NDDB Element Ranks --------Other Lists--------- *

* Federal: Category 2 Global: G2 CDFG: State: Rare

State: S2.1 Audubon: *

* CNPS List: 1B CNPS RED Code: 2-2-3 *

* ---Habitat Associations--- *

* General: CHAPARRAL, COASTAL SCRUB *

* Microhabitat: ROCK OUTCROPS *

*** Element ID: PDAST4R0J0 *

Occurrence Number: 27 --Dates Last Seen--

Quality: Good Element: 1987/10/02

Type: Natural/Native occurrence Site: 1987/10/02

Presence: Presumed Extant

Trend: Unknown

Main Info Source: VANDER PLUYM, D. 1986 (OBS)

Quad Summary: Calabasas (3411826), Santa Susana (3411836)

County(ies): Ventura

Location: 0.25 MI E OF BOX CYN RD, ALONG STUDIO RD, AND AT OLD WESTERNTOWN MOVIE STUDIO.

Lat/Long: 34d 14m 57s / 118d 38m 37s Township: 02N

UTM: Zone-11 N3790809 E348637 Range: 17W

Mapping Precision: SPECIFIC (0 Mile) Section: UN XX Qtr

Symbol Type: POLYGON Meridian: S

Group Number: 00823 More Information? Y Acres: 36.7

Map Index Number: 00823 More Map Detail? Y Elevation: 1800 ft

Threats: PLANTS ADJACENT TO ROAD THREATENED BY ROAD MAINTENANCE ACTIVITIES. HOUSING DEVELOPMENT ALSO THREATENS.

Comments: Distribution Notes - MOST VIGOROUS STANDS ADJACENT TO ROAD CUTS. Ecological Notes - IN CREVICES OF SANDSTONE BOULDERS AND IN THIN SOIL. IN MIXED COASTAL SAGE SCRUB/CHAPARRAL. General Notes - OVER 200 PLANTS IN 8 SMALL POPULATIONS.

Owner/Manager - PVT

** California Department of Fish and Game ***** Natural Diversity Data Base **

* *

* HEMIZONIA MINTHORNII Santa Susana Tarplant*

* ---------Status---------- NDDB Element Ranks --------Other Lists--------- *

* Federal: Category 2 Global: G2 CDFG:

State: Rare State: S2.1 Audubon: *

* CNPS List: 1B *

* ---Habitat Associations--- CNPS RED Code: 2-2-3 *

* General: CHAPARRAL, COASTAL SCRUB *

* Microhabitat: ROCK OUTCROPS *

*** Element ID: PDAST4R0J0 **********

Occurrence Number: 28 --Dates Last Seen--

Quality: Unknown Element: 1987/XX/XX

Type: Natural/Native occurrence Site: 1987/XX/XX

Presence: Presumed Extant

Trend: Unknown

Main Info Source: TERESA, S. 1987 (MAP)

Quad Summary: Oat Mountain (3411835)

County(ies): Los Angeles

Location: 0.25 MI E OF FERN ANN FALLS, E OF SANTA SUSANA PASS, N OF HWY 118.

Lat/Long: 34d 17m 03s / 118d 36m 32s Township: 02N

UTM: Zone-11 N3794640 E351908 Range: 17W

Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 01 SE Qtr

Symbol Type: POINT Meridian: S

Group Number: 00887 More Information? N Acres: 0

Map Index Number: 00887 More Map Detail? N Elevation: 1400 ft

Threats:

Comments: General Notes - MAP LOCATION IS ONLY INFORMATION.

Owner/Manager - PVT

** California Department of Fish and Game ***** Natural Diversity Data Base **

* *

* HEMIZONIA MINTHORNII Santa Susana Tarplant *

* ---------Status---------- NDDB Element Ranks --------Other Lists-------- *

* Federal: Category 2 Global: G2 CDFG: *

* State: Rare State: S2.1 Audubon: *

* CNPS List: 1B *

* ---Habitat Associations--- CNPS RED Code: 2-2-3 *

* General: CHAPARRAL, COASTAL SCRUB *

* Microhabitat: ROCK OUTCROPS *

*** Element ID: PDAST4R0J0 **********

Occurrence Number: 29 --Dates Last Seen--

Quality: Unknown Element: 1987/XX/XX

Type: Natural/Native occurrence Site: 1987/XX/XX

Presence: Presumed Extant

Trend: Unknown

Main Info Source: TERESA, S. 1987 (MAP)

Quad Summary: Oat Mountain (3411835), Santa Susana (3411836)

County(ies): Los Angeles

Location: APPROX. 1 AIRMILE N OF SANTA SUSANA PASS, W OF FERN ANN FALLS, VICINITY OF HIALEAH SPRINGS.

Lat/Long: 34d 16m 53s / 118d 37m 28s Township: 02N

UTM: Zone-11 N3794347 E350483 Range: 17W

Mapping Precision: SPECIFIC (0 Mile) Section: 02 XX Qtr

Symbol Type: POLYGON Meridian: S

Group Number: 00855 More Information? N Acres: 83.6

Map Index Number: 00855 More Map Detail? Y Elevation: 1600 ft

Threats: THREATENED BY PROPOSED INDIAN WELLS ESTATES HOUSING DEVELOPMENT.

Comments: General Notes - MAP LOCATION IS ONLY INFORMATION.

Owner/Manager - PVT

** California Department of Fish and Game ***** Natural Diversity Data Base **

* *

* HEMIZONIA MINTHORNII *

* Santa Susana Tarplant *

* ---------Status---------- NDDB Element Ranks --------Other Lists--------- *

* Federal: Category 2 Global: G2 CDFG: *

* State: Rare State: S2.1 Audubon: *

* CNPS List: 1B *

* ---Habitat Associations-- CNPS RED Code: 2-2-3 *

* General: CHAPARRAL, COASTAL SCRUB *

* Microhabitat: ROCK OUTCROPS *

*** Element ID: PDAST4R0J0 *

Occurrence Number: 30 --Dates Last Seen--

Quality: Unknown Element: 1987/04/15

Type: Natural/Native occurrence Site: 1987/04/17

Presence: Presumed Extant

Trend: Unknown

Main Info Source: VANDER PLUYM, D. 1987 (OBS)

Quad Summary: Santa Susana (3411836)

County(ies): Ventura

Location: APPROX. 0.4 MI WSW OF CHATSWORTH PEAK SUMMIT, SIMI HILLS.

Lat/Long: 34d 15m 17s / 118d 38m 44s Township: 02N

UTM: Zone-11 N3791429 E348480 Range: 17W

Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: UN XX Qtr

Symbol Type: POINT Meridian: S

Group Number: 00819 More Information? N Acres: 0

Map Index Number: 00819 More Map Detail? Y Elevation: 1925 ft

Threats:

Comments: Ecological Notes - ROCK CREVICES OF SANDSTONE BOULDERS IN MIXED SAGE SCRUB/CHAPARRAL WITH OPEN AREAS ON THIN SOILS. AREA DOMINATED BY ANNUAL GRASSES (AVENA SP.), SALVIA SP., MALACOTHAMNUS FASCICULATUM, AND ADENOSTOMA FASCICULATUM.

General Notes - ABOUT 18 PLANTS SEEN. Owner/Manager - PVT

** California Department of Fish and Game ***** Natural Diversity Data Base **

* *

* OPUNTIA BASILARIS VAR BRACHYCLADA Short-joint Beavertail *

* ---------Status---------- NDDB Element Ranks --------Other Lists--------- *

* Federal: Category 2 Global: G5T1 CDFG: *

* State: None State: S1.1 Audubon: *

* CNPS List: 1B *

* ---Habitat Associations--- CNPS RED Code: 3-2-3 *

* General: CHAPARRAL, JOSHUA TREE WOODLAND, DESERT WASHES, RIPARIAN WOODLAND. *

* Microhabitat: DRY SLOPES; 4000-7500 FT. *

*** Element ID: PDCAC0D053 *

Occurrence Number: 10 --Dates Last Seen--

Quality: Unknown Element: 1985/06/11

Type: Natural/Native occurrence Site: 1985/06/11

Presence: Presumed Extant

Trend: Decreasing

Main Info Source: KRANTZ, T. 1985 (OBS)

Quad Summary: Newhall (3411845)

County(ies): Los Angeles

Location: RIDGE BETW ORO FINO CYN & QUIGLEY CYN, ENE OF NEWHALL.

Lat/Long: 34d 23m 37s / 118d 30m 16s Township: 04

UTM: Zone-11 N3806645 E361700 Range: 16W

Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: UN XX Qtr

Symbol Type: POINT Meridian: S

Group Number: 01238 More Information? N Acres: 0

Map Index Number: 01238 More Map Detail? Y Elevation: 1600 ft

Threats: MAJOR DISTURBANCES FROM OIL WELLS AND ASSOCIATED ACTIVITIES.

Comments: Ecological Notes - IN COASTAL CHAPARRAL WITH INTRODUCED ANNUAL GRASSLAND ON SANDY SOIL.

Owner/Manager - PVT

** California Department of Fish and Game ***** Natural Diversity Data Base **

* *

* OPUNTIA BASILARIS VAR BRACHYCLADA Short-joint Beavertail *

* ---------Status---------- NDDB Element Ranks --------Other Lists--------- *

* Federal: Category 2 Global: G5T1 CDFG: *

* State: None State: S1.1 Audubon: *

* CNPS List: 1B *

* ---Habitat Associations--- CNPS RED Code: 3-2-3 *

* General: CHAPARRAL, JOSHUA TREE WOODLAND, DESERT WASHES, RIPARIAN WOODLAND. *

* Microhabitat: DRY SLOPES; 4000-7500 FT. *

*** Element ID: PDCAC0D053 *

Occurrence Number: 11 --Dates Last Seen--

Quality: Unknown Element: 1985/06/11

Type: Natural/Native occurrence Site: 1985/06/11

Presence: Presumed Extant

Trend: Unknown

Main Info Source: KRANTZ, T. 1985 (OBS)

Quad Summary: Newhall (3411845), Mint Canyon (3411844)

County(ies): Los Angeles

Location: SOUTH SIDE OF QUIGLEY CANYON, ON N-FACING SLOPE, EAST OF NEWHALL.

Lat/Long: 34d 23m 15s / 118d 30m 01s Township: 04N

UTM: Zone-11 N3805946 E362075 Range: 15W

Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 31 NW Qtr

Symbol Type: POINT Meridian: S

Group Number: 01251 More Information? N Acres: 0

Map Index Number: 01251 More Map Detail? Y Elevation: 1400 ft

Threats: MAJOR DISTURBANCES FROM OIL WELLS AND ASSOCIATED ACTIVITIES.

Comments: Ecological Notes - IN COASTAL CHAPARRAL WITH INTRODUCED ANNUAL GRASSLAND ON SANDY SOIL.

Owner/Manager - PVT

** California Department of Fish and Game ***** Natural Diversity Data Base **

* *

* CALYSTEGIA PEIRSONII Peirson's Morning-glory *

* ---------Status---------- NDDB Element Ranks --------Other Lists--------- *

* Federal: Category 2 Global: G3 CDFG: *

* State: None State: S3.2 Audubon: *

* CNPS List: 4 *

* ---Habitat Associations--- CNPS RED Code: 1-2-3 *

* General: CHAPARRAL, COASTAL SCRUB *

* Microhabitat: 2800-4500 FT. *

*** Element ID: PDCON040A0 *

Occurrence Number: 25 --Dates Last Seen--

Quality: Unknown Element: 1982/06/04

Type: Natural/Native occurrence Site: 1982/06/04

Presence: Presumed Extant

Trend: Unknown

Main Info Source: WILSON, R. ET AL 1982 (LIT)

Quad Summary: Warm Springs Mountain (3411855), Newhall (3411845)

County(ies): Los Angeles

Location: SAN FRANCISQUITO CANYON RD, 7.4 MI N OF SAUGUS, 0.5 MI UP DIRT RD TO WEST.

Lat/Long: 34d 30m 44s / 118d 32m 35s Township: 05N

UTM: Zone-11 N3819837 E358353 Range: 16W

Mapping Precision: NON-SPECIFIC (1 Mile) Section: 15 XX Qtr

Symbol Type: POINT Meridian: S

Group Number: 01084 More Information? N Acres: 0

Map Index Number: 01084 More Map Detail? N Elevation: 1800 ft

Threats:

Comments: Distribution Notes - HERBARIUM LABEL GIVES "CA 2200 FT ELEV", HOWEVER ELEVATION AT DESCRIBED LOCATION IS 1800 FEET.

Ecological Notes - ON BARE ROADCUT, DRY, EXPOSED, LOOSE SOIL.

ASSOCIATED WITH ERIOGONUM FASCICULATUM, GRASS SP..

General Notes - POPULATION IN GOOD CONDITION IN 1982.

Owner/Manager - USFS-ANGELES NF

** California Department of Fish and Game ***** Natural Diversity Data Base **

* *

* CALYSTEGIA PEIRSONII * Peirson's Morning-glory *

* ---------Status---------- NDDB Element Ranks -------Other Lists--------- *

* Federal: Category 2 Global: G3 CDFG: *

* State: None State: S3.2 Audubon: *

* CNPS List: 4 *

* ---Habitat Associations--- CNPS RED Code: 1-2-3 *

* General: CHAPARRAL, COASTAL SCRUB *

* Microhabitat: 2800-4500 FT. *

*** Element ID: PDCON040A0 *

Occurrence Number: 26 --Dates Last Seen--

Quality: Unknown Element: 1982/XX/XX

Type: Natural/Native occurrence Site: 1982/XX/XX

Presence: Presumed Extant

Trend: Unknown

Main Info Source: WILSON, R. ET AL 1982 (LIT)

Quad Summary: Warm Springs Mountain (3411855), Newhall (3411845)

County(ies): Los Angeles

Location: 1.2 MI FROM CHARLIE PEAK ON DIRT RD, BITTER CANYON.

Lat/Long: 34d 30m 07s / 118d 34m 45s Township: 05N

UTM: Zone-11 N3818748 E355020 Range: 16W

Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 20 SE Qtr

Symbol Type: POINT Meridian: S

Group Number: 00965 More Information? N Acres: 0

Map Index Number: 00965 More Map Detail? N Elevation: 1300 ft

Threats:

Comments: General Notes - GOOD CONDITION IN 1982.

Owner/Manager - PVT

** California Department of Fish and Game ***** Natural Diversity Data Base **

* *

* BERBERIS NEVINII *Nevin's Barberry *

* ---------Status---------- NDDB Element Ranks --------Other Lists--------- *

* Federal: Category 1 Global: G2 CDFG: *

* State: Endangered State: S2.2 Audubon: *

* CNPS List: 1B *

* ---Habitat Associations--- CNPS RED Code: 3-3-3 *

* General: CHAPARRAL, COASTAL SCRUB, ALLUVIAL FAN SAGE SCRUB. *

* Microhabitat: ON STEEP, N-FACING SLOPES OR IN LOW GRADE SANDY WASHES; 900-1600 FT.THIS IS THE CA-LISTED TAXON, AKA MAHONIA IN TITLE 14 *

*** Element ID: PDBER060A0 *

Occurrence Number: 12 --Dates Last Seen--

Quality: Unknown Element: 1965/XX/XX

Type: Natural/Native occurrence Site: 1987/07/01

Presence: Possibly Extirpated

Trend: Unknown

Main Info Source: THOMPSON & BACIGALUPI 1968 (LIT)

Quad Summary: Newhall (3411845)

County(ies): Los Angeles

Location: SAN FRANCISQUITO CYN, NEAR CONFLUENCE W/SANTA CLARA RIVER.

Lat/Long: 34d 27m 53s / 118d 33m 07s Township: 04N

UTM: Zone-11 N3814582 E357456 Range: 16W

Mapping Precision: NON-SPECIFIC (1 Mile) Section: UN XX Qtr

Symbol Type: POINT Meridian: S

Group Number: 01058 More Information? N Acres: 0

Map Index Number: 01058 More Map Detail? N Elevation: 1250 ft

Threats: AREA NOW HAS A NURSERY UNDER POWER LINES, CROPS IN FLOODPLAIN AND IS A POPULAR ORV AREA. EROSION ALSO THREATENS.

Comments: General Notes - SP SEEN IN 1965, BUT NOT IN 1987 FIELD VISIT.

Owner/Manager - UNKNOWN

APPENDIX N
Location of Sensitive Species

SOURCES: RECON, 1995
GUTHRIE, 1995
DAMES & MOORE, 1993
BASKIN AND HAGLUND, 1993
HAGLUND, 1992
BASKIN AND HAGLUND, 1992

NEWHALL RANCH™
Newhall Ranch Company

L E G E N D

PLANTS

- (PM) PIERSON'S MORNINGGLORY

ANIMALS

- (C) COOPER'S HAWK
- (CW) COASTAL WHIPTAIL
- (HL) SAN DIEGO HORNED LIZARD
- (HLK) HORNED LARK
- (JR) SAN DIEGO BLACK-TAILED JACKRABBIT
- (NH) NORTHERN HARRIER
- (LBV) LEAST BELL'S VIREO
- (LS) LOGGERHEAD SHRIKE
- (ST) WESTERN SPADEFOOT TOAD
- (WR) SAN DIEGO DESERT WOODRAT
- (RCS) RUFOUS-CROWNED SPARROW
- (BK) BLACK-SHOULDERED KITE
- (TB) TRICOLORED BLACKBIRDS
- (CHL) CALIFORNIA HORNED LIZARD
- (RH) RED-TAILED HAWK NEST
- (GS) TWO-STRIPED GARTER SNAKE
- (M) MOUNTAIN LION TRACKS

BUTTERFLIES

- (BW) BECKER'S WHITE
- (CWB) CALIFORNIA WHITE BUTTERFLY
- (HS) HARFORD'S SULPHUR
- (CF) COMSTOCK'S FRITILLARY
- (GC) GABB'S CHECKERSPOT
- (LA) LORQUIN'S ADMIRAL
- (CC) CLOUDY COPPER
- (GOC) GORGON COPPER

FISH

- (AC) ARROYO CHUB
- (TS) UNARMORED THREESPINE STICKLEBACK
- (SS) SANTA ANA SUCKER
- (PT) SOUTHWESTERN POND TURTLE

SCHEMATIC REPRESENTATION OF LEAST BELL'S VIREO CRITICAL HABITAT AREA WITHIN PROJECT BOUNDARIES

100 ACRES

English 0 1000' 2000'

Metric 0 225m 450m 900m

NORTH

LOCATION OF SENSITIVE SPECIES

APPENDIX O
Meeting Minutes and Response to Comments - Significant Ecological Area Technical Advisory Committee

Los Angeles County
Department of Regional Planning

Director of Planning. James E. Hartl, AICP

MINUTES OF THE SIGNIFICANT ECOLOGICAL AREA TECHNICAL ADVISORY COMMITTEE (SEATAC) MEETING OF DECEMBER 5, 1994

(Approved as amended January 9, 1995)

PERSONS IN ATTENDANCE:

SEATAC MEMBERS	REGIONAL PLANNING STAFF
Janet Fahey, PhD	Kerwin Chih
Richard Friesen, PhD	Frank Meneses
Frank Hovore	Lee Stark
Gary Wallace, PhD	Daryl Koutnik, PhD

Project 94-087 Representatives

Gloria Glenn	(805) 255-4045
Paul Fromer	(619) 542-1611
Tom Worthington	(805) 494-6600

MINUTES

DECEMBER 5, 1994

AGENDA ITEMS

1. Friesen moved and Fahey seconded to approve the July 11, 1994 Minutes as written.

NEW BUSINESS

2. **Project 94-087** - See Attachment Item 2

3. All new applicants were accepted to the Certified List of Biological Consultants and no companies were evaluated as having prepared inadequate reports for SEATAC in 1994. It was suggested that all certified biological consultants be asked to agree to a code of ethics (yet to be formulated).

IMPACT SCIENCES INC.
JAN 23 1995
RECEIVED

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NOTE:

SEATAC MEETINGS ARE INFORMAL WORKING SESSIONS. MEMBERS ARE APPOINTED VOLUNTEERS IN AN ADVISORY CAPACITY. MINUTES ARE PREPARED BY PLANNING STAFF PRIMARILY FROM NOTES. SESSIONS ARE ALSO TAPE RECORDED BUT THE TAPES ARE PRIMARILY FOR BACK-UP USE BY STAFF. VISITORS ARE ADVISED TO TAKE PROPER NOTES AND/OR RECORD THE SESSION. ISSUES NOT DISCUSSED BY SEATAC DO NOT IMPLY TACIT APPROVAL. NEW OR CLARIFIED INFORMATION PRESENTED IN SUBSEQUENT SUBMITTALS MAY RAISE NEW ISSUES AND MAY REQUIRE FURTHER ANALYSIS. MINUTES ARE GENERALLY APPROVED AT THE NEXT SEATAC MEETING. DRAFT MINUTES MAY BE REQUESTED BUT ARE SUBJECT TO REVISION.

SEATAC REPORT AND COMMENTS

PROJECT 94-087 - NEWHALL RANCH SPECIFIC PLAN

SEATAC MEETING DATE DECEMBER 5, 1994 ITEM 2

BIOLOGICAL CONSTRAINTS ANALYSIS Dated October 13, 1994

Initial SEATAC meeting

PROPOSED PROJECT: 94-087. The project proposes to develop 24,700 housing units, 490 acres of mixed use, 65 acres of commercial uses, 200 acres of business park, 35 acres of visitor serving uses on a total of approximately 12,000 acres. 3,530 acres of open space and 670 acres of river corridor open area are also proposed as well as 215 acres of golf course and a waste water treatment facility. The project site is located within SEA No. 20 (Santa Susana Mountains) and SEA No. 23 (Santa Clara River).

SEA DESCRIPTIONS: The Santa Susana Mountains (SEA No. 20) are one of several relatively small ridges that form the Transverse Ranges and blend eastward into the larger San Gabriel and San Bernardino Mountains. The Santa Monica Mountains are also part of this system and form a coastal barrier shielding the interior ridges from the direct influences of moist marine air, making these interior ridges drier than the coastal ones. The vegetation of the Santa Susana Mountains consists of coastal sage scrub on south-facing slopes, dense chaparral on north-facing slopes, and oak, walnut and riparian woodlands in valleys. The oak woodland communities are extremely diverse, supporting six species of oaks. These include coast live oak (*Quercus agrifolia*), valley oak (*Q. lobata*), canyon live oak (*Q. chrysolepis*), scrub oak (*Q. berberidifolia*), interior live oak (*Q. wislizenii*), and a single known location of Palmer's oak (*Q. palmeri*). The latter species is known in Los Angeles County only from this area. The walnut woodlands are frequently found in canyons of intermittent streams and consist primarily of California black walnut (*Juglans californica*), flowering ash (*Fraxinus dipetala*), Mexican elderberry (*Sambucus mexicana*), and coast live oak. Fires appear to promote the expansion of walnut woodlands. Unusual California walnut-flowering ash woodlands occur at mid-elevations within canyons of the north slopes. This community appears to be unique to the Santa Susana Mountains. The bigcone spruce (*Pseudotsuga macrocarpa*)-canyon live oak forest at higher elevations represents one of the northwesternmost examples of this community.

The Santa Susana Mountains are the main representative of these low, dry interior mountain ranges in Los Angeles County. The core of this range is in good condition and has not been heavily disturbed by human use. These mountains are becoming isolated from surrounding natural areas by continued urban expansion in the San Fernando, Simi, and Santa Clarita Valleys. The Santa Susana Mountains have become an important wildlife corridor for gene flow and species movement between the San Gabriel and Santa Monica Mountains via the Simi Hills.

SEA DESCRIPTIONS (continued): Santa Clara River (SEA No. 23) is so designated because it accommodates the habitat of the unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*). The reason the unarmored threespine stickleback has been able to survive in the Santa Clara River is that its habitat has not been disturbed. The vegetation consists of fresh water marsh, coastal sage scrub, oak woodland, and riparian woodland communities. The primary concern for the survival of the unarmored threespine stickleback is the loss of suitable habitat. It requires clean, free-flowing perennial streams and ponds surrounded by native vegetation.

The entire watershed of the Santa Clara River should be considered as a buffer zone. No developments should be allowed that will change natural drainage patterns or increase runoff and water pollution.

SEATAC COMMENTS AND RECOMMENDATIONS:

1. An overlay of sensitive species over the identified sensitive habitats is suggested; sensitive habitats are not completely identified in priorities; need more detailed discussion of sensitive species; explain how the sensitive species information was used to set project priorities/sensitivities; update sensitive species since not all currently listed species are discussed.
2. Plant species should be arranged by plant family; plant names should be updated to reflect current taxonomy found in Jepson Manual (1993).
3. Corridor discussion too general; provide details of reasoning in discussion and be specific concerning currently available information; include in discussion use by endangered species; objectives of corridors should be stated; include discussion of off-site Ventura County corridor connections; include discussion of genetic exchange within species (e.g., *Quercus lobata*); animals do cross over ridge lines.
4. There is evidence for some species misidentifications in the Dames & Moore report (e.g., *Dipodomys heermanni* is not known from south of the San Joaquin Valley); any discrepancies in details (e.g., agricultural and disturbed lands are not dominant habitats, page 9; unclear why coastal sage scrub is not likely habitat for California gnatcatcher, page 13) need to be corrected.
5. The resumes or qualifications of biological field consultants need to be provided.
6. Discussion of potential impacts must also include reference to sensitive species that may occur on the project site.
7. The written constraints analysis is disjointed and the independent studies are not adequately tied together.
8. Habitat value discussion is misleading (e.g., mixed chaparral); provide accurate discussion of wildlife use in each habitat.
9. For the SEATAC Biota Report, identify adjacent landowners and include water quality and hydrology analyses (especially for the proposed waste water treatment plant) with a discussion of any potential impacts to biota.

SEATAC COMMENTS AND RECOMMENDATIONS (continued):

10. For planning purposes, SEATAC considers the entire Santa Clara River watershed to be SEA buffer region.
11. SEATAC recommends that they review each development phase proposed in the finalized Specific Plan; SEATAC recommends that they conduct a field visit to the project site (to be coordinated between Newhall Land & Farming and the L.A. County Planning Department).

ACTION TAKEN: Revise the Biological Constraints Analysis to address above comments and recommendations; County biologist to review final constraints analysis; SEATAC to receive copy of final constraints analysis; SEATAC to review required Biota Report.

DRAFT
Los Angeles County
Department of Regional Planning
Director of Planning. James E. Hartl. AICP

file: N12, SEATAC

3202

MINUTES OF THE SIGNIFICANT ECOLOGICAL AREA TECHNICAL ADVISORY COMMITTEE (SEATAC) MEETING OF OCTOBER 2, 1995

PERSONS IN ATTENDANCE:

SEATAC MEMBERS	REGIONAL PLANNING STAFF
Jonathan Baskin, PhD	Kishore Manandhar
Janet Fahey, PhD	Frank Meneses
Richard Friesen, PhD	Lee Stark
Tim Laughlin	
Carl Wishner	

Project 94-114/PM23793 Representatives

Scott Cameron	(714) 250-5555

Project 94-087 Representatives

Brian Arnold	(805) 494-6600
Dave Crowder	(805) 222-2592
Paul Fromer	(619) 542-1611
Gloria Glenn	(805) 222-2594
Eric Sakowicz	(805) 494-6600
Gerry Scheid	(619) 542-1611
Tom Worthington	(805) 494-6600

MINUTES
OCTOBER 2, 1995

AGENDA ITEMS

1. Friesen moved and Wishner seconded to approve the September 11, 1995 Minutes as amended.

NEW BUSINESS

2. **Project 94-141/PM23793** - See Attachment Item 2

3. **Project 94-087** - See Attachment Item 3

SEATAC REPORT AND COMMENTS

PROJECT 94-114/PM 23793 - LOT SPLIT

SEATAC MEETING DATE OCTOBER 2, 1995 ITEM 2

BIOLOGICAL CONSTRAINTS ANALYSIS Dated July, 1995

Initial SEATAC meeting

PROPOSED PROJECT: 94-114/PM 23793. The project is a proposed two-lot split of 25.38 acres within SEA No. 21 (Santa Susana Pass).

SEA DESCRIPTION: Santa Susana Pass Significant Ecological Area (SEA No. 21) is the original and primary location for *Hemizonia minthornii*, the Santa Susana tarweed. For this reason, the species has been placed on the Federal endangered species list. Six populations have been recorded on these rocky chaparral covered hillsides, four of which are in Los Angeles County.

In addition to supporting this endangered species, the Santa Susana Pass is an important wildlife migration route. As urbanization continues in the San Fernando and Simi Valleys, the Simi Hills and Santa Susana Mountains are becoming isolated from each other. The Pass, however, remains in a relatively natural condition and serves as a corridor for gene flow and species movement.

SEATAC COMMENTS AND RECOMMENDATIONS:

1. Prepare document using both sides of paper; Jepson Manual plant taxonomy (e.g. *Lessingia filaginifolia* instead *Corethrogyne filaginifolia*, page 5) should be followed throughout document; provide photo key map for all photographs; include consulting biologist's resume.
2. The building pads should be clustered and situated to conform with the least sensitive biological constraints; applicant should consult with project biologist on where best to locate building pads relative the biological resources; provide a map depicting the biological constraints of project site; recommend that the western pad be located closer to existing disturbed site.
3. Discuss with Forester & Fire Warden the fire clearance for project area and analyze significance of fuel modification impacts; review previous biota reports for the area.
4. Correct word processing errors (e.g., San Diego horned lizard, page 10); plot the distribution of *Calochortus plummerae*; provide fire history of project site and vicinity, if available; *Hemizonia minthornii* is perennial and abundant at all times of year (not just those months mentioned in report); Los Angeles pocket mouse is at the northern edge of its distribution in project vicinity.

SEATAC COMMENTS AND RECOMMENDATIONS (continued):

5. Focused survey for *Hemizonia minthornii* must be undertaken; survey project site and adjacent property; discussions of sensitive species need specific comments; make statement of relevance (e.g. likely or unlikely to occur) of each species to project site; include estimate of population sizes within project vicinity; note whether or not the San Diego woodrat exists on site.
6. Clearly assess the possibility of animal movement through project site; rate site for overall value to wildlife.
7. Provide clarification of relevance of "Not A Part" property and intervening parcel to the proposed project; discuss ownership of proposed project site and that of "Not A Part" property; discuss surrounding area in cumulative impact analysis and include map of planned, approved, etc. projects.

ACTION TAKEN: Further SEATAC review is required; prepare full biota report including responses to above comments/recommendations.

DRAFT

SEATAC REPORT AND COMMENTS

PROJECT 94-087 - NEWHALL RANCH SPECIFIC PLAN

SEATAC MEETING DATE OCTOBER 2, 1995 ITEM 3

BIOTA REPORT Dated September 7, 1995

Initial SEATAC meeting (biological constraints analysis reviewed December 5, 1994)

PROPOSED PROJECT: 94-087. The project proposes to develop 24,700 housing units, 490 acres of mixed use, 65 acres of commercial uses, 200 acres of business park, 35 acres of visitor serving uses on a total of approximately 12,000 acres. 3,530 acres of open space and 670 acres of river corridor open area are also proposed as well as 215 acres of golf course and a waste water treatment facility. The project site is located within SEA No. 20 (Santa Susana Mountains) and SEA No. 23 (Santa Clara River).

SEA DESCRIPTIONS: The Santa Susana Mountains (SEA No. 20) are one of several relatively small ridges that form the Transverse Ranges and blend eastward into the larger San Gabriel and San Bernardino Mountains. The Santa Monica Mountains are also part of this system and form a coastal barrier shielding the interior ridges from the direct influences of moist marine air, making these interior ridges drier than the coastal ones. The vegetation of the Santa Susana Mountains consists of coastal sage scrub on south-facing slopes, dense chaparral on north-facing slopes, and oak, walnut and riparian woodlands in valleys. The oak woodland communities are extremely diverse, supporting six species of oaks. These include coast live oak (*Quercus agrifolia*), valley oak (*Q. lobata*), canyon live oak (*Q. chrysolepis*), scrub oak (*Q. berberidifolia*), interior live oak (*Q. wislizenii*), and a single known location of Palmer's oak (*Q. palmeri*). The latter species is known in Los Angeles County only from this area. The walnut woodlands are frequently found in canyons of intermittent streams and consist primarily of California black walnut (*Juglans californica*), flowering ash (*Fraxinus dipetala*), Mexican elderberry (*Sambucus mexicana*), and coast live oak. Fires appear to promote the expansion of walnut woodlands. Unusual California walnut-flowering ash woodlands occur at mid-elevations within canyons of the north slopes. This community appears to be unique to the Santa Susana Mountains. The bigcone spruce (*Pseudotsuga macrocarpa*)-canyon live oak forest at higher elevations represents one of the northwesternmost examples of this community.

The Santa Susana Mountains are the main representative of these low, dry interior mountain ranges in Los Angeles County. The core of this range is in good condition and has not been heavily disturbed by human use. These mountains are becoming isolated from surrounding natural areas by continued urban expansion in the San Fernando, Simi, and Santa Clarita Valleys. The Santa Susana Mountains have become an important wildlife corridor for gene flow and species movement between the San Gabriel and Santa Monica Mountains via the Simi Hills.

DRAFT

SEA DESCRIPTIONS (continued): Santa Clara River (SEA No. 23) is so designated because it accommodates the habitat of the unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*). The reason the unarmored threespine stickleback has been able to survive in the Santa Clara River is that its habitat has not been disturbed. The vegetation consists of fresh water marsh, coastal sage scrub, oak woodland, and riparian woodland communities. The primary concern for the survival of the unarmored threespine stickleback is the loss of suitable habitat. It requires clean, free-flowing perennial streams and ponds surrounded by native vegetation.

The entire watershed of the Santa Clara River should be considered as a buffer zone. No developments should be allowed that will change natural drainage patterns or increase runoff and water pollution.

SEATAC COMMENTS AND RECOMMENDATIONS:

1. Need to know overall impacts to habitat by proposed land use designations; habitat in low-lying areas will be fragmented by proposed land uses.
2. Golf course has little biological value and should not be considered part of conservation plan; provide the river wildlife corridor keyed to the corridor map.
3. SEATAC requests that applicant agree to SEATAC review of all future tract maps even if severed from the SEA as a result of other land divisions.
4. Piecemeal and general use of significance conclusions is unacceptable; support with reasons all significance conclusions; separate significance determination before and after mitigations; define significance criteria; significant impact analysis needs to be reevaluated; SEATAC concludes that biological impacts (especially loss of wildlife habitat) of project are significant.
5. SEATAC would like to see property ownership both up and down the Santa Clara River.
6. SEATAC wants applicant to make commitment to Los Angeles County concerning perpetuity of wildlife corridor connection of Salt Creek with Santa Clara River.
7. Provide details of mammal trapping concerning trap sensitivity for *Perognathus longimembris brevinasus* (Los Angeles pocket mouse); southern willow riparian woodland is strange habitat for *Dipodomys agilis*; check proper infraspecific identification of *Calochortus clavatus*.
8. SEATAC to review Draft EIR during County circulation, including alternatives analysis and conservation plan; document whether conservation plan will change if alternative project selected.
9. Elimination of grassland habitat (which does function as wildlife habitat) will diminish value of other adjacent habitats; preservation of riparian corridor should be given highest conservation priority; width of riparian corridor is crucially important; disturbed habitats may still have conservation value; terraces above riparian corridor may also have habitat value with appropriate vegetation.

SEATAC COMMENTS AND RECOMMENDATIONS (continued):

10. Proposed Specific Plan must include SEA design compatibility criteria.
11. Applicant should be willing to allow SEATAC more than the maximum of three reviews of biota report.

ACTION TAKEN: Further SEATAC review required; continue discussion of biota report at next SEATAC meeting. Applicant may submit additional items prior to the meeting.

DRAFT

DRAFT

Los Ang
Department of
Director of Planning

Post-it™ brand fax transmittal memo 7671	# of pages ▸ 5
To PAUL CALDERWOOD	From DARYL KOUTNIK
Co. IMPACT SCIENCES	Co. REGIONAL PLANNING
Dept.	Phone # 213 974-6461
Fax # 805 494-0651	Fax # 213 626-0434

MINUTES OF THE SIGNIFICANT ECOLOGICAL AREA TECHNICAL ADVISORY COMMITTEE (SEATAC) MEETING OF NOVEMBER 6, 1995

PERSONS IN ATTENDANCE:

SEATAC MEMBERS

Jonathan Baskin, PhD
Richard Friesen, PhD
Frank Hovore
Gary Wallace, PhD
Carl Wishner

REGIONAL PLANNING STAFF

Kishore Manandhar
Frank Meneses
Daryl Koutnik, PhD

Project 94-087 Representatives

Brian Arnold	(805) 494-6600
Paul Fromer	(619) 542-1611
Gloria Glenn	(805) 222-2594
Chris Lee	(714) 540-4700
Eric Sakowicz	(805) 494-6600
Gerry Scheid	(619) 542-1611
Tom Worthington	(805) 494-6600

Project 95-124/TR46029 Representatives

Brian Arnold	(805) 494-6600
Paul Calderwood	(805) 494-6600
Greg Medeiros	(805) 255-4003
Eric Sakowicz	(805) 494-6600

MINUTES
NOVEMBER 6, 1995

AGENDA ITEMS

1. Wishner moved and Wallace seconded to approve the October 2, 1995 Minutes as amended.

DRAFT

SEATAC REPORT AND COMMENTS

PROJECT 94-087 - NEWHALL RANCH SPECIFIC PLAN

SEATAC MEETING DATE NOVEMBER 6, 1995 ITEM 2

BIOTA REPORT Dated September 7, 1995

Previous SEATAC meeting: October 2, 1995 (biological constraints analysis reviewed December 5, 1994)

PROPOSED PROJECT: 94-087. The project proposes to develop 24,700 housing units, 490 acres of mixed use, 65 acres of commercial uses, 200 acres of business park, 35 acres of visitor serving uses on a total of approximately 12,000 acres. 3,530 acres of open space and 670 acres of river corridor open area are also proposed as well as 215 acres of golf course and a waste water treatment facility. The project site is located within SEA No. 20 (Santa Susana Mountains) and SEA No. 23 (Santa Clara River).

SEA DESCRIPTIONS: The Santa Susana Mountains (SEA No. 20) are one of several relatively small ridges that form the Transverse Ranges and blend eastward into the larger San Gabriel and San Bernardino Mountains. The Santa Monica Mountains are also part of this system and form a coastal barrier shielding the interior ridges from the direct influences of moist marine air, making these interior ridges drier than the coastal ones. The vegetation of the Santa Susana Mountains consists of coastal sage scrub on south-facing slopes, dense chaparral on north-facing slopes, and oak, walnut and riparian woodlands in valleys. The oak woodland communities are extremely diverse, supporting six species of oaks. These include coast live oak (*Quercus agrifolia*), valley oak (*Q. lobata*), canyon live oak (*Q. chrysolepis*), scrub oak (*Q. berberidifolia*), interior live oak (*Q. wislizenii*), and a single known location of Palmer's oak (*Q. palmeri*). The latter species is known in Los Angeles County only from this area. The walnut woodlands are frequently found in canyons of intermittent streams and consist primarily of California black walnut (*Juglans californica*), flowering ash (*Fraxinus dipetala*), Mexican elderberry (*Sambucus mexicana*), and coast live oak. Fires appear to promote the expansion of walnut woodlands. Unusual California walnut-flowering ash woodlands occur at mid-elevations within canyons of the north slopes. This community appears to be unique to the Santa Susana Mountains. The bigcone spruce (*Pseudotsuga macrocarpa*)-canyon live oak forest at higher elevations represents one of the northwesternmost examples of this community.

The Santa Susana Mountains are the main representative of these low, dry interior mountain ranges in Los Angeles County. The core of this range is in good condition and has not been heavily disturbed by human use. These mountains are becoming isolated from surrounding natural areas by continued urban expansion in the San Fernando, Simi, and Santa Clarita Valleys. The Santa Susana Mountains have become an important wildlife corridor for gene flow and species movement between the San Gabriel and Santa Monica Mountains via the Simi Hills.

SEA DESCRIPTIONS (continued): Santa Clara River (SEA No. 23) is so designated because it accommodates the habitat of the unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*). The reason the unarmored threespine stickleback has been able to survive in the Santa Clara River is that its habitat has not been disturbed. The vegetation consists of fresh water marsh, coastal sage scrub, oak woodland, and riparian woodland communities. The primary concern for the survival of the unarmored threespine stickleback is the loss of suitable habitat. It requires clean, free-flowing perennial streams and ponds surrounded by native vegetation.

The entire watershed of the Santa Clara River should be considered as a buffer zone. No developments should be allowed that will change natural drainage patterns or increase runoff and water pollution.

SEATAC COMMENTS AND RECOMMENDATIONS:

1. All grading impacts should be removed along wildlife corridors.
2. Provide comparison between General Plan zoning density and density of proposed plan.
3. *Arundo* control must be included in the Resource Management Plan.
4. Provide details of bank stabilization, include evaluation of impacts from construction and straightening of channels.
5. Summarize changes in significant impacts.
6. Implementation of proposed plan should make no changes to water quality or water quantity.
7. Provide responses to December 5, 1994 SEATAC Comments and Recommendations.

ACTION TAKEN: Further SEATAC review required; discuss existing biota report and provide recommendations to proposed Resource Management Plan.

DRAFT

SEATAC REPORT AND COMMENTS

PROJECT 95-124/TR 46029 - Zone Change, Conditional Use Permit

SEATAC MEETING DATE NOVEMBER 6, 1995 ITEM 3

BIOTA REPORT Dated October 12, 1995

Initial SEATAC meeting (biological constraints analysis for 87-437/PM19091 reviewed 1995)

PROPOSED PROJECT: 95-124/TR 46029. The proposed project is to develop about 1400 dwelling units, a 9-hole golf course, a 23-acre commercial site, bank stabilization and 4 open space lots (66.3 acres) on 247 acres. The project site is located within and adjacent to SEA No. 19 (San Francisquito Canyon). An EIR is required.

SEA DESCRIPTION: San Francisquito Canyon (SEA No. 19) possesses two populations of the unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*), a species formerly present in Los Angeles, San Gabriel, and Santa Ana Rivers, and listed as endangered at both the state and federal levels. In San Francisquito Canyon, the fish is confined to permanent streams and pools below Drinkwater Reservoir and above Baird Canyon. Legally mandated water releases from Drinkwater Reservoir maintain the populations below the dam. Survival of the unarmored threespine stickleback is dependent upon preserving its habitat.

The watershed supplying San Francisquito Canyon was until recently relatively undisturbed. The hillsides support a dense cover of coastal sage scrub and chaparral. The San Francisquito stream course is mostly natural and maintains riparian woodland. Intermittent areas with surface water connect perennial streams during the rainy season. The natural vegetation along the intermittent portion of the stream slows heavy runoff during the rainy season, decreases destruction and siltation of habitat in downstream areas, and provides habitat for migration between populations.

The unarmored threespine stickleback populations in San Francisquito Canyon are the only ones for which the possibility exists to plan and control development in the majority of the watershed. This is certainly not true for populations in the Santa Clara River valley.

SEATAC COMMENTS AND RECOMMENDATIONS:

1. SEATAC recommends that all development be outside the 100-year floodplain.
2. Bullfrogs, *Gambusia*, and *Telopia* should be included in invasive control program within artificial water features; management program is needed to control *Xenopus*; (page 4.0-1) exotic species control should include *Tamarix*; Shawna Bautitsa (National Forest Service, Saugus District) is a good contact person for *Arundo* control.
3. Trails do not act as appropriate buffers for riparian habitats.

DRAFT

SEATAC COMMENTS AND RECOMMENDATIONS (continued):

4. Provide details for proposed riparian vegetation replacement; (page 4.0-1) the revegetation plan must be based on natural models.
5. (Page 3.0-2) SEATAC disagrees that a golf course has the same impacts to resources that ruderal areas possess; sensitive species can survive in a ruderal, grassland community but not within a golf course setting (since the habitat values are different).
6. (Page 3.0-3) Alluvial sage scrub is a natural disturbance community and is considered rare and sensitive (category S1.1, the highest sensitivity level by State Fish & Game); the 24 acres of impact to alluvial scrub community must be considered to be significant.
7. (Page 3.0-8) Human impacts discussion is not well thought out (discussion includes birds but not insects); (section 3.3.2) domestic animal impacts are potentially significant since cats will prey on sensitive species (discussion not worded accurately).
8. (Page 3.0-11) Native species only, using local genetic material as much as possible, should be part of the revegetation plan including complementary vegetation associations.
9. Integrated Pest Management plan for golf course is needed (contact New York Audubon Society for details).
10. SEA boundary is inaccurate; include map indicating where bank stabilization is proposed; mitigation measures lack sufficient details for appropriate evaluation; discuss impacts from proposed river crossings (Decoro and Copperhill); trapping techniques are needed to make definitive statement concerning the two-striped garter snake (*Thamnophis hammondii*).

ACTION TAKEN: Further SEATAC review is required.

Los Angeles County
Department of Regional Planning

Director of Planning. James E. Hartl, AICP

MINUTES OF THE SIGNIFICANT ECOLOGICAL AREA TECHNICAL ADVISORY COMMITTEE (SEATAC) MEETING OF DECEMBER 4, 1995

(Approved January 8, 1996)

PERSONS IN ATTENDANCE:

SEATAC MEMBERS	REGIONAL PLANNING STAFF
Jonathan Baskin, PhD	Lee Stark
Gary Wallace, PhD	Daryl Koutnik, PhD
Carl Wishner	

Project 94-087 Representatives

Brian Arnold	(805) 494-6600
Paul Fromer	(619) 542-1611
Gloria Glenn	(805) 222-2594
Eric Sakowicz	(805) 494-6600
Gerry Scheid	(619) 542-1611
Tom Worthington	(805) 494-6600

MINUTES

DECEMBER 4, 1995

AGENDA ITEMS

1. Wishner moved and Baskin seconded to approve the November 6, 1995 Minutes as written.

OLD BUSINESS

2. **Project 94-087** - See Attachment Item 2

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NOTE:
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SEATAC REPORT AND COMMENTS

PROJECT 94-087 - NEWHALL RANCH SPECIFIC PLAN

SEATAC MEETING DATE DECEMBER 4, 1995 ITEM 2

BIOTA REPORT Dated September 7, 1995

Previous SEATAC meetings: October 2, and November 6, 1995

PROPOSED PROJECT: 94-087. The project proposes to develop 24,700 housing units, 490 acres of mixed use, 65 acres of commercial uses, 200 acres of business park, 35 acres of visitor serving uses on a total of approximately 12,000 acres. 3,530 acres of open space and 670 acres of river corridor open area are also proposed as well as 215 acres of golf course and a waste water treatment facility. The project site is located within SEA No. 20 (Santa Susana Mountains) and SEA No. 23 (Santa Clara River).

SEA DESCRIPTIONS: The Santa Susana Mountains (SEA No. 20) are one of several relatively small ridges that form the Transverse Ranges and blend eastward into the larger San Gabriel and San Bernardino Mountains. The Santa Monica Mountains are also part of this system and form a coastal barrier shielding the interior ridges from the direct influences of moist marine air, making these interior ridges drier than the coastal ones. The vegetation of the Santa Susana Mountains consists of coastal sage scrub on south-facing slopes, dense chaparral on north-facing slopes, and oak, walnut and riparian woodlands in valleys. The oak woodland communities are extremely diverse, supporting six species of oaks. These include coast live oak (*Quercus agrifolia*), valley oak (*Q. lobata*), canyon live oak (*Q. chrysolepis*), scrub oak (*Q. berberidifolia*), interior live oak (*Q. wislizenii*), and a single known location of Palmer's oak (*Q. palmeri*). The latter species is known in Los Angeles County only from this area. The walnut woodlands are frequently found in canyons of intermittent streams and consist primarily of California black walnut (*Juglans californica*), flowering ash (*Fraxinus dipetala*), Mexican elderberry (*Sambucus mexicana*), and coast live oak. Fires appear to promote the expansion of walnut woodlands. Unusual California walnut-flowering ash woodlands occur at mid-elevations within canyons of the north slopes. This community appears to be unique to the Santa Susana Mountains. The bigcone spruce (*Pseudotsuga macrocarpa*)-canyon live oak forest at higher elevations represents one of the northwesternmost examples of this community.

The Santa Susana Mountains are the main representative of these low, dry interior mountain ranges in Los Angeles County. The core of this range is in good condition and has not been heavily disturbed by human use. These mountains are becoming isolated from surrounding natural areas by continued urban expansion in the San Fernando, Simi, and Santa Clarita Valleys. The Santa Susana Mountains have become an important wildlife corridor for gene flow and species movement between the San Gabriel and Santa Monica Mountains via the Simi Hills.

SEA DESCRIPTIONS (continued): Santa Clara River (SEA No. 23) is so designated because it accommodates the habitat of the unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*). The reason the unarmored threespine stickleback has been able to survive in the Santa Clara River is that its habitat has not been disturbed. The vegetation consists of fresh water marsh, coastal sage scrub, oak woodland, and riparian woodland communities. The primary concern for the survival of the unarmored threespine stickleback is the loss of suitable habitat. It requires clean, free-flowing perennial streams and ponds surrounded by native vegetation.

The entire watershed of the Santa Clara River should be considered as a buffer zone. No developments should be allowed that will change natural drainage patterns or increase runoff and water pollution.

SEATAC COMMENTS AND RECOMMENDATIONS:

1. Provide summary of biological constraints (map and brief discussion).
2. Provide response to comments/recommendations from all previous SEATAC meetings of project, reference existing Biota Report pages where appropriate.
3. Loss of habitat is considered significant; impacts to rare or sensitive species should be considered significant (page 134).
4. Grasslands are valuable habitat; mesic meadow habitat (nearest to cismontane alkali marsh of Holland) should be high sensitivity; Salt Creek may be habitat for stickleback (since fish habitat is where water occurs).
5. Any proposed bank stabilization must allow the river to meander between its present natural banks; all existing waterbodies should remain in natural condition.
6. Planting of oak trees (in compliance with oak ordinance) does not mitigate loss of habitat; reproductive viability of oak trees need to be discussed.
7. Wildlife corridor must be open to Ventura County portion of Santa Clara River; provide discussion of wildlife corridor alternatives (since Los Angeles County has no control of Ventura County development); discuss cumulative impacts to Santa Clara River of adjacent projects on property owned by Newhall Land & Farming; discuss all bridge crossings of river, including expected lighting (which should be low and directed); bridge span design should place footings at widest part of floodplain to allow river meandering.
8. Reduction in project footprint (i.e., fewer residential units) will reduce impacts to habitat loss.
9. Make statement concerning which SEA No. 20 resources (e.g., *Pseudotsuga macrocarpa*) are not relevant to the project site.
10. Water quality impacts need to be detailed; provide specific details as to how water quality will remain the same after urbanization of site; discuss how much change in river water flow is likely after project construction.
11. Resource Management Plan: provide definition of "enhancement"; *Arundo* removal should include upstream areas (within context of riverwide framework); river recreation should include river trail only; southwestern pond turtle does not tolerate human interference so habitat areas need controls; include triggers for remedial response and establish action thresholds; oak habitat in High Country should be restored (to pre-grazing conditions).

ACTION TAKEN: Further SEATAC review required; address above comments and resubmit.

Los Angeles County
Department of Regional Planning

Director of Planning James E. Hartl, AICP

MINUTES OF THE SIGNIFICANT ECOLOGICAL AREA TECHNICAL ADVISORY COMMITTEE (SEATAC) MEETING OF JANUARY 8, 1996

(Approved as amended March 4, 1996)

PERSONS IN ATTENDANCE:

SEATAC MEMBERS	REGIONAL PLANNING STAFF
Jonathan Baskin, PhD	Kishore Manandhar
Janet Fahey, PhD	Frank Meneses
Richard Friesen, PhD	Lee Stark
Frank Hovore	Daryl Koutnik, PhD
Tim Laughlin	
Gary Wallace, PhD	
Carl Wishner	

Project 95-124/TR46029 Representatives

Brian Arnold	(805) 494-6600
Paul Calderwood	(805) 494-6600
Greg Medeiros	(805) 255-4003
Eric Sakowicz	(805) 494-6600

Project 94-087 Representatives

Brian Arnold	(805) 494-6600
Gloria Glenn	(805) 222-2594
Eric Sakowicz	(805) 494-6600
Tom Worthington	(805) 494-6600

Project 94-129 Representatives

Paul Taylor	(310) 575-4850
Russ Watson	(805) 527-9330

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MINUTES
JANUARY 8, 1996

AGENDA ITEMS

1. Wishner moved and Fahey seconded to approve the December 4, 1995 Minutes as written.

OLD BUSINESS

2. **Project 95-124/TR46029** - See Attachment Item 2

3. **Project 94-087** - See Attachment Item 3

NEW BUSINESS

4. **Project 94-129** - See Attachment Item 4

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SEATAC REPORT AND COMMENTS

PROJECT 95-124/TR 46029 - Zone Change, Conditional Use Permit

SEATAC MEETING DATE JANUARY 8, 1996 ITEM 2

SUPPLEMENTAL BIOTA REPORT Dated December 16, 1995

Previous SEATAC meeting: November 6, 1995

PROPOSED PROJECT: 95-124/TR 46029. The proposed project is to develop about 1400 dwelling units, a 9-hole golf course, a 23-acre commercial site, bank stabilization and 4 open space lots (66.3 acres) on 247 acres. The project site is located within and adjacent to SEA No. 19 (San Francisquito Canyon). An EIR is required.

SEA DESCRIPTION: San Francisquito Canyon (SEA No. 19) possesses two populations of the unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*), a species formerly present in Los Angeles, San Gabriel, and Santa Ana Rivers, and listed as endangered at both the state and federal levels. In San Francisquito Canyon, the fish is confined to permanent streams and pools below Drinkwater Reservoir and above Baird Canyon. Legally mandated water releases from Drinkwater Reservoir maintain the populations below the dam. Survival of the unarmored threespine stickleback is dependent upon preserving its habitat.

The watershed supplying San Francisquito Canyon was until recently relatively undisturbed. The hillsides support a dense cover of coastal sage scrub and chaparral. The San Francisquito stream course is mostly natural and maintains riparian woodland. Intermittent areas with surface water connect perennial streams during the rainy season. The natural vegetation along the intermittent portion of the stream slows heavy runoff during the rainy season, decreases destruction and siltation of habitat in downstream areas, and provides habitat for migration between populations.

The unarmored threespine stickleback populations in San Francisquito Canyon are the only ones for which the possibility exists to plan and control development in the majority of the watershed. This is certainly not true for populations in the Santa Clara River valley.

SEATAC COMMENTS AND RECOMMENDATIONS:

1. The supplemental information makes no response to comment No. 10 (concerning unarmored threespine stickleback issues) of the November 5, 1995 SEATAC review; SEATAC needs to review the results of future arroyo and western spadefoot toad surveys.
2. Identify specific cumulative impacts to biological resources.
3. Everywhere in the document that proposes the development of a resource management plan, include the words "and implement" after "develop".
4. (1.0-3) Direct loss of sensitive riparian habitat must include alluvial scrub; wildlife corridor must be considered to have direct impacts.

SEATAC COMMENTS AND RECOMMENDATIONS (continued):

5. (Page 1) The goal should be to avoid all impacts, not just "direct" impacts to the riparian habitat; (page 2) design criteria for free movement of animals must provide for a wider than 50 feet migration (access) corridor; (page 2) design criteria for revegetation program (1st paragraph) will be designed and reviewed by SEATAC, and (2nd paragraph) should develop and implement the removal of *Arundo*; (last blue page after 4.0-2, response 2) provide performance standards by which *Arundo* control will be documented; (blue page after 3.0-12) 150 feet is not an adequate buffer for protection of native resources against African clawed frog.
6. (First blue page, response 2) Discuss how and when the invasive animal management program will be developed; SEATAC will review this program.
7. Provide diagram and logic for both existing and proposed wildlife movement corridors; discuss to and from where these corridors lead; (3.0-6) be specific in discussion of wildlife corridors; discuss what exists and does not exist within San Francisquito Creek and what is this project's share of the impacts; impacts to wildlife corridor are listed as direct here and indirect in summary (1.0-3); this project will have significant impacts on wildlife corridor.
8. (2.0-6) Alluvial scrub is variable in composition and the on-site alluvial scrub may not be identical with "Riversidean" scrub; the on-site alluvial scrub meets criteria for sensitivity and must be considered a sensitive vegetative habitat; (blue page opposite 3.0-4, response 6) discuss if the alluvial scrub habitat is within the 100-year floodplain; this habitat is sensitive because it is rare (not because sensitive species are present) and the impacts to this habitat are to be considered significant; use of alluvial scrub by 'generalist' species is inaccurate (e.g., northern harrier or white-tailed kite) since the species is specific to this habitat utilization; (2.0-22) silvery legless lizard is difficult to locate and no definitive statement can be made concerning presence on-site; San Bernardino ringneck snake is not found only in leaf litter since they move above ground; include discussion of all candidate bat species within sensitive species section.
9. (blue page after 3.0-2, response 5) ruderal habitat has conservation value which is lost once developed and which a golf course does not possess; (blue page after 3.0-8, 3.3.1) statement should be that human presence will degrade (all) biological resources present (there is no need to qualify the kind of resources); (3.3.2) there are no data to support statement concerning cats; (second blue page after 3.0-12) pesticide use should be a last resort within the integrated pest management (IPM) and used only when other parts of plan do not work; provide criteria for when pesticides might be needed; SEATAC wants to review the IPM plan (to include rodent control plans since rodents provide food for raptors); the New York Audubon Society must be contacted for development of IPM plan.
10. (page 3.0-12&13, a-d) Remove the word "requested" before development and replace with "proposed".

ACTION TAKEN: Further SEATAC review is required; SEATAC to review response to Comments and Recommendations.

SEATAC REPORT AND COMMENTS

PROJECT 94-087 - NEWHALL RANCH SPECIFIC PLAN

SEATAC MEETING DATE JANUARY 8 1996 ITEM 3

BIOTA REPORT Dated September 7, 1995

Previous SEATAC meetings: October 2, November 6, and December 4, 1995

PROPOSED PROJECT: 94-087. The project proposes to develop 24,700 housing units, 490 acres of mixed use, 65 acres of commercial uses, 200 acres of business park, 35 acres of visitor serving uses on a total of approximately 12,000 acres. 3,530 acres of open space and 670 acres of river corridor open area are also proposed as well as 215 acres of golf course and a waste water treatment facility. The project site is located within SEA No. 20 (Santa Susana Mountains) and SEA No. 23 (Santa Clara River).

SEA DESCRIPTIONS: The Santa Susana Mountains (SEA No. 20) are one of several relatively small ridges that form the Transverse Ranges and blend eastward into the larger San Gabriel and San Bernardino Mountains. The Santa Monica Mountains are also part of this system and form a coastal barrier shielding the interior ridges from the direct influences of moist marine air, making these interior ridges drier than the coastal ones. The vegetation of the Santa Susana Mountains consists of coastal sage scrub on south-facing slopes, dense chaparral on north-facing slopes, and oak, walnut and riparian woodlands in valleys. The oak woodland communities are extremely diverse, supporting six species of oaks. These include coast live oak (*Quercus agrifolia*), valley oak (*Q. lobata*), canyon live oak (*Q. chrysolepis*), scrub oak (*Q. berberidifolia*), interior live oak (*Q. wislizenii*), and a single known location of Palmer's oak (*Q. palmeri*). The latter species is known in Los Angeles County only from this area. The walnut woodlands are frequently found in canyons of intermittent streams and consist primarily of California black walnut (*Juglans californica*), flowering ash (*Fraxinus dipetala*), Mexican elderberry (*Sambucus mexicana*), and coast live oak. Fires appear to promote the expansion of walnut woodlands. Unusual California walnut-flowering ash woodlands occur at mid-elevations within canyons of the north slopes. This community appears to be unique to the Santa Susana Mountains. The bigcone spruce (*Pseudotsuga macrocarpa*)-canyon live oak forest at higher elevations represents one of the northwesternmost examples of this community.

The Santa Susana Mountains are the main representative of these low, dry interior mountain ranges in Los Angeles County. The core of this range is in good condition and has not been heavily disturbed by human use. These mountains are becoming isolated from surrounding natural areas by continued urban expansion in the San Fernando, Simi, and Santa Clarita Valleys. The Santa Susana Mountains have become an important wildlife corridor for gene flow and species movement between the San Gabriel and Santa Monica Mountains via the Simi Hills.

SEA DESCRIPTIONS (continued): Santa Clara River (SEA No. 23) is so designated because it accommodates the habitat of the unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*). The reason the unarmored threespine stickleback has been able to survive in the Santa Clara River is that its habitat has not been disturbed. The vegetation consists of fresh water marsh, coastal sage scrub, oak woodland, and riparian woodland communities. The primary concern for the survival of the unarmored threespine stickleback is the loss of suitable habitat. It requires clean, free-flowing perennial streams and ponds surrounded by native vegetation.

The entire watershed of the Santa Clara River should be considered as a buffer zone. No developments should be allowed that will change natural drainage patterns or increase runoff and water pollution.

SEATAC COMMENTS AND RECOMMENDATIONS:

1. SEATAC advises the Planning Department on General Plan provisions and assists in the implementation of General Plan.
2. It is SEATAC's conclusion that the implementation of the proposed project will have significant impacts on biological resources.
3. A new biota report reflecting current project design must be prepared with a separate response to comments section from all previous meetings at the beginning of report.

ACTION TAKEN: Further SEATAC review is required.

SEATAC REPORT AND COMMENTS

PROJECT 94-129 - SURFACE MINING OPERATION

SEATAC MEETING DATE JANUARY 8, 1996 ITEM 4

BIOTA REPORT Dated December 1995

Initial SEATAC meeting

PROPOSED PROJECT: 94-129. The proposed project is a surfacing mining operation of 43 acres on a 247 acres site. The project site is located within and adjacent to SEA No. 23 (Santa Clara River). An EIR is required.

SEA DESCRIPTION: Santa Clara River (SEA No. 23) is so designated because it accommodates the habitat of the unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*). The reason the unarmored threespine stickleback has been able to survive in the Santa Clara River is that its habitat has not been disturbed. The vegetation consists of fresh water marsh, coastal sage scrub, oak woodland, and riparian woodland communities. The primary concern for the survival of the unarmored threespine stickleback is the loss of suitable habitat. It requires clean, free-flowing perennial streams and ponds surrounded by native vegetation.

The entire watershed of the Santa Clara River should be considered as a buffer zone. No developments should be allowed that will change natural drainage patterns or increase runoff and water pollution.

SEATAC COMMENTS AND RECOMMENDATIONS:

1. SEATAC Biota Report guidelines were not fully followed; submitted report was based on 1991 inventory and the information is out-of-date.
2. Sensitive species list is not current.
3. Figure 6 is incorrect and the project site is within essential habitat for the unarmored threespine stickleback.
4. This meeting does not count as one of the three SEATAC review meetings as a result of the inadequacy of the submitted report.

ACTION TAKEN: Further SEATAC review is required; new biota report (with current and up-to-date information) to be submitted.

Los Angeles County
Department of Regional Planning

Director of Planning. James E. Hartl, AICP

MINUTES OF THE SIGNIFICANT ECOLOGICAL AREA TECHNICAL ADVISORY COMMITTEE (SEATAC) MEETING OF MAY 6, 1996

(Approved June 3, 1996)

PERSONS IN ATTENDANCE:

SEATAC MEMBERS	REGIONAL PLANNING STAFF
Richard Friesen, PhD	Lee Stark
Tim Laughlin	Daryl Koutnik, PhD
Gary Wallace, PhD	
Carl Wishner	

Project 94-087 Representatives

Brian Arnold	(805) 494-6600
Paul Fromer	(619) 542-1611
Gloria Glenn	(805) 222-2594
Eric Sakowicz	(805) 494-6600
Tom Worthington	(805) 494-6600

MINUTES

MAY 6, 1996

AGENDA ITEMS

1. Friesen moved and Wishner seconded to approve the March 4, 1996 Minutes as written.

OLD BUSINESS

2. **Project 94-087** - See Attachment Item 2

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SEATAC REPORT AND COMMENTS

PROJECT 94-087 - NEWHALL RANCH SPECIFIC PLAN

SEATAC MEETING DATE MAY 6, 1996 ITEM 2

DRAFT SCREENCHECK EIR Dated March 25, 1996 and RESPONSES TO SEATAC COMMENTS, Not Dated

Previous SEATAC meetings: October 2, November 6, and December 4, 1995 and January 8, 1996

PROPOSED PROJECT: 94-087. The project proposes to develop 24,700 housing units, 490 acres of mixed use, 65 acres of commercial uses, 200 acres of business park, 35 acres of visitor serving uses on a total of approximately 12,000 acres. 3,530 acres of open space and 670 acres of river corridor open area are also proposed as well as 215 acres of golf course and a waste water treatment facility. The project site is located within SEA No. 20 (Santa Susana Mountains) and SEA No. 23 (Santa Clara River).

SEA DESCRIPTIONS: The Santa Susana Mountains (SEA No. 20) are one of several relatively small ridges that form the Transverse Ranges and blend eastward into the larger San Gabriel and San Bernardino Mountains. The Santa Monica Mountains are also part of this system and form a coastal barrier shielding the interior ridges from the direct influences of moist marine air, making these interior ridges drier than the coastal ones. The vegetation of the Santa Susana Mountains consists of coastal sage scrub on south-facing slopes, dense chaparral on north-facing slopes, and oak, walnut and riparian woodlands in valleys. The oak woodland communities are extremely diverse, supporting six species of oaks. These include coast live oak (*Quercus agrifolia*), valley oak (*Q. lobata*), canyon live oak (*Q. chrysolepis*), scrub oak (*Q. berberidifolia*), interior live oak (*Q. wislizenii*), and a single known location of Palmer's oak (*Q. palmeri*). The latter species is known in Los Angeles County only from this area. The walnut woodlands are frequently found in canyons of intermittent streams and consist primarily of California black walnut (*Juglans californica*), flowering ash (*Fraxinus dipetala*), Mexican elderberry (*Sambucus mexicana*), and coast live oak. Fires appear to promote the expansion of walnut woodlands. Unusual California walnut-flowering ash woodlands occur at mid-elevations within canyons of the north slopes. This community appears to be unique to the Santa Susana Mountains. The bigcone spruce (*Pseudotsuga macrocarpa*)-canyon live oak forest at higher elevations represents one of the most northwestern examples of this community.

The Santa Susana Mountains are the main representative of these low, dry interior mountain ranges in Los Angeles County. The core of this range is in good condition and has not been heavily disturbed by human use. These mountains are becoming isolated from surrounding natural areas by continued urban expansion in the San Fernando, Simi, and Santa Clarita Valleys. The Santa Susana Mountains have become an important wildlife corridor for gene flow and species movement between the San Gabriel and Santa Monica Mountains via the Simi Hills.

SEA DESCRIPTIONS (continued): Santa Clara River (SEA No. 23) is so designated because it accommodates the habitat of the unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*). The reason the unarmored threespine stickleback has been able to survive in the Santa Clara River is that its habitat has not been disturbed. The vegetation consists of fresh water marsh, coastal sage scrub, oak woodland, and riparian woodland communities. The primary concern for the survival of the unarmored threespine stickleback is the loss of suitable habitat. It requires clean, free-flowing perennial streams and ponds surrounded by native vegetation.

The entire watershed of the Santa Clara River should be considered as a buffer zone. No developments should be allowed that will change natural drainage patterns or increase runoff and water pollution.

SEATAC COMMENTS AND RECOMMENDATIONS:

1. Maps and Tables need better identification; update the Table of Contents; SEATAC has previously made a number of comments which have not been addressed.
2. Without applicant assurance that Salt Creek will remain undisturbed in perpetuity in Ventura County, SEATAC considers wildlife movement to be significantly impacted by the proposed project design and requests that an alternative wildlife movement corridor be located within the Los Angeles County boundary of project.
3. Identify an alternative in the DEIR that will meet the SEA design compatibility criteria.
4. The mesic meadow habitat is significantly impacted by the proposed project; appropriate mitigation (avoidance being the first priority) must be included.
5. The proposed estate lots will significantly impact the Santa Susana Mountains SEA (No. 20); SEATAC recommends that these lots be removed from the project design.
6. A biological resources alternative project should be included in the DEIR (see 3 above).
7. Significance discussion should be on a regional basis and SEATAC significance thresholds (including for biological resources outside of the designated SEAs) should be reflected in the DEIR.
8. Analysis discussion is inconsistent; provide reasons why details in some discussions are not presented; some details of water reclamation plant are missing.
9. Biota report summary (page 12) should remove the word "cumulative" and replace with "project specific" (or include both) in regard to impacts
10. Response to SEATAC Comments did not fully address all of SEATAC's concerns; page 3 (comment 10) - the entire Santa Clara River watershed buffers the unarmored threespine stickleback habitat.
11. Provide complete discussion of bank stabilization (including map) in comparison with the 100-year flood boundary.
12. Oaks are treated as trees in discussion instead of a more appropriate habitat discussion; SEATAC needs to know the oak resource habitat evaluation (e.g., reproductive success).
13. Clearly identify in DEIR which biological impacts are considered to be significant; discuss phasing strategy as possible protection for biological resources.

ACTION TAKEN: No further SEATAC review is required; SEATAC wants to see complete Draft EIR; additional SEATAC comments may be submitted in writing during remainder of County EIR circulation period.

Los Angeles County
Department of Regional Planning
Director of Planning. James E. Hartl, AICP

MINUTES OF THE SIGNIFICANT ECOLOGICAL AREA TECHNICAL ADVISORY COMMITTEE (SEATAC) MEETING OF JUNE 3, 1996

(Approved July 1, 1996)

PERSONS IN ATTENDANCE:

SEATAC MEMBERS

Jonanthan Baskin, PhD
Richard Friesen, PhD
Frank Hovore
Gary Wallace, PhD

REGIONAL PLANNING STAFF

Pamela Holt
Lee Stark
Daryl Koutnik, PhD

Project 89-251/TR47927 Representatives

Christine Burton (818) 578-7000
Bob Sims (818) 578-7000

No representatives for Project 94-087 were present

MINUTES

JUNE 3, 1996

AGENDA ITEMS

1. Friesen moved and Hovore seconded to approve the May 6, 1996 Minutes as written.

OLD BUSINESS

2. **Project 89-251/TR47927** - See Attachment Item 2

3. **Project 94-087** - See Attachment Item 3

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07/25/96 12:53 FAX 805 288 1052 NEWHALL RANCH CO →→→ IMPACT SCIENCES 002

SEATAC REPORT AND COMMENTS

PROJECT 89-251/TR 47927 - SUBDIVISION

SEATAC MEETING DATE JUNE 3, 1996 ITEM 2

SCREENCHECK DRAFT EIR Dated May, 1996

Previous SEATAC meetings: August 28, 1990, March 9 and July 6, 1992, April 3, and September 11, 1995

PROPOSED PROJECT: 89-251/TR 47927. The project is located in the Santa Monica Mountains, adjacent to the Ventura Freeway (Highway 101) and Las Virgenes Road. The project includes a zone change, oak tree permit, conditional use permit and a specific plan amendment to allow the development of 1 single family lot, 4 multi-family lots, 136 townhouse units, 11 commercial lots (281,000 square feet), and 3 open space lots (110 acres) on 207.5 acres. The site is located in SEA No. 12 (Palo Comado Canyon). Project requires an EIR.

SEA DESCRIPTION: The Palo Comado Significant Ecological Area (SEA No. 12) is one of the last examples of southern oak woodland/savannah of any significant size remaining in Los Angeles County. Other localities in the area support southern oak woodland on steep hillsides. However, the savannah type that is found in the Palo Comado Canyon area is on gently rolling slopes, and has an open grassy understory. Once widely distributed, this habitat has been widely utilized for agriculture and urban development.

The few remaining areas have been heavily impacted by grazing. Most native grasses and forbs have been replaced by Eurasian invasive species. In many cases, grazing cattle consume oak seedlings and prevent recruitment of new trees while older individuals continue to age and eventually die. Nevertheless, the trees support an abundant population of raptorial birds and woodpeckers. Large mammals and quail often utilize the watering troughs and saltlicks provided for cattle. The western gray squirrel is also found in these trees. The understory vegetation is utilized by grassland birds, especially migratory species.

SEATAC COMMENTS AND RECOMMENDATIONS:

1. Good aerial photograph.
2. Area proposed for addition to SEA does not have comparable habitat value as that proposed for deletion.
3. Coastal sage scrub should be considered as sensitive in Los Angeles County (California gnatcatcher habitat recorded as far west and north as Moorpark) and treated the same as coastal sage scrub covered by NCCP program; include coastal sage scrub as a sensitive habitat and provide appropriate analysis and mitigations.

SEATAC COMMENTS AND RECOMMENDATIONS (continued):

4. U.S. Fish & Wildlife sensitive species listings should be updated to February 1996 Federal Register.
5. Butterfly survey not comprehensive; survey should include report of food plant availability; bat species evaluation should be updated (e.g., pallid bat probably occurs on project site).
6. SEATAC does not recommend the current proposed project design because the oak woodland resource is critical to the viability of the SEA; oak woodland resource is the most unique part of the SEA.
7. Wildlife corridors are relevant only for surveyed species (not applied only to generalist species); both grassland and oak resource habitats contribute to the value of the wildlife corridor.
8. Trails discussion does not include the effects of increased human use traffic.
9. *Quercus lobata* must be included in oak tree replanting efforts if any of this species is removed by project.
10. Bibliography of Biota Report (Appendix G) should correct typographical errors (e.g., Jim Hickman for "Nickman", Abrams 1923-1960).
11. SEATAC prefers Alternative 3 ("Commercial Uses") over the proposed project because there are less impacts to the SEA and that residential uses adjacent to the SEA would have greater impacts than commercial uses.

ACTION TAKEN: No further SEATAC review is required.

SEATAC REPORT AND COMMENTS

PROJECT 94-087 - NEWHALL RANCH SPECIFIC PLAN

SEATAC MEETING DATE JUNE 3, 1996 ITEM 3

PARTS OF DRAFT NEWHALL RANCH SPECIFIC PLAN Dated March 25, 1996

Previous SEATAC meetings: October 2, November 6, and December 4, 1995, January 8, and May 6, 1996

PROPOSED PROJECT: 94-087. The project proposes to develop 24,700 housing units, 490 acres of mixed use, 65 acres of commercial uses, 200 acres of business park, 35 acres of visitor serving uses on a total of approximately 12,000 acres. 3,530 acres of open space and 670 acres of river corridor open area are also proposed as well as 215 acres of golf course and a waste water treatment facility. The project site is located within SEA No. 20 (Santa Susana Mountains) and SEA No. 23 (Santa Clara River).

SEA DESCRIPTIONS: The Santa Susana Mountains (SEA No. 20) are one of several relatively small ridges that form the Transverse Ranges and blend eastward into the larger San Gabriel and San Bernardino Mountains. The Santa Monica Mountains are also part of this system and form a coastal barrier shielding the interior ridges from the direct influences of moist marine air, making these interior ridges drier than the coastal ones. The vegetation of the Santa Susana Mountains consists of coastal sage scrub on south-facing slopes, dense chaparral on north-facing slopes, and oak, walnut and riparian woodlands in valleys. The oak woodland communities are extremely diverse, supporting six species of oaks. These include coast live oak (*Quercus agrifolia*), valley oak (*Q. lobata*), canyon live oak (*Q. chrysolepis*), scrub oak (*Q. berberidifolia*), interior live oak (*Q. wislizenii*), and a single known location of Palmer's oak (*Q. palmeri*). The latter species is known in Los Angeles County only from this area. The walnut woodlands are frequently found in canyons of intermittent streams and consist primarily of California black walnut (*Juglans californica*), flowering ash (*Fraxinus dipetala*), Mexican elderberry (*Sambucus mexicana*), and coast live oak. Fires appear to promote the expansion of walnut woodlands. Unusual California walnut-flowering ash woodlands occur at mid-elevations within canyons of the north slopes. This community appears to be unique to the Santa Susana Mountains. The bigcone spruce (*Pseudotsuga macrocarpa*)-canyon live oak forest at higher elevations represents one of the most northwestern examples of this community.

The Santa Susana Mountains are the main representative of these low, dry interior mountain ranges in Los Angeles County. The core of this range is in good condition and has not been heavily disturbed by human use. These mountains are becoming isolated from surrounding natural areas by continued urban expansion in the San Fernando, Simi, and Santa Clarita Valleys. The Santa Susana Mountains have become an important wildlife corridor for gene flow and species movement between the San Gabriel and Santa Monica Mountains via the Simi Hills.

SEA DESCRIPTIONS (continued): Santa Clara River (SEA No. 23) is so designated because it accommodates the habitat of the unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*). The reason the unarmored threespine stickleback has been able to survive in the Santa Clara River is that its habitat has not been disturbed. The vegetation consists of fresh water marsh, coastal sage scrub, oak woodland, and riparian woodland communities. The primary concern for the survival of the unarmored threespine stickleback is the loss of suitable habitat. It requires clean, free-flowing perennial streams and ponds surrounded by native vegetation.

The entire watershed of the Santa Clara River should be considered as a buffer zone. No developments should be allowed that will change natural drainage patterns or increase runoff and water pollution.

SEATAC COMMENTS AND RECOMMENDATIONS:

1. The full Specific Plan should have been provided to SEATAC.
2. Bridges crossing river will have large scale impacts to sensitive species through the disruption of suitable habitat for least Bell's vireo and southwestern flycatcher.
3. The estate lots must be removed from SEA No. 20.
4. SEATAC should forward a letter to Ventura County planning authorities alerting them to the vital nature of the Salt Creek and Santa Clara River junction as wildlife corridor.
5. SEATAC recommends that all new grading activities within the High Country be prohibited (change in Permitted Uses Matrix).

ACTION TAKEN: No further SEATAC review of Specific Plan is required; SEATAC review of future proposed projects within SEA Nos. 20 & 23 is required.

Appendix: RESPONSES TO SEATAC COMMENTS

SEATAC Meeting 5 December 1994
Comments and Recommendations: Biological Constraints Analysis October 13, 1994

Comment 1. An overlay of sensitive species over the identified sensitive habitats is suggested; sensitive habitats are not completely identified in priorities; need more detailed discussion of sensitive species; explain how the sensitive species information was used to set project priorities/sensitivities; update sensitive species since not all currently listed species are discussed.

Response 1. A map depicting the locations of all sensitive species is included as Appendix N of the Biota Report (EIR Appendix 4.6); sensitive habitats and sensitive species are described in detail in Section II. g. beginning on page 49 of the Biota Report; explanation of how sensitive biological resources were considered in the design of the Specific Plan is provided in Section II. h. (4) beginning on page 117 of the Biota Report; all currently listed species are considered in Section II. g. beginning on page 49 of the Biota Report.

Comment 2. Plant species should be arranged by plant family; plant names should be updated to reflect current taxonomy found in Jepson Manual (1993).

Response 2. In Appendix G of the Biota Report, a complete list of vascular plants observed on the Newhall Ranch site is provided arranged alphabetically by plant family; all plant names used in the Biota Report reflect current taxonomy as indicated in Jepson (1993), with the possible exception of certain sensitive species which may follow taxonomy used by state and federal resource agencies or CNPS (Skinner and Pavlik, 1994).

Comment 3. Corridor discussion too general; provide details of reasoning in discussion and be specific concerning currently available information; include in discussion use by endangered species; objectives of corridors should be stated; include discussion of off-site Ventura County corridor connections; include discussion of genetic exchange within species (e.g., *Quercus lobata*); animals do cross over ridge lines.

Response 3. Wildlife movement corridors are discussed in Section II. h. (1) beginning on page 108 and Section II. h. (3) (a) on page 115 of the Biota Report; not all of the details mentioned in the comment have been discussed given that the analysis is at a Specific Plan level of detail rather than that required for a subdivision, or tract map. As indicated in the

Draft EIR, Biota Section 4.6, regional wildlife conservation is based in part on connectivity, or the ability of an area to provide for wildlife movement and connections to other large blocks of natural open area. From this perspective, portions of the Newhall Ranch occupy an important location (see EIR Figure 4.6-4, Regional Wildlife Movement).

The primary connectivity of the Newhall Ranch is to large undeveloped areas of open area to the south and west in the Santa Susana Mountains, including the recently dedicated Santa Clarita Woodlands Park. The eastern end of the Santa Susana Mountains is potentially connected to several other surrounding undeveloped areas, including the Simi Hills and the Santa Monica Mountains to the south. However, these connections are limited by intervening urban development in Simi Valley, the San Fernando Valley, other communities in Ventura and Los Angeles counties, and the existing State Route 118 (SR-118) and the U.S. 101 freeway. Connections between the Santa Susana Mountains and the Angeles National Forest to the north and east are also problematic because of the presence of Interstate 5 (I-5) and State Route 14 (SR-14) freeways, and because of urban development in the City of Santa Clarita, unincorporated portions of Los Angeles County and the San Fernando Valley. Such barriers act to limit connectivity and the potential movement of species between these large blocks of open area.

In addition, wildlife move between large blocks of open area that occur in a north/south orientation west of Interstate 5. Important wildlife movement corridors exist between the Newhall Ranch Specific Plan area and the Santa Clara River. The Santa Clara River is an important riparian corridor that connects the Specific Plan area with habitat to the east and west. The River and its tributaries serve as connections between the upland habitats to the north and south of the River, as well as upstream and downstream. Large expanses of undeveloped land in the Santa Susana Mountains to the south allow for the movement of wildlife down to the River and back primarily through a series of ridges and canyons (e.g., Salt Creek Canyon, Rawhide Canyon, and to a lesser extent Potrero Canyon). North of the River, wildlife movement from the surrounding hills to the River is somewhat facilitated by existing canyon connections (e.g., San Martinez Grande Canyon and to a lesser degree Chiquito Canyon), although SR-126 poses a barrier to wildlife movement. Proposed Caltrans improvements to SR-126 in Ventura County include the provision of three agricultural undercrossings which may function as wildlife undercrossings. Connection to the west along the Santa Susana Mountains and rugged terrain of the lower foothills above the River is still good due to

lack of development. Viable upland connections to the east are very restricted by the I-5 freeway, Stevenson Ranch, the Magic Mountain Theme Park, and the continued development of the Santa Clarita Valley.

In addition to the east/west corridor that occurs along the Santa Clara River, other large blocks of open area occur in a north/south orientation west of Interstate 5. These large open areas are also important from a regional conservation context. Few animals typically maintain a specific movement or migration corridor. Rather, most large mammals move in patterns throughout large territories in response to feeding and other life history requirements. Animals with large home range sizes require large contiguous open areas to facilitate their life history requirements and, as such, the large areas of open area that occur west of Interstate 5 are of substantial biological importance.

Comment 4. There is evidence for some species mis-identifications in the Dames & Moore report (e.g., *Dipodomys heermanni* is not known from south of the San Joaquin Valley); any discrepancies in details (e.g., agricultural and disturbed lands are not dominant habitats, page 9; unclear why coastal sage scrub is not likely habitat for California gnatcatcher, page 13) need to be corrected.

Response 4. Wildlife species observed on the Newhall Ranch site are correctly identified in Appendix H of the Biota Report; all references to agricultural and disturbed lands being dominant habitats has been deleted; as indicated in the Biota Report (subsection II. g. 2. (c)), the Newhall Ranch property encompassed in this study contains a large acreage of coastal sage scrub classified by CDFG as Venturan coastal sage scrub (Holland 1986). Although this sage scrub habitat is within the historic range of the species, significant populations of this species have all been extirpated from Los Angeles County (USFWS 1993b) and the Ranch property is outside of its known current distribution. In 1995, a coastal California gnatcatcher was recorded from the Moorpark area in Ventura County. In 1996, there have been two pairs of gnatcatchers recorded in this same area, and a nest has been recently discovered (Greaves, personal communication, 1996). In addition, there have been reports of these birds from the Bonnelli Regional Park and west of Cal Poly State University, Pomona campus areas in eastern Los Angeles County. It is not known whether the current breeding range will expand into the Santa Susana Mountains. Several of the RECON personnel conducting the 1995 field surveys on the Newhall Ranch have permits from the USFWS to survey for this species and are qualified to recognize the bird. No individuals of this species

were sighted or heard on the property. Based on these observations and the current geographic range of this bird, the likelihood of occurrence of the coastal California gnatcatcher on the Newhall Ranch is low.

Comment 5. The resumes or qualifications of biological field consultants need to be provided.

Response 5. Resumes of biological field consultants are provided in Appendix F of the Biota Report.

Comment 6. Discussion of potential impacts must also include reference to sensitive species that may occur on the project site.

Response 6. The discussion of potential impacts includes reference to sensitive species that may occur on the Specific Plan site in Section III. b. (3) beginning on page 134 of the Biota Report.

Comment 7. The written constraints analysis is disjointed and the independent studies are not adequately tied together.

Response 7. Comment noted, the Biota Report ties the various studies together. The Biota Report was prepared in September, 1995 and reviewed by SEATAC in October, November, and December 1995, and January and May, 1996.

Comment 8. Habitat value discussion is misleading (e.g., mixed chaparral); provide accurate discussion of wildlife use in each habitat.

Response 8. A discussion of wildlife use in each habitat type (including mixed chaparral) is presented in Section II. f. (2) (b) beginning on page 25 of the Biota Report.

Comment 9. For the SEATAC Biota Report, identify adjacent landowners and include water quality and hydrology analyses (especially for the proposed wastewater treatment plant) with a discussion of any potential impacts to biota.

Response 9. For a discussion of water quality and hydrology analyses, please refer to EIR Section 4.2, Flood; a complete list of adjacent landowners has not been identified, but known landowners include The Newhall Land and Farming Company to the west and the Bureau of Land Management to east.

Comment 10. For planning purposes, SEATAC considers the entire Santa Clara River watershed to be SEA buffer region.

Response 10. It is agreed that the County's description of SEA 23 indicates that the entire watershed of the Santa Clara River should be considered as a buffer zone. The cumulative impact analysis presented in Draft EIR Section 4.6, Biota, (and the Biota Report) discusses cumulative development which is proposed for the Santa Clarita Valley portion of the Santa Clara River watershed. The flood related effects of cumulative development in the watershed area are discussed in EIR Section 4.2, Flood.

Comment 11. SEATAC recommends that they review each development phase proposed in the finalized Specific Plan; SEATAC recommends that they conduct a field visit to the project site (to be coordinated between Newhall Land & Farming and the L.A. County Planning Department).

Response 11. Under the existing County of Los Angeles process, SEATAC would have a continuing role in reviewing future actions in SEAs. SEATAC has taken two field visits to the Newhall Ranch Specific Plan site.

SEATAC Meeting of 2 October 1995
SEATAC Comments and Recommendations: Biota Report September 7, 1995

Comment 1. Need to know overall impacts to habitat by proposed land use designations; habitat in low-lying areas will be fragmented by proposed land uses.

Response 1. SEATAC members were provided with a clear mylar of the Land Use Plan which can be placed over the vegetation map to permit review of the impacts of certain land uses on vegetation types.

Comment 2. Golf course has little biological value and should not be considered part of conservation plan; provide the river wildlife corridor keyed to the corridor map.

Response 2. As shown on Figure BIO-5 in the Biota Report, the golf course is no longer considered a part of the conversation plan; the entire River Corridor is considered a wildlife corridor.

Comment 3. SEATAC requests that applicant agree to SEATAC review of all future tract maps even if severed from the SEA as a result of other land divisions.

Response 3. SEATAC review policy is established by the Regional Planning Commission and is uniform for all projects. Under the existing County of Los Angeles process, SEATAC would have a continuing role in reviewing future actions in SEAs.

Comment 4. Piecemeal and general use of significance conclusions is unacceptable; support with reasons all significance conclusions; separate significance determination before and after mitigations; define significance criteria; significant impact analysis needs to be reevaluated; SEATAC concludes that biological impacts (especially loss of wildlife habitat) of project are significant.

Response 4. Section III. Project Impacts beginning on page 123 has been revised; all significance conclusions are supported with reasons in Section III.; significance criteria are defined in Section III. a. on page 123 of the Biota Report; significant impact analysis has been reevaluated in Section III., see Section III.

Comment 5. SEATAC would like to see property ownership both up and down the Santa Clara River.

Response 5. A complete list of adjacent landowners has not been identified. Section 2.0 of the EIR, Environmental and Regulatory Setting, discusses environmental and regulatory conditions, including land uses in the vicinity of the site.

Comment 6. SEATAC wants applicant to make commitment to Los Angeles County concerning perpetuity of wildlife corridor connection of Salt Creek with Santa Clara River.

Response 6. The applicant has no plans to develop the portion of Salt Creek that lies in Ventura County. That land is zoned in Ventura County for agricultural uses. Based on this information, it can only be presumed that this portion of Salt Creek will remain in open agricultural land for the foreseeable future..

Comment 7. Provide details of mammal trapping concerning trap sensitivity for *Perognathus longimembris brevinasus* (Los Angeles pocket mouse); southern willow riparian woodland is strange habitat for *Dipodomys agilis*; check proper infraspecific identification of *Calochortus clavatus*.

Response 7. Details of mammal trapping relative to trap sensitivity are provided in Section II. f. (2) (a) on page 22 of the Biota Report; Section II. f. (2) (b) on page 43 has been revised, although *Dipodomys agilis* likely occurs on open terrace areas adjacent to the river channels which were mapped as southern willow riparian woodland; Section II. g. (1) (b) on page 57 has been revised.

Comment 8. SEATAC to review Draft EIR during County circulation, including alternatives analysis and conservation plan; document whether conservation plan will change if alternative project selected.

Response 8. During the internal County circulation period of the Screencheck Draft EIR, SEATAC was provided with portions of the Specific Plan including the Resource Management Plan (part of Specific Plan Chapter 2), Development Regulations (Specific Plan Chapter 3), Design Guidelines (Specific Plan Chapter 4), and Glossary (Specific Plan Chapter 6). SEATAC was also provided with portions of the County Screencheck Draft EIR including EIR Section 4.6, Biota, EIR Appendix 4.6 (Biota Report), EIR Section 4.2, Flood, and Section 8.0, Alternatives. Changes in the conservation aspects of the project under different alternatives are discussed in the EIR Section 8.0, Alternatives.

Comment 9. Elimination of grassland habitat (which does function as wildlife habitat) will diminish value of other adjacent habitats; preservation of riparian corridor should be given highest conservation priority; width of riparian corridor is crucially important; disturbed habitats may still have conservation value; terraces above riparian corridor may also have habitat value with appropriate vegetation.

Response 9. The Draft EIR (and Biota Report) indicates that the overall loss of natural habitat is a significant impact. The Specific Plan has been designed in such a way that primary riparian habitats and corridors in the Santa Clara River and in Salt Creek are being preserved as part of the Specific Plan, and any riparian habitats impacted by the Specific Plan would be replaced.

Comment 10. Proposed Specific Plan must include SEA design compatibility criteria.

Response 10. See EIR Appendix 2.0.

Comment 11. Applicant should be willing to allow SEATAC more than the maximum of three reviews of biota report.

Response 11. The Specific Plan has been discussed as a formal agenda item in seven (7) SEATAC meetings, the first on December 5, 1994, including one meeting to review the Biota Constraints Report, four meetings to review the Biota Report, one meeting to review EIR sections, and one meeting to review portions of the Specific Plan.

SEATAC Meeting of 6 November 1995
SEATAC Comments and Recommendations: Biota Report September 7, 1995

Comment 1. All grading impacts should be removed along wildlife corridors.

Response 1. The primary wildlife corridors on the site, the Santa Clara River and Salt Canyon corridors, would be preserved as part of the Specific Plan. Grading is proposed in the more minor corridors, or within corridors with limited access. The Draft EIR concludes that the impact on the ability of animals to move across portions of the site is significant.

Comment 2. Provide comparison between General Plan zoning density and density of proposed plan.

Response 2. Alternative 2 of the Draft EIR compares developing the site under current General Plan designations with developing the site as proposed with the Specific Plan.

Comment 3. *Arundo* control must be included in the Resource Management Plan.

Response 3. Removal of non-native species such as giant cane (*Arundo donax*) is included in mitigation measure BIO 15 provided on page 216 in Section IV. b. (1) (a) 2. of the Biota Report.

Comment 4. Provide details of bank stabilization, include evaluation of impacts from construction and straightening of channels.

Response 4. Details of the proposed bank stabilization are provided in Section III. b. (3) (b) on page 156 of the Biota Report. Also see EIR Section 4.2, Flood. Detailed construction impacts will be determined as part of future subdivisions, at which time additional environmental review will be required.

Comment 5. Summarize changes in significant impacts.

Response 5. A summary of significant impacts is provided in Section I. d. on page 12 of the Biota Report.

Comment 6. Implementation of proposed plan should make no changes to water quality or water quantity.

Response 6. See EIR Section 4.2, Flood for discussion of water quality and quantity.

Comment 7. Provide responses to December 5, 1994 SEATAC Comments and Recommendations.

Response 7. Responses to the December 5, 1994 SEATAC Comments and Recommendations are provided in this document, with references to the Biota Report and EIR.

SEATAC Meeting of 8 January 1996
SEATAC Comments and Recommendations: Biota Report September 7, 1995

Comment 1. SEATAC advises the Planning Department on General Plan provisions and assists in the implementation of General Plan.

Response 1. This comment is not related to the content of the subject Biota Report. SEATAC's role the County review process is determined by the County and not by the applicant. Therefore, no response is necessary.

Comment 2. It is SEATAC's conclusion that the implementation of the proposed project will have significant impacts on biological resources.

Response 2. The conclusions of the Biota Report are consistent with SEATAC's conclusion of significance. In numerous locations within the Report a conclusion of significance is reached. Specific language from the Biota Report includes: (1) the impact potential (post mitigation) of implementation of the Newhall Ranch Specific Plan on the diminishment of habitat for wildlife or plants is considered significant; (2) the impact potential (post mitigation) of implementation of the Newhall Ranch Specific Plan on the movement of resident wildlife species is considered significant due to the reduction in open land available for wildlife movement between the River and upland areas; (3) the project would significantly impact (post mitigation) several sensitive wildlife species generally considered to occur in upland habitats. Given the criteria set forth in Subsection 4.a., Significance Threshold Criteria, this project would significantly affect (before mitigation) endangered, rare or sensitive plants or animals; (4) the proposed project has the potential to significantly impact several sensitive habitat types (some before and some after mitigation) that include Venturan coastal sage scrub, valley oak woodland/savanna, southern willow scrub, southern cottonwood-willow riparian forest and valley freshwater marsh and ponds; (5) implementation of the Newhall Ranch Specific Plan has the potential to indirectly impact (post mitigation) adjacent natural areas and sensitive biological resources that occur proximal to the site. This would occur as a result of increased use of the Santa Clara River and upland areas by humans and domestic animals, increased use of adjacent natural areas by animals typical of an urban environment, and the potential effects of light, glare, and sediment- and urban pollutant-laden runoff, unless mitigated. Given implementation of the mitigation measures identified above, indirect impacts would be reduced and or eliminated. However, others would remain significant; (6) neither implementation of the Newhall

Ranch Specific Plan nor any other similar large scale project proposed on the edge of the existing urban environment can mitigate from a biological perspective the permanent conversion of large blocks of open area. It is for this reason that the cumulative impact is considered unavoidably significant.

Comment 3. A new biota report reflecting current project design must be prepared with a separate response to comments section from all previous meetings at the beginning of the report.

Response 3. A revised Biota Report was submitted to SEATAC for the May 6, 1996 meeting. Included with the report was a separate response to comments section from previous meetings.

SEATAC Meeting of 6 May 1996
SEATAC Comments and Recommendations: Biota Report September 7, 1995 as revised, Draft Screencheck EIR Dated March 25, 1996 and Responses to SEATAC Comments, Not Dated

Comment 1. Maps and Tables need better identification; update the Table of Contents; SEATAC has previously made a number of comments which have not been addressed.

Response 1. The maps and tables in the report have been updated for better identification as has the Table of Contents. The Draft EIR (including its Appendix 4.6) have responded to all specific comments raised by SEATAC.

Comment 2. Without applicant assurance that Salt Creek will remain undisturbed in perpetuity in Ventura County, SEATAC considers wildlife movement to be significantly impacted by the proposed project design and requests that an alternative wildlife movement corridor be located within the Los Angeles County boundary of project.

Response 2. The revised Biota Report (Appendix 4.6 of the Draft EIR) and EIR Section 4.6, Biota, conclude that the impact potential of implementation of the Newhall Ranch Specific Plan on the movement of resident wildlife species is considered significant due to the reduction in open land available for wildlife movement between the River and upland areas. The Draft EIR contains alternatives which include areas large enough to be considered alternative wildlife movement corridors (see EIR Alternatives 3, 5 and 6).

Comment 3. Identify an alternative in the DEIR that will meet the SEA design compatibility criteria.

Response 3. The applicant believes that the Specific Plan as proposed meets the County SEA Design Compatibility Criteria (See Draft EIR Appendix 2.0). The Draft EIR contains alternatives which have similar or smaller development footprints than the proposed Specific Plan which would also meet the SEA Design Compatibility Criteria (see Alternatives 2, 3, 4, 5 and 6).

Comment 4. The mesic meadow habitat is significantly impacted by the proposed project; appropriate mitigation (avoidance being the first priority) must be included.

Response 4. The Biota Report and Draft EIR Section 4.6, Biota, conclude that the impact to the mesic meadow habitat is significant. The Draft EIR indicates as a mitigation measure

that riparian resources impacted by buildout of the Newhall Ranch Specific Plan shall be restored with similar habitat at the rate of one acre replaced for each acre lost.

Comment 5. The proposed estate lots will significantly impact the Santa Susana Mountains SEA (No. 20); SEATAC recommends that these lots be removed from the project design.

Response 5. The Draft EIR Section 4.6, Biota, states "plans indicate that construction of the estate lots and roads would disturb approximately 45 acres of natural habitat within the SEA." Additional impacts would occur as a result of the indirect impacts of human use that are discussed later in this report section. However, the County General Plan allows development in SEAs, and the estate lots would not significantly impact SEA 20 given the low intensity of development associated with them.

Comment 6. A biological resources alternative project should be included in the DEIR (see 3 above).

Response 6. The Draft EIR analyzes six on-site alternatives, four of which (Alternatives 3, 4, 5, and 6) are intended to reduce the biological impacts of the Specific Plan.

Comment 7. Significance discussion should be on a regional basis and SEATAC significance thresholds (including for biological resources outside of the designated SEAs) should be reflected in the DEIR.

Response 7. The Draft EIR and Biota Report present a discussion regarding the impact of the project on a regional basis (See EIR Section 4.6, Biota, Subsections 3. b. (7) Regional Conservation Context, and 6. Cumulative Impacts), and conclude that the Specific Plan is regionally significant. The significance thresholds used in the Draft EIR are based on the California Environmental Quality Act (CEQA) Guidelines. Communication with the County Biologist indicated that the County SEATAC does not maintain its own significance thresholds for use in this EIR.

Comment 8. Analysis discussion is inconsistent; provide reasons why details in some discussions are not presented; some details of water reclamation plant are missing.

Response 8. With the exception of the impacts of the proposed water reclamation plant (WRP), the Draft EIR employs a level of detail that is appropriate for analysis of a Specific Plan. Section 5.0 of the Draft EIR specifically addresses the impacts associated with the WRP at a project-level of detail. See that section for the required analysis.

Comment 9. Biota report summary (page 12) should remove the word "cumulative" and replace with "project specific" (or include both) in regard to impacts.

Response 9. This page now reads "the project's individual and cumulative impacts on the site's and the regional biotic environment are considered significant impacts that cannot be mitigated."

Comment 10. Response to SEATAC Comments did not fully address all of SEATAC's concerns; page 3 (comment 10) - the entire Santa Clara River watershed buffers the unarmored threespine stickleback habitat.

Response 10. Regarding page 3 (comment 10) above, that response now reads "[i]t is agreed that the County's description of SEA 23 indicates that the entire watershed of the Santa Clara River should be considered as a buffer zone." Please refer to EIR Sections 4.2, Flood, and 4.6, Biota, for a complete discussion of how this Specific Plan could impact the Santa Clara River watershed.

Comment 11. Provide complete discussion of bank stabilization (including map) in comparison with the 100-year flood boundary.

Response 11. Section 4.2, Flood, of the Draft EIR, Subsection 5. a. indicates that the locations of open and closed drainage systems, inlets, outlets, bank stabilization, NPDES water quality basins are shown in EIR Figure 4.2-5, Conceptual Backbone Drainage Plan, and the FIA 100 year flood plain boundary is shown on Figure 4.2.2, FIA 100 Year Flood Plain. EIR Subsection 5. b. indicates that bank stabilization would occur on approximately 30 percent of the southern side and 80 percent of the northern side of the River Corridor to protect adjacent development from erosion. Bank stabilization is proposed to be ungrouted rock in all areas except at outlet structures, access ramps, bridge abutments, and only in other areas where it is expected that grouted rock or reinforced concrete will be required to meet Los Angeles County Department of Public Works standards for public health and safety. Increased stabilization (e.g., concrete stabilizers within the channel bottom) in the River Corridor will not be necessary as velocities in the River will not be materially increased as a result of the Specific Plan. See EIR Section 4.2, Flood, for additional detail.

Comment 12. Oaks are treated as trees in discussion instead of a more appropriate habitat discussion; SEATAC needs to know the oak resource habitat evaluation (e.g., reproductive success).

Response 12. The Draft EIR and Specific Plan now refer to oak resources. The appendix to the Biota Report and the Draft EIR (Appendix 4.6) both contain a complete survey of the site's oak resources. In addition, the Biota Report and the Draft EIR (Section 4.6, Biota) both discuss the site's oak resources, including general conclusions regarding health.

Comment 13. Clearly identify in the DEIR which biological impacts are considered to be significant; discuss phasing strategy as possible protection for biological resources.

Response 13. The Draft EIR and the Biota Report (EIR Appendix 4.6) clearly indicate which impacts are significant. Also, please refer to Response 2 above from the SEATAC Meeting of January 8, 1996. Regarding the phasing strategy as possible protection for biological resources, the applicant has not developed a phasing program for the Specific Plan.

SEATAC Meeting of 3 June 1996
SEATAC Comments and Recommendations: Draft Newhall Ranch Specific Plan dated March 25, 1996

Comment 1. The full Specific Plan should have been provided to SEATAC.

Response 1. The portions of the Screencheck Draft Specific Plan that were provided to SEATAC include: Chapter 2, Development Plan (including the Resource Management Plan); Chapter 3, Development Regulations; and the Specific Plan Consistency Analysis. SEATAC will be provided with the complete Draft Specific Plan for their review as part of the EIR public review period.

Comment 2. Bridges crossing the river will have large scale impacts to sensitive species through the disruption of suitable habitat for least Bell's vireo and southwestern flycatcher.

Response 2. The Draft EIR indicates that potential impacts to least Bell's vireo and southwestern flycatcher can be mitigated to below a level of significance as outlined in the Resource Management Plan.

Comment 3. The estate lots must be removed from SEA No. 20.

Response 3. This comment is a recommendation of SEATAC and is not directed at the content of the EIR or Biota Report. Therefore, no response is necessary.

Comment 4. SEATAC should forward a letter to Ventura County planning authorities alerting them to the vital nature of the Salt Creek and Santa Clara River junction as wildlife corridor.

Response 4. This comment is a recommendation of SEATAC and is not directed at the content of the EIR or Biota Report. Therefore, no response is necessary.

Comment 5. SEATAC recommends that all new grading activities within the High Country be prohibited (changed in the Permitted Uses Matrix).

Response 5. This comment is a recommendation of SEATAC and is not directed at the content of the EIR or Biota Report. Therefore, no response is necessary.

MEMORANDUM

TO: NBC Project Team

Job No. 101-08

FROM: Tony Locacciato

DATE: July 30, 1996

SUBJECT: EIR Project Description

Enclosed is the Table of Contents for the EIR along with a first draft of the Project Description. Page holders for the sections of the EIR that will be in front of the Project Description are also provided. I will give each of you a hard copy of these materials at our meeting tomorrow. I have prepared a Screencheck EIR notebook for each of you to store the EIR sections as they are produced. Please note that the right hand corner of each page includes a date showing the last revision. As updated and revised sections are produced you can insert them into your notebooks.

Our first draft of the project description is organized to emphasize the general nature of the Planned Development entitlement in order to ensure that the flexibility needed by NBC is preserved through the environmental review process. To further acheive this objective, this first draft includes the minimal amount of information e feel adequately describes the project. The Illustrative Concept Plan is presented near towards the end of the section in order to de-emphasize the importance of this drawing. We would appreciate feedback on the general tone, order of presentation of the information, and level of detail.

For your information, Section 3, Environmental Setting, will provide an overview of the Media District Specific Plan as well as a description of the existing NBC property and facilities. We received the Facility Management Report from Johnson Fain Pereira this week and will be basing our description of the existing buldings and uses onthe information in this report. This description will identify the existing trailers onsite to help demonstrate that the need for additional facilities

Appendix 4.8

NEWHALL RANCH TRAFFIC ANALYSIS

JULY 1996

AUSTIN-FOUST ASSOCIATES, INC.

NEWHALL RANCH TRAFFIC ANALYSIS

Prepared for:

Newhall Ranch Company

Prepared by:

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July 1, 1996

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I

INTRODUCTION

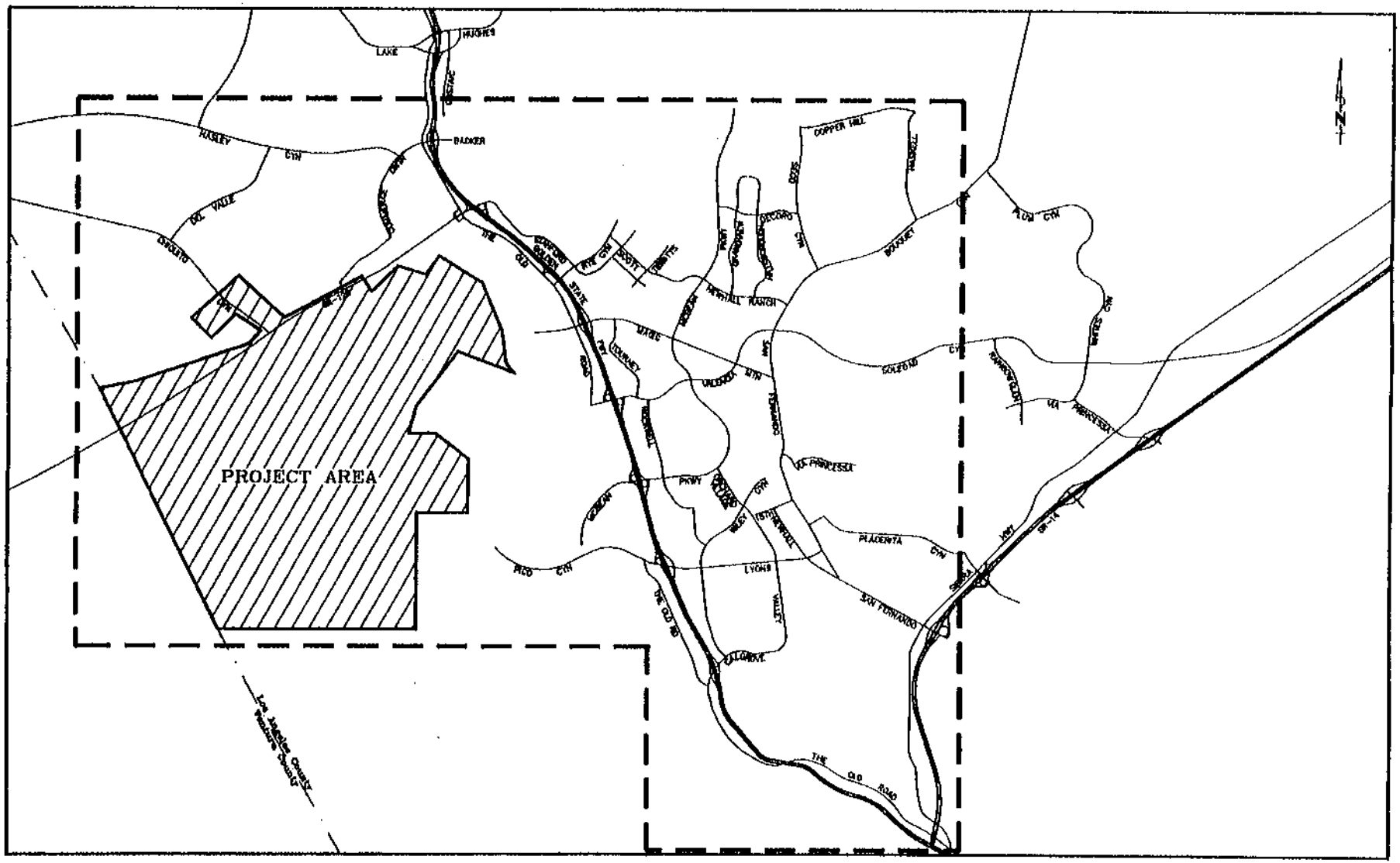
This report describes the results of a traffic analysis carried out for the proposed Newhall Ranch development. The purpose of the study is to provide the necessary documentation to support the General Plan Amendment and Specific Plan being prepared for the project and to serve as a technical source for the Newhall Ranch Environmental Impact Report.

STUDY SCOPE

The Newhall Ranch project is located west of the I-5 Freeway and generally south of SR-126 in unincorporated Los Angeles County. The project area extends west to the Ventura County line and the south boundary extends to the ridge of the Santa Susana mountains. Comprising approximately 11,960 acres, it is planned to have 24,680 dwelling units and associated industrial and commercial uses when fully built out. A large portion of the area will remain in permanent open space.

Consistent with analyses carried out for General Plan Amendments and Specific Plans, the traffic forecasts used in the analysis are for a long-range time frame. This assumes buildout of the City of Santa Clarita General Plan and the County of Los Angeles General Plan in this area, including completion of the associated Master Plan of Highways. The cumulative impact analysis assumes buildout of the City and County General Plans plus pending general plan amendments. The traffic analysis compares long-range buildout conditions without the proposed project to future traffic conditions with the project.

The study area used for the analysis is illustrated in Figure I-1. Shown here is the project site and the impact analysis study area. The study area is where impacts of the project on individual roadway links are identified, and includes the portion of the adjoining circulation system which is



LEGEND

Project Study Area

Project Area

Figure 1-1

STUDY AREA DEFINITION

measurably impacted by the project. As can be seen here, it extends from just west of the Ventura County line to east of San Fernando Road. The north and south boundaries encompass the existing and future urbanized areas of Valencia and Santa Clarita. A portion of the study area is in the City of Santa Clarita and the remainder is in unincorporated Los Angeles County.

Subjects covered in the analysis include impacts to the surrounding arterial and freeway system and the proposed on-site circulation. A comprehensive transportation improvement program is proposed as mitigation for the project. Special issues such as Congestion Management Program (CMP) requirements, and changes to the current Master Plan of Highways for the Santa Clarita Valley are also discussed.

METHODOLOGY

The traffic analysis is based on a set of long-range traffic forecasts for the study area roadway system. These long-range traffic forecasts were produced using the Santa Clarita Valley Consolidated Traffic Model (SCVCTM). For the detailed on-site traffic data, the Newhall Ranch subarea model was used. Brief descriptions of each of these follow.

SCVCTM Traffic Forecasts

The SCVCTM was developed jointly by the City of Santa Clarita and the County of Los Angeles Public Works Department. It is based on standardized modeling techniques in which future land uses in an area are quantified and the corresponding traffic volumes are estimated. Hence, for any given future land use scenario for the Santa Clarita Valley area, the model will produce future traffic volumes on the future roadways in this area.

The modeled area extends from the Ventura County line east to where the Antelope Freeway (SR-14) passes out of the Santa Clarita Valley near Vasquez Rocks Park. The northern boundary is the Grapevine area north of Castaic and to the south the model area extends to the confluence of the I-5 and SR-14 freeways south of Newhall Pass. In this report, the SCVCTM area is often referred to as the "Valley" and is used to summarize a variety of data from the traffic model.

Since the SCVCTM is developed from regional models prepared by the Southern California Association of Governments (SCAG), it forecasts traffic in a regional context. This means that trips to and from the Santa Clarita Valley, as well as thru-trips are included in the forecasts. The SCVCTM has 1994, interim year, and buildout versions. The latter contains all the land uses in the City and County General Plans (including existing, approved, recorded, pending and open tracts) and was used for preparing the data presented here. For the cumulative analysis, general plan amendments were added to the with-project buildout version of the SCVCTM. Descriptions of the model, including a recent update and validation report, are listed as References 1 and 2 at the end of this chapter.

Newhall Ranch Traffic Model

For detailed on-site analysis, a special sub-area model was prepared by Austin-Foust Associates. This is referred to as the Newhall Ranch Traffic Model (NRTM), and provides a detailed traffic forecasting capability for the project circulation system. The external travel pattern relationships are derived from the SCVCTM, and hence it is directly compatible with the areawide modeling procedures.

The primary purpose of the NRTM is to give a more focused modeling capability for the project area. Detailed intersection evaluation is possible, providing information for signal warrant analyses and peak hour intersection capacity evaluation. A detailed discussion of the NRTM is contained in Appendix B.

Long-Range Setting

Buildout of the Newhall Ranch project will occur over an extended period of time, and will essentially accompany the long term development of the Santa Clarita Valley. Hence, the analysis is carried out for a long-range time frame in which the project and the accompanying valleywide development are all built out. The long-range version of the SCVCTM is thereby used as the appropriate mechanism for preparing future traffic volume forecasts.

The land use database in the long-range version of the model has been compiled by the City and the County to represent future growth as depicted by the City and County General Plans.

Hence, this land use database provides a comprehensive and realistic long-range setting for the impact analysis. In addition, a special "cumulative" analysis was made which included General Plan Amendments that are currently in processing by either the City or the County.

Impact Analysis

To identify project impacts, a comparison is made between future traffic volumes in the study area with and without the project. The current Master Plan of Highways version of the SCVCTM is run, and then a second run is carried out in which the project and its circulation system are included in the model. The forecast data is in the form of average daily traffic (ADT) volumes on the highway system and the impact analysis is carried out using corresponding volume/capacity (V/C) ratios for each segment of roadway in the study area. Based on the V/C ratios, project impacts are identified and a mitigation program is proposed accordingly. In addition, a special analysis was carried out at key freeway interchanges serving the project, with V/C ratios calculated for each on- and off-ramp at these interchanges. The peak hour modeling capability of the SCVCTM was used for this part of the analysis, so that the ability of each ramp to carry future peak hour traffic could be assessed.

Identification of project impacts involves the application of specific performance criteria. These specify the V/C level and the amount of project traffic that together constitute a project impact. These criteria are discussed in the off-site impact analysis section of Chapter IV. The proposed mitigation program addresses all locations that are identified as being impacted.

For the long-range setting used in the traffic analysis, specific assumptions were made with respect to the future transportation system in the Santa Clarita Valley. Two networks were used in this regard, one being the current Master Plan of Highways, referred to in the text as the County Base Network, and the other being an Alternative Highway Plan which is intended to address potential changes to the Master Plan currently being evaluated by the City of Santa Clarita. Descriptions of these two long-range highway networks can be found in the next chapter.

STRUCTURE OF THE REPORT

This traffic report is structured in a manner which describes the project and its impacts on a step by step basis, and presents the information in a manner which generally conforms to the organization of the EIR. An outline of the topics covered are as follows:

Chapter II - Transportation Setting - This establishes the "setting" in which the project is analyzed. Existing traffic conditions on the study area roadway system are described and then long-range land use and the accompanying transportation system are discussed.

Chapter III - Project Description - This chapter contains a description of the proposed project in traffic terms, including estimates of the project trip generation, the geographic pattern of the project trips, and the on-site circulation system designed to serve the project land uses.

Chapter IV - Impact Analysis - In this chapter, long-range conditions with and without the project are compared. The forecasting methodology as described earlier in this chapter provides the traffic data, and specific performance criteria is used to identify project impacts.

Chapter V - Transportation Improvements - To address the impacts identified in Chapter IV, a comprehensive transportation improvement program is proposed. It includes both on-site and off-site components.

Chapter VI - Cumulative Impact Analysis - This chapter discusses general plan amendment applications in a long-range time setting and analyzes the project impact under this scenario.

Chapter VII - Special Issues - This final chapter addresses special issues which are related to future traffic conditions in the study area, and are therefore addressed in an information context.

Detailed information on various technical aspects of the report are contained in the technical appendices. Resource documents such as descriptions of the SCVCTM and its database are referenced at the end of this chapter, and noted where appropriate as the data sources used in the analysis.

DEFINITIONS

Certain terms used throughout this report are defined below to clarify their intended meaning:

ADT	Average Daily Traffic. Generally used to measure the total two-directional traffic volumes passing a given point on a roadway.
DU	Dwelling Unit. Used in quantifying residential land use.
ICU	Intersection Capacity Utilization. A measure of the volume to capacity ratio for an intersection. Typically used to determine the peak hour level of service for a given set of intersection volumes.
LOS	Level of Service. A scale used to evaluate circulation system performance based on intersection ICU values or volume/capacity ratios of arterial segments.
Peak Hour	This refers to the hour during the AM peak period (typically 7 AM - 9 AM) or the PM peak period (typically 3 PM - 6 PM) in which the greatest number of vehicle trips are generated by a given land use or are travelling on a given roadway.
Tripend	A trip generation measure which represents the total trips entering and leaving a location.
TSF	Thousand Square Feet. Used in quantifying non-residential land uses, and refers to building floor area.
V/C	Volume to Capacity Ratio. This is typically used to describe the percentage of capacity utilized by existing or projected traffic on a segment of an arterial or intersection.
VPD	Vehicles Per Day. Similar to ADT, but more typically applied to trip generation (i.e., the amount of traffic generated by a given amount of land use).
VPH	Vehicles Per Hour. Used for roadway volumes (counts or forecasts) and trip generation estimates. Measures the number of vehicles in a one hour period, typically the AM or PM peak hour.

REFERENCES

1. "Santa Clarita Valley Consolidated Traffic Model Report," County of Los Angeles Department of Public Works, January 1994.

2. "Santa Clarita Valley Consolidated Traffic Model 1995 Update and Validation," City of Santa Clarita and County of Los Angeles Department of Public Works, June 1995.

3. "Newhall Ranch Subarea Traffic Model," Austin-Foust Associates, Inc., April 1995.

4. "Route Concept Report, Route 5" Caltrans District 7, Transportation Planning, June 20, 1991.

5. "Route Concept Report, Route 14" Caltrans District 7, Transportation Planning, January 1991.

6. "Route Concept Report, Route 126" Caltrans District 7, Transportation Planning, January 1991.

7. "Center City Circulation System Study," Meyer, Mohaddes Associates, July 1995.

8. "Hasley Area Traffic Analysis," Austin-Foust Associates, Inc., August 1987.

9. "1995 Final Draft Congestion Management Program for Los Angeles County," Los Angeles County Metropolitan Transportation Authority, October 1995.

10. "A Plan for Los Angeles County, Transportation for the 21st Century," Los Angeles County Metropolitan Transportation Authority, March 1995.

11. "Draft Screencheck Newhall Ranch Specific Plan," Forma, December 1995.

II

TRANSPORTATION SETTING

This chapter describes the transportation setting for the proposed project. Existing conditions are first summarized, followed by the future background setting against which project impacts are evaluated. The chapter also discusses long-range travel patterns in the study area.

EXISTING CONDITIONS

This discussion of the existing transportation setting for the study area describes the transportation system serving the area (highway and transit) and the current traffic volumes and operating conditions on the highway system. The information thereby provides a point of reference for describing anticipated future conditions in this area.

Existing Highway System

The existing highway system in the study area is illustrated in Figure II-1. The numbers on each highway segment represent the number of two-way travel lanes, referred to in this study as midblock lanes. The midblock lanes depict the freeway and arterial system as of January 1995. As can be seen here, the primary regional access is via the Golden State Freeway (I-5). The Antelope Valley Freeway (SR-14) serves the eastern edge of the study area, and the two freeways join at a confluence on the south end of the study area. The I-5 freeway in the study area is currently four lanes in each direction.

The study area has a well defined set of arterials which have been evolving in accordance with the County Master Plan of Highways. From east to west along the northern part of Newhall Ranch is SR-126, referred to as Henry Mayo Drive. It is currently a two-lane rural highway with one

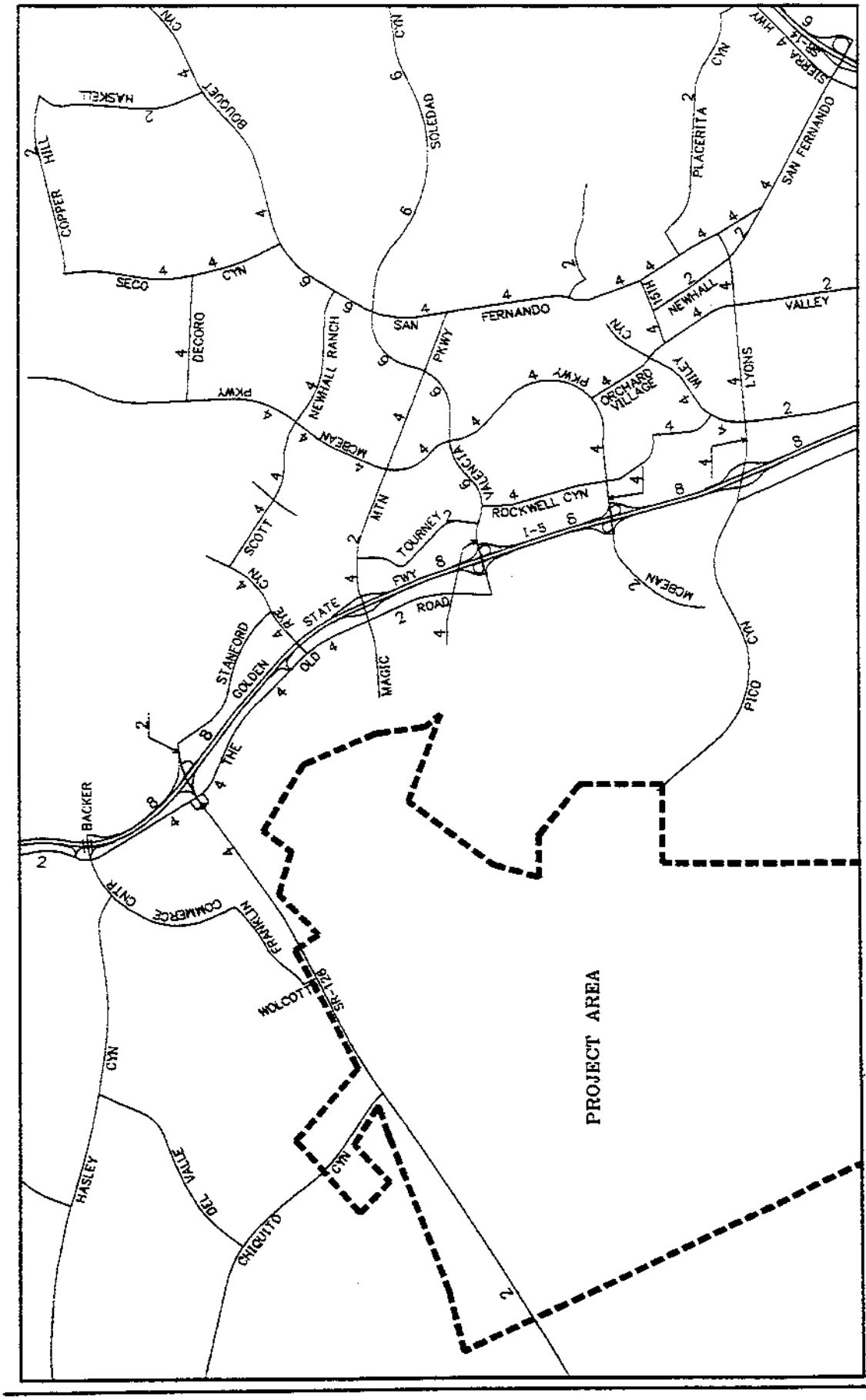


Figure II-1
EXISTING HIGHWAY SYSTEM

LEGEND
X Midblock Lanes

signalized intersection at Wolcott Avenue. East of the I-5 freeway, Magic Mountain Parkway and Valencia Boulevard connect to the Town Center area and the City of Santa Clarita Civic Center located around and adjacent to the triangle formed by Magic Mountain Parkway, Valencia Boulevard, and McBean Parkway. Continuations of the east-west roadways then serve residential areas to the east such as Bouquet Canyon, Saugus, and Canyon Country.

Altogether, five freeway interchanges along I-5 are within the study area and will serve project traffic:

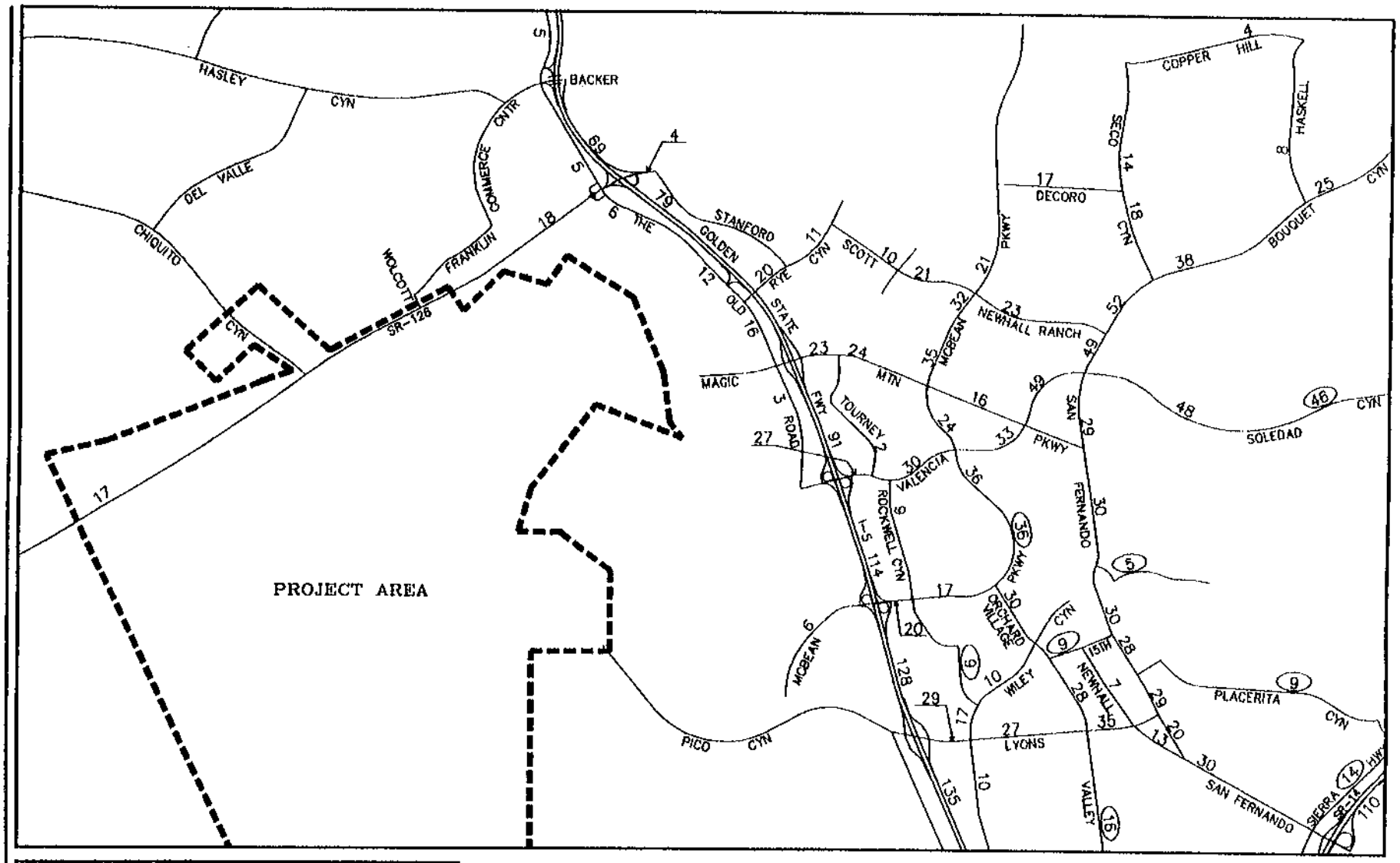
SR-126
Magic Mountain Parkway
Valencia Boulevard
McBean Parkway
Pico Canyon Road/Lyons Avenue

In addition, there are freeway ramps (to and from the south only) intersecting with The Old Road just north of Rye Canyon Road between the SR-126 and Magic Mountain Parkway interchanges. The Backer Road/I-5 interchange is in the northern part of the study area but does not serve any measurable project traffic.

Existing Traffic Volumes

The existing highway system together with the average daily traffic (ADT) volumes are shown on Figure II-2. As indicated on the drawing, the 24-hour ADT counts shown are primarily from the January/February 1995 count program carried out for this traffic study. For certain minor locations at some distance from the project site, City of Santa Clarita traffic data was used.

Along the northern edge of the project area, volumes on SR-126 are currently 17,000 ADT at the County line, increasing to 18,000 near I-5. East of the freeway, Magic Mountain Parkway and Valencia Boulevard carry 23,000 ADT and 27,000 ADT respectively, with volumes increasing slightly in proximity to the Town Center area. Bouquet Canyon Road shows the highest volumes, with 52,000 ADT north of Newhall Ranch Road and 49,000 ADT south of Newhall Ranch Road.



LEGEND

XX January/February 1995 Traffic Counts

(XX) November 1994 Traffic Counts from the City of Santa Clarita Traffic Flow Map

Figure II-2

EXISTING ADT VOLUMES (000's)

Existing Operating Conditions

Within the study area, existing operating conditions on each highway link were evaluated based on ADT volume to capacity (V/C) ratios. The V/C ratios were determined using the following ADT capacity values:

ADT CAPACITY VALUES

FACILITY TYPE	ADT CAPACITY
Eight-lane Freeway (1-5)	180,000
Eight-lane Expressway	112,000
Six-lane Expressway	84,000
Major Highway (6-lanes)	54,000
Major Highway (4-lanes)	36,000
Major Highway (2-lanes)	18,000
Secondary Highway (4-lanes)	32,000
Secondary Highway (2-lanes)	16,000

These are the representative ADT capacities used by the County of Los Angeles for assessing operating conditions on arterial highway links. The Expressway designation is discussed in detail in Chapter IV for the buildout time frame. Except for Freeways and State Highways, the threshold for acceptable levels of service used in this study is a V/C value of 1.00. Any link where the V/C exceeds 1.00 is considered to be deficient.

The existing ADT volumes and V/C ratios are listed in Table II-1. As indicated by an asterisk, there are currently four locations where the V/C exceeds 1.00. These are as follows:

McBean south of Valencia (V/C = 1.01)
Magic Mountain east of Tourney (V/C = 1.31)
Lyons east of Orchard Village (V/C = 1.10)
Bouquet Canyon east of Seco Canyon (V/C = 1.05)

EXISTING TRANSIT SERVICE

The study area is served by two major transit carriers, the Santa Clarita Valley Transit System operated by the City of Santa Clarita, and Metrolink operated by the Metropolitan Transportation

Table II-1

EXISTING ADT VOLUME SUMMARY

LINK #/LOCATION	VOLUME	CAPACITY	V/C	COUNT DATE
23. The Old Rd n/o Hasley Cyn	5156	16000	.32	2/9/95
25. The Old Rd n/o SR-126	5429	36000	.15	2/9/95
26. The Old Rd s/o SR-126	5619	36000	.16	2/2/95
27. The Old Rd n/o Rye Cyn	11615	36000	.32	1/18/95
28. The Old Rd n/o Magic Mtn	15989	36000	.44	3/2/95
29. The Old Rd s/o Magic Mtn	2943	18000	.16	1/18/95
30. Tournament s/o McBean	8348	28000	.30	1/19/95
35. McBean w/o I-5	5763	18000	.32	1/18/95
36. McBean w/o Rockwell	19964	36000	.55	1/18/95
37. McBean e/o Rockwell	17356	36000	.48	1/18/95
38. McBean s/o Valencia	36308	36000	1.01	2/16/95*
39. McBean s/o Magic Mtn	24093	54000	.45	2/9/95
40. McBean n/o Magic Mtn	35253	36000	.98	1/18/95
41. McBean s/o Newhall Ranch	31973	36000	.89	1/18/95
42. McBean n/o Newhall Ranch	21495	32000	.67	1/19/95
49. SR-126 w/o The Old Rd	17747	36000	.49	2/1/95
50. Newhall Ranch Rd e/o I-5	3859	18000	.21	2/22/95
54. Newhall Ranch e/o McBean	23357	36000	.65	1/19/95
63. Rye e/o I-5	20417	32000	.64	2/22/95
64. Rye Cyn e/o Scott	10586	32000	.33	1/17/95
68. Copperhill e/o Seco Hill	4280	16000	.27	1/30/95
72. Decoro e/o McBean	17125	32000	.54	1/30/95
73. Haskell Cyn n/o Bouquet	8435	16000	.53	1/30/95
74. Seco s/o Copperhill	13779	32000	.43	1/30/95
75. Seco n/o Bouquet	18261	32000	.57	1/30/95
76. Bouquet Cyn e/o Haskell	25040	36000	.70	1/31/95
78. Bouquet Cyn w/o Seco	51542	54000	.95	1/30/95
79. Bouquet Cyn s/o Newhall Rch	48569	54000	.90	1/30/95
80. Bouquet n/o Magic Mtn	28948	36000	.80	2/1/95
81. Bouquet s/o Magic Mtn	30017	36000	.83	2/1/95
82. San Fernando s/o Wiley	30175	36000	.84	1/30/95
83. San Fernando n/o Placerita	27765	36000	.77	1/30/95
84. San Fernando s/o Placerita	28872	36000	.80	1/30/95
85. San Fernando s/o Lyons	19794	36000	.55	1/30/95
86. Scott s/o Rye Cyn	10380	32000	.32	1/17/95
87. Ave Scott e/o Dickason	21478	32000	.67	2/22/95
88. Magic Mtn e/o I-5	22516	36000	.63	1/17/95
89. Magic Mtn e/o Tourney	23519	18000	1.31	3/1/95
90. Magic Mtn e/o McBean	15505	36000	.43	2/1/95
93. Tourney n/o Valencia	2461	16000	.15	1/18/95
94. Rockwell n/o McBean	8572	28000	.31	1/18/95
95. Rockwell s/o McBean	9104	28000	.33	11/94^
96. Valencia btwn Tourney/I-5	27188	36000	.76	2/15/95
98. Valencia w/o McBean	29652	54000	.55	1/17/95
99. Valencia w/o Magic Mtn	33391	54000	.62	1/17/95
100. Valencia w/o San Fernando	49417	54000	.92	2/1/95
101. Soledad e/o Bouquet Cyn	47939	54000	.89	1/17/95
102. Wiley s/o Lyons	9618	16000	.60	2/15/95

(Continued)

Table II-1 (cont)
EXISTING ADT VOLUME SUMMARY

LINK #/LOCATION	VOLUME	CAPACITY	V/C		COUNT DATE
103. Wiley n/o Lyons	17066	32000	.53		2/1/95
104. Wiley e/o Tournament	10436	32000	.33		1/18/95
106. Via Princessa e/o San Fernando	4988	36000	.14		11/94[A]
108. 15th St e/o Orchard Village	9290	32000	.29		11/94[A]
109. Newhall n/o Lyons	6994	16000	.44		1/30/95
110. Newhall s/o Lyons	12893	16000	.81		1/18/95
111. San Fernando s/o Newhall	30346	32000	.95		1/30/95
112. Orchard Village s/o McBean	29855	36000	.83		1/18/95
113. Orchard Village s/o Wiley	27741	36000	.77		1/18/95
114. Valley s/o Lyons	15804	16000	.99		11/94[A]
115. Lyons e/o I-5	28818	32000	.90		1/17/95
116. Lyons e/o Wiley	26617	32000	.83		1/17/95
117. Lyons e/o Orchard Village	35055	32000	1.10	*	1/30/95
119. McBean e/o Orchard Village	35526	36000	.99		11/94[A]
121. Placerita e/o San Fernando	8595	16000	.66		11/94[A]
126. Bouquet Cyn e/o Seco	37788	36000	1.05	*	1/30/95
143. Soledad w/o Golden Valley	46373	54000	.86		11/94[A]
159. Sierra Hwy e/o San Fernando	14088	36000	.39		11/94[A]
200. I-5 n/o SR-126	69000	180000	.38		1993 Caltrans
201. I-5 s/o Newhall Ranch	79000	180000	.44		1993 Caltrans
202. I-5 n/o Valencia	91000	180000	.51		1993 Caltrans
203. I-5 n/o McBean	114000	180000	.63		1993 Caltrans
204. I-5 s/o McBean	128000	180000	.71		1993 Caltrans
205. I-5 s/o Lyons	135000	180000	.75		1993 Caltrans
206. SR-14 s/o Placerita	110000	135000	.81		1993 Caltrans

Notes: * Currently exceeds V/C of 1.00
Source of Data: Traffic counts were conducted in January/February 1995 except where indicated by a footnote or Caltrans designation.
[A] November 1994 City of Santa Clarita Traffic Flow Map
A reference map for the link numbering system can be found in Appendix C

Level of service ranges: .00 - .60 A
.61 - .70 B
.71 - .80 C
.81 - .90 D
.91 - 1.00 E
Above 1.00 F

Authority (MTA). The first provides the bus system within the Valley and to some external destinations and the latter provides commuter rail service to areas outside the Valley which are served by the regional Metrolink system.

Figure II-3 shows the existing transit service. As can be seen, the fixed route bus system provides service throughout the study area. The Metrolink station is located on Soledad Canyon Road east of San Fernando Road, and convenient transfer service is offered between the bus and rail systems.

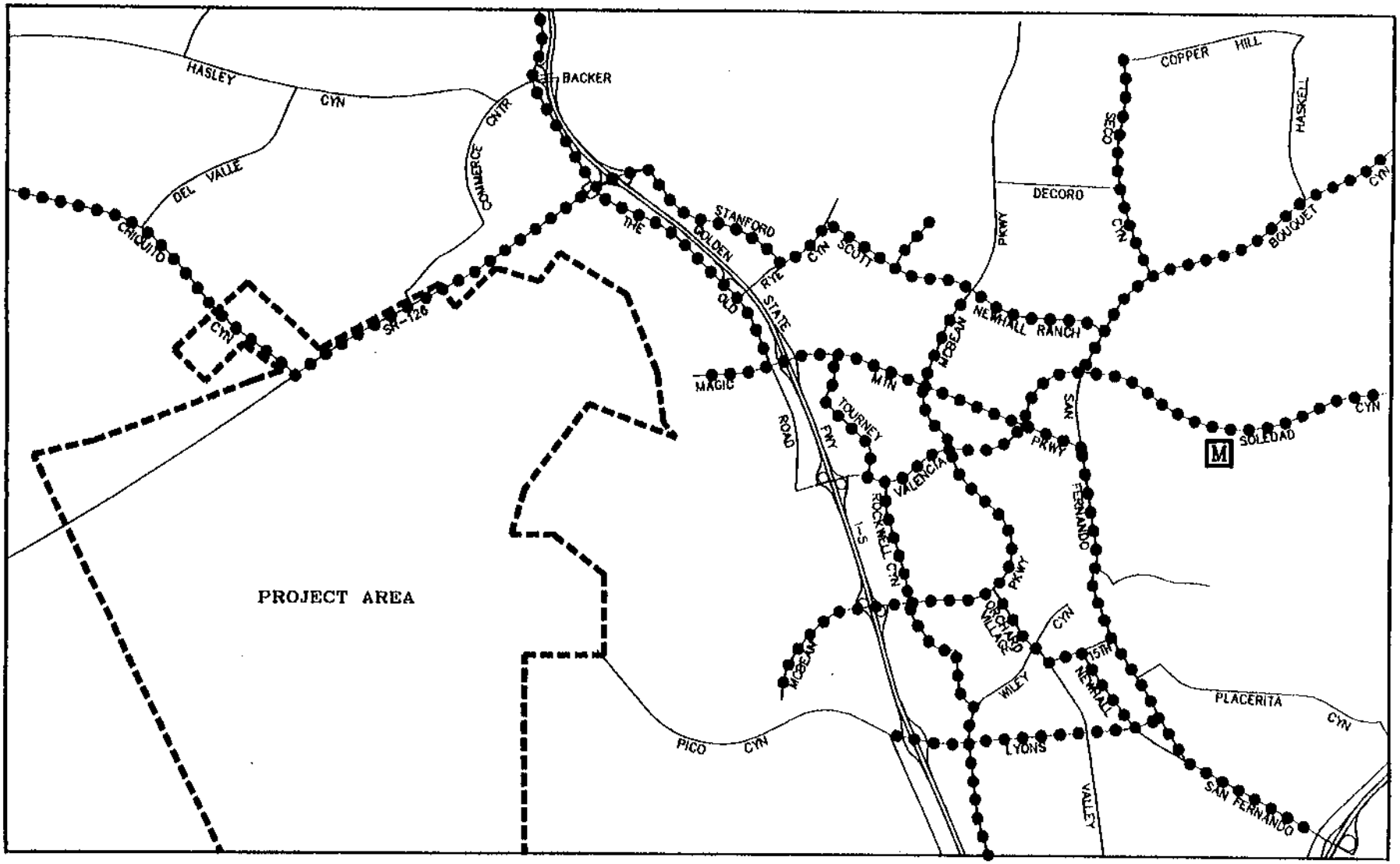
FUTURE SETTING

The Santa Clarita Valley area is projected to have substantial growth over the next twenty years or more, and this anticipated growth is reflected in the City and County General Plans for the area. Accompanying that growth will be additions to the existing circulation system, in the form of new roads, and widening of existing facilities. The following sections describe these changes.

Land Use

As noted in Chapter I, the long-range setting for the analysis assumes buildout of the City and County General Plans in the Santa Clarita Valley. This includes all existing, recorded, approved, pending, and open tracts in the valley. To show what this means in quantitative terms, Table II-2 gives a summary of existing and future land uses in the traffic model area (see traffic model area description in Chapter I). To assist in the comparison, the projections listed here are separated by City and unincorporated County portions of the area.

The land use summary indicates that there are currently 46,891 dwelling units in the Valley, with 123,877 dwelling units projected for General Plan buildout. Non-residential land uses (commercial, industrial, and office) are projected to increase from around 19.5 million square feet of floor area today to 68.8 million square feet in the future. The corresponding increase in traffic generation is from 910,710 average daily tripends in 1994 to 2,663,518 at buildout. Detailed land use and trip generation data for the SCVCTM area is tabulated in the traffic model description report (Reference 2 at the end of Chapter I).



LEGEND

FIXED ROUTE BUS SERVICE

METROLINK TRANSIT CENTER

Figure II-3

EXISTING TRANSIT SERVICES

Table II-2

LAND USE AND TRIP GENERATION SUMMARY
(SCVCTM Area)

Land Use Category	Units	-- 1994 COUNTY -- Amount	ADT	-- 1994 CITY -- Amount	ADT	--- TOTAL --- Amount	ADT
TOTAL							
1. Single Family Res	DUs	9,699	97,878	18,269	184,362	27,968	282,240
2. Multi-Family Res	DUs	2,457	17,288	16,466	117,711	18,923	134,999
3. Commercial	TSF	536	36,551	5,239	257,461	5,775	294,011
4. Ind/Manufacturing	TSF	432	2,902	12,264	88,041	12,696	90,943
5. Office	TSF	119	1,404	952	15,326	1,071	16,731
6. Schools	EMP	336	4,590	1,625	27,238	1,961	31,828
7. Other	--	--	31,568	--	28,390	--	59,958
TOTAL			192,181		718,529		910,710

Land Use Category	Units	BUILDOUT GP COUNTY Amount	ADT	BUILDOUT GP CITY Amount	ADT	--- TOTAL --- Amount	ADT
TOTAL							
1. Single Family Res	DUs	54,442	551,345	32,057	324,647	86,499	875,992
2. Multi-Family Res	DUs	10,750	75,886	26,628	189,579	37,378	265,465
3. Commercial	TSF	6,868	334,964	12,394	623,107	19,262	958,071
4. Ind/Manufacturing	TSF	20,378	141,657	20,732	162,972	41,110	304,629
5. Office	TSF	3,599	42,558	4,858	61,553	8,457	104,111
6. Schools	EMP	1,677	25,739	2,074	33,837	3,751	59,577
7. Other	--	--	66,347	--	29,327	--	95,673
TOTAL			1,238,496		1,425,022		2,663,518

DUs - Dwelling units
TSF - Thousand square feet of floor area
EMP - Employees
ADT - Average daily tripends

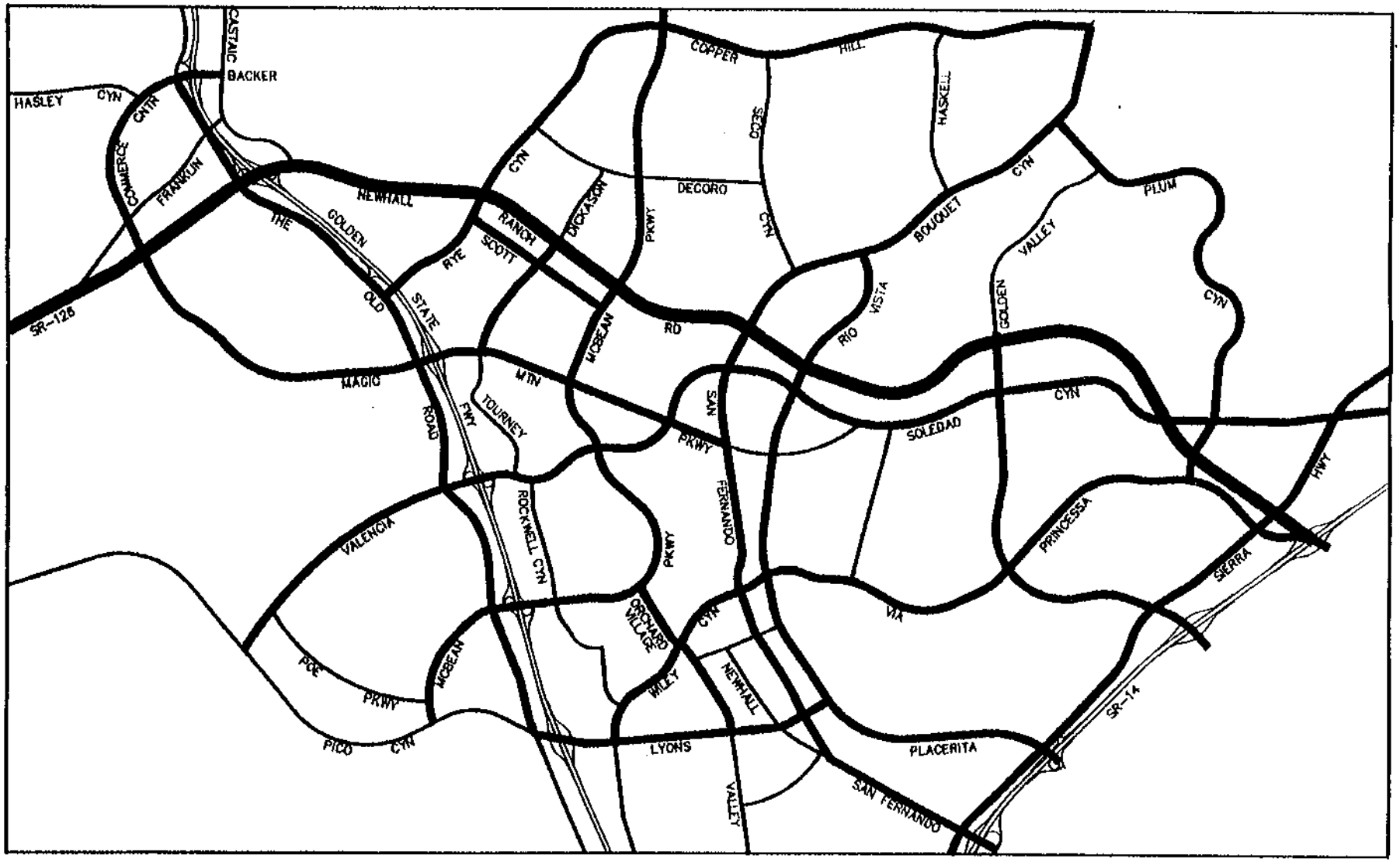
Highway System

The County Master Plan of Highways is the planned roadway system expected to be in place by buildout of the land uses in the General Plan. The current long-range Master Plan of Highways for the study area is illustrated in Figure II-4. It has two basic roadway classifications: major highway (four to six lanes), and secondary highway (four lanes, and with less right-of-way than a major). The Master Plan also includes SR-126 extending eastward between I-5 and SR-14 as an expressway facility (labeled in the diagram as Newhall Ranch Road). According to the Los Angeles County Zoning Code an expressway is defined as follows:

> *"Expressway means a highway or road designated on the highway plan, which is designed primarily for thru-traffic with full or partial control of access. Expressways are divided highways between 120 and 190 feet in width which can accommodate six to ten traffic lanes (LRD.89-0061, SEC. for.1989.)"*

At the present time, the City of Santa Clarita and the County of Los Angeles are examining potential modifications to the Master Plan of Highways. The SR-126 expressway is being reconsidered, and an alternative alignment for a cross-valley route in the eastern part of the valley is being sought. Other roadways are also being considered for potential addition to, or deletion from, the current Master Plan.

For the purpose of this analysis, both the current Master Plan of Highways (referred to as the "County Base") and an Alternative Highway Plan have been used to examine impacts of Newhall Ranch. Figure II-5 shows the Alternative Highway Plan roadway system. It contains roadways that have been identified by the City of Santa Clarita as potential candidates for inclusion in the revised plan, including a cross-valley highway replacement for the original SR-126 Expressway. While an Alternative Highway Plan has not yet been finalized, the system shown here is representative of the general direction being taken by the City in their efforts to update the Master Plan of Highways. It can be considered a reasonable alternative for EIR purposes, since it eliminates the SR-126 expressway in accordance with City objectives and contains new roadway links to serve future traffic. It is expected that the type of refinements that are likely to occur to this plan before it is adopted will largely be in the eastern part of the valley and not in the Newhall Ranch study area.

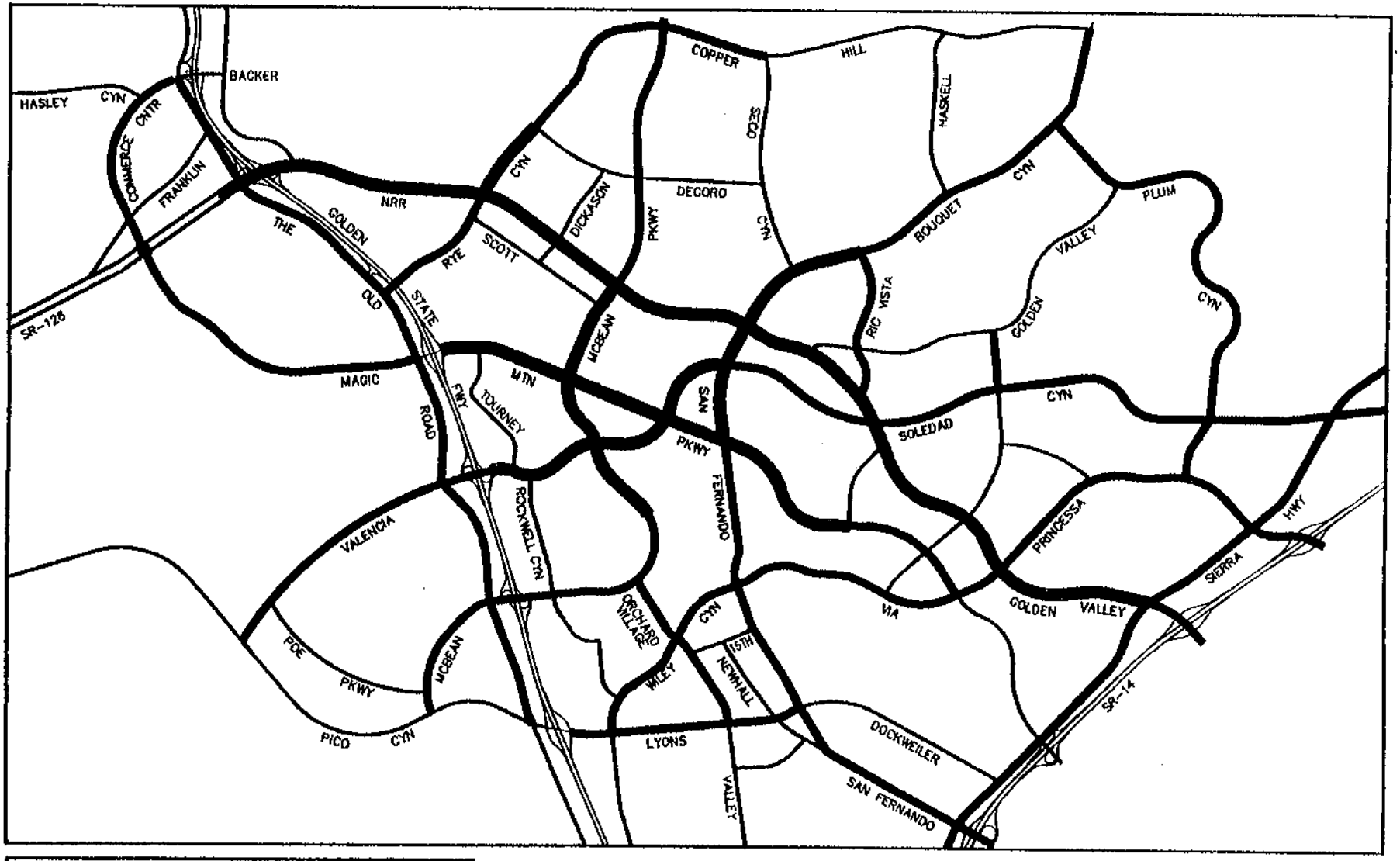


LEGEND

- EXPRESSWAY (6-8 LANES)
- MAJOR HIGHWAY (4-6 LANES)
- SECONDARY HIGHWAY (2-4 LANES)

Figure II-4

MASTER PLAN OF HIGHWAYS



LEGEND

- EXPRESSWAY (6–8 LANES)
- AUGMENTED HIGHWAY (6–8 LANES)
- MAJOR HIGHWAY (4–6 LANES)
- SECONDARY HIGHWAY (2–4 LANES)

Figure II–5

ALTERNATIVE HIGHWAY PLAN

The Alternative Highway Plan includes a number of "augmented" roadways. This augmented roadway classification depicts capacity enhancement of an arterial roadway by a variety of discretionary improvements. Typical examples include additional midblock lanes which do not necessarily extend through the intersection, added turn lanes at intersections, and combinations of the above (a description of typical augmented capacity actions can be found in Chapter V). The purpose of providing extra capacity in this manner is to target the improvements to an actual location and its specific characteristics rather than merely widening the roadway (e.g., from six to eight lanes).

The Master Plan of Highways in the Newhall Ranch project area is considered to be the same for both the County Base and the Alternative Highway Plan. Pico Canyon Road passes through the project area from SR-126 and meets the existing connection at I-5. Commerce Center Drive would extend southward from SR-126, becoming the westward extension of Magic Mountain Parkway. Both Valencia Boulevard and McBean Parkway are shown as extending westward to Pico Canyon Road, although both extensions are outside the actual project area. As will be seen later in this report, the Newhall Ranch project proposes to change some of these planned roadways. Hence, the no-project scenario is based on the current Master Plan roadways in the project area, and the proposed project traffic forecasts are based on the proposed revisions to the Master Plan in the project area.

Transit

It can be anticipated that over time, the local bus system will expand as additional development occurs. Unincorporated areas of the Valley are currently served by the Santa Clarita Valley Transit System through a contract with Los Angeles County. This arrangement is anticipated to continue to serve local residents of the area, connecting residential areas with employment and commercial centers. Typically, bus route plans are evaluated on a regular basis, and routes added and/or modified as appropriate. As Newhall Ranch develops, service to that community will be added accordingly.

The Metropolitan Transportation Authority (MTA) oversees transit planning in the Los Angeles County area, and has a long-range plan for future rail transit, including additional service to this area. An eventual Metrolink extension along the SR-126 corridor to Ventura County is part of long-range transit plans prepared by Ventura County.

TRAFFIC PATTERNS

The patterns of travel in Santa Clarita Valley will change over time as population increases and as more employment opportunities develop within the valley. This changing relationship can be seen from the following summary table derived from the SCVCTM showing the internal/external travel patterns today and as projected by buildout. The relationship is shown in the form of tripends, which are the total trips entering and leaving a given location.

AVERAGE DAILY INTERNAL/EXTERNAL TRIPS
FOR SCVCTM AREA

	EXISTING	FUTURE
Internal Tripends	661,410 (73%)	2,289,118 (86%)
External Tripends	249,300 (27%)	374,400 (14%)
TOTAL TRIPENDS	910,710 (100%)	2,663,518 (100%)

As can be seen from this data, the external trips are projected to increase over time (from 249,300 to 374,400), but the proportion of external tripends will decrease significantly (from 27 percent to 14 percent). This reflects the growing size and increasing employment and commercial base in the Valley, which decreases the dependence on out-commuting for work and other activities. These travel pattern figures do not include Newhall Ranch, and comparison data with the proposed project is given in the next chapter.

The changing travel patterns in the valley are important in the context of regional transportation facilities such as the freeways and freeway interchanges in the valley. In Chapter IV, traffic data is presented for the freeways and freeway interchanges, and the changing external travel patterns shown above are reflected in those forecasts. Increase in demand on those facilities reflects the growth in external trips, which as shown here is less than the growth projections for internal trips.

III

PROJECT DESCRIPTION

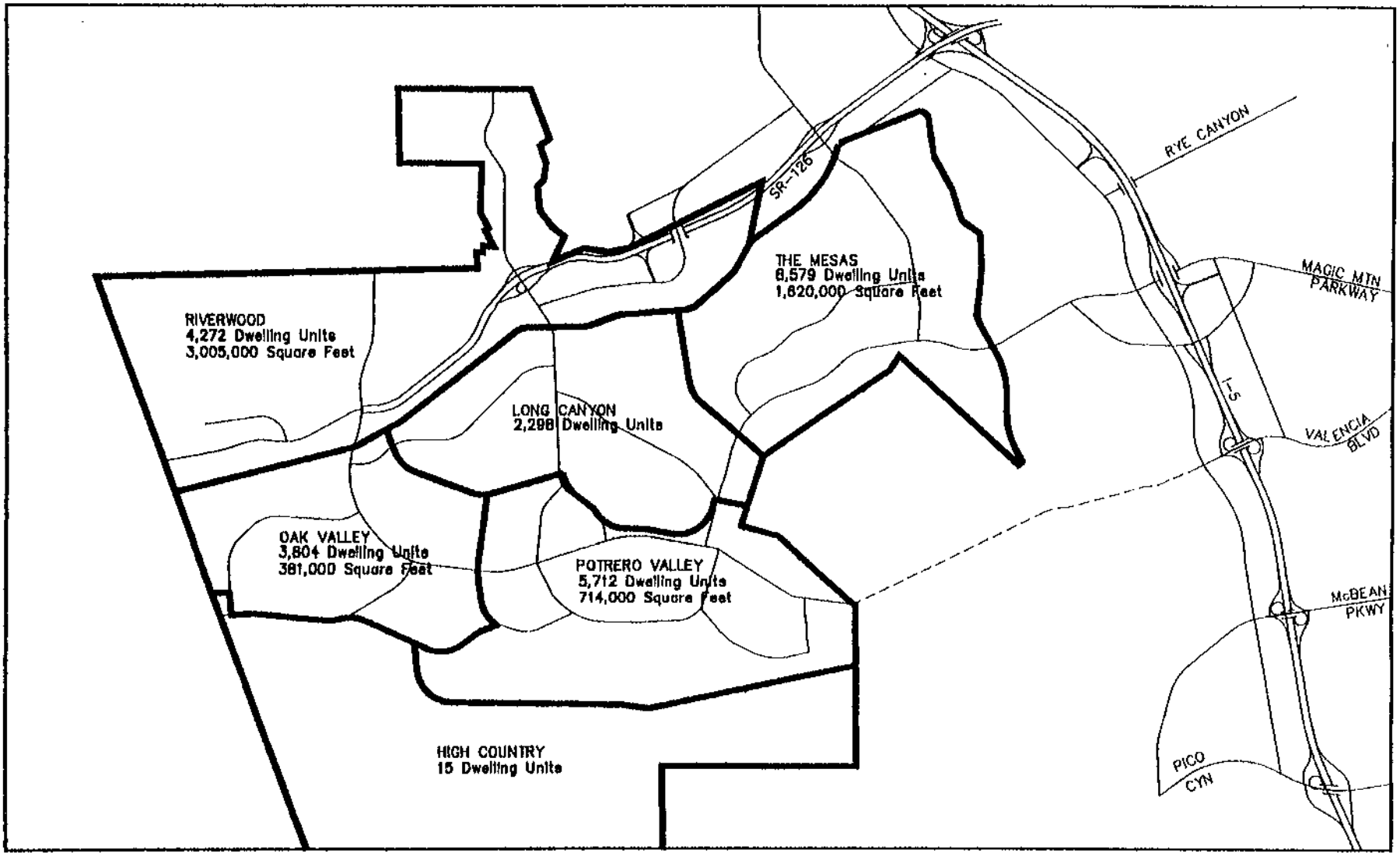
This chapter describes the proposed project in terms of its traffic-related characteristics. This includes project area trip generation and distribution, and the proposed on-site roadway system designed to serve project traffic. Discussion is also given of the project travel patterns in relation to the overall travel patterns in the Santa Clarita Valley.

LAND USE AND TRIP GENERATION

The proposed project has 24,680 dwelling units (DU) and 5,720,000 square feet of retail, office and industrial development. The land use plan also includes schools, parks, and a golf course. Much of the project area located on the south end of the site (called the "high country") will remain as permanent open space.

The community is organized into five villages as illustrated in Figure III-1. These villages are an integral part of the land use concepts embodied in the Newhall Ranch development plan, providing a basis for the land use distribution and on-site amenities. Land uses in each village create the travel patterns which the circulation system must serve, and hence the allocation shown here was used to establish roadway sizing and access needs for the project. Some features of the land use plan are briefly noted below.

Mixed Use - There are four mixed use Village centers in the Land Use Plan. The mixed use centers will permit a combination of commercial, office, residential, and public service and recreational uses. Depending on their location, the mixed use village centers are intended to serve a larger area than the immediate Village in which they would be located. Access to the mixed use centers will be facilitated by major highways, and by pedestrian trails and bikeways. The locations of



LEGEND

Square Feet refers to the Non-Residential land uses of Retail, Office, and Industrial Development

Figure III-1

NEWHALL RANCH VILLAGES

these centers were selected to reduce the amount and trip length of automobile trips and maximize use of pedestrian and bicycle trails.

Commercial (Retail/Office) - Community commercial centers covering 91 gross acres would permit uses such as retail, food service, banking, entertainment, and automobile-related uses. The centers would be located near major highways.

Business Park - Business Park uses are proposed on 256 gross acres in the Riverwood Village at one location north of the intersection of Chiquito Canyon Road and SR-126 and at one other location on the south side of SR-126 west of San Martinez Grande/Potrero Canyon Road near the Los Angeles/Ventura County line. The Business Park would accommodate local and regional employment needs, and would enhance the housing/employment balance. This land use would provide for a full range of businesses, including research and development, light manufacturing, warehouse and distribution facilities, office/showrooms, and other supporting uses.

Visitor-Serving Uses - A 37 gross acre visitor-serving center is proposed to provide a regional cultural, recreational, and commercial amenity, as well as serve the Newhall Ranch community. The center is proposed to serve the High County Special Management Area and is intended to be a low impact lodge-type use which provides controlled access to the High Country.

Accessory Units - Accessory units were assumed for the estate-size single-family residential homes. They comprise either attached or detached living quarters, and are considered part of the estate "unit". Trip generation rates for the estate units reflect the additional trips that would be generated by accessory units.

Trip generation is determined by applying suitable trip generation rates to the amount of land use in each land use type. The results are calculated as "tripends", which are the total trips entering and leaving a given location. Table III-1 lists the estimated number of average daily tripends generated by the different land use categories in the Newhall Ranch Project. As shown, the overall project generates 387,000 ADT, of which 211,300 (55 percent) is accounted for by residential land use and the remainder by non-residential land uses. Trip generation rates used here are from the SCVCTM, and are described in the SCVCTM model validation report (see Reference 2 at the end of Chapter I).

Table III-1

NEWHALL RANCH PROJECT
LAND USE AND TRIP GENERATION SUMMARY

LAND USE TYPE	UNITS		ADT
1. Single Family (1-5du/ac)	2440.00	DU	27,400
2. Single Family (6-10du/ac)	8570.00	DU	87,100
3. Multi-Family	13655.00	DU	96,600
5. Single Family (<1du/ac)	15.00	DU	200
11. Commercial Center (10-30a)	1078.00	TSF	62,000
12. Commercial Center (<10ac)	640.00	TSF	57,400
20. Elementary/Jr.High School	300.00	STA	4,000
21. High School	100.00	STA	1,700
24. Library	25.00	TSF	2,100
31. Business Park	1513.00	TSF	16,800
34. Waste Water Reclamation Plant	35.00	TSF	100
40. Commercial Office	2489.00	TSF	29,500
50. Golf Course	180.00	AC	1,500
51. Developed Park	133.00	AC	400
53. Special Generator (Fire Stations)	200.00	SG	200
TOTAL			387,000

DU - dwelling unit
TSF - thousand square feet
STA - staff
AC - acre

TRIP DISTRIBUTION

Future travel patterns in relation to the project are a function of the project land uses described above and the surrounding land uses, particularly centers of employment or commercial activity. This geographic context can be seen from Figure III-2 which shows the major activity centers surrounding the project. Directly to the northeast across SR-126 is the Valencia Commerce Center, which is estimated to provide 30,500 jobs upon buildout, making the center a major source of employment for Newhall Ranch and other area residents. Also nearby just east of I-5, is the Valencia Industrial Center and the Valencia Corporate Center which together are expected to provide 27,500 jobs. Magic Mountain theme park will provide around 3,360 full time and part time jobs. Other centers in the vicinity of the project include California Institute of the Arts and the Valencia Town Center, the latter providing a major regional shopping center for the Valley.

The geographic distribution of trips to and from the project can be seen in Figure III-3. This shows the percent of project trips on each major roadway serving the project. As would be expected, there is a high orientation to the Commerce Center area adjacent to the project with 11 percent of the trips attracted here (six percent using Franklin and five percent using Commerce Center Drive). East of the freeway, trips disperse into areas such as Valencia Industrial Center and the Town Center area.

An internal/external summary of average daily tripends for the project is as follows:

PROJECT TRIP COMPONENTS

COMPONENT	PROJECT TRIPENDS
Internal to project	201,240 (52%)
Within Santa Clarita Valley	147,060 (38%)
Outside Santa Clarita Valley	38,700 (10%)
TOTAL	387,000 (100%)

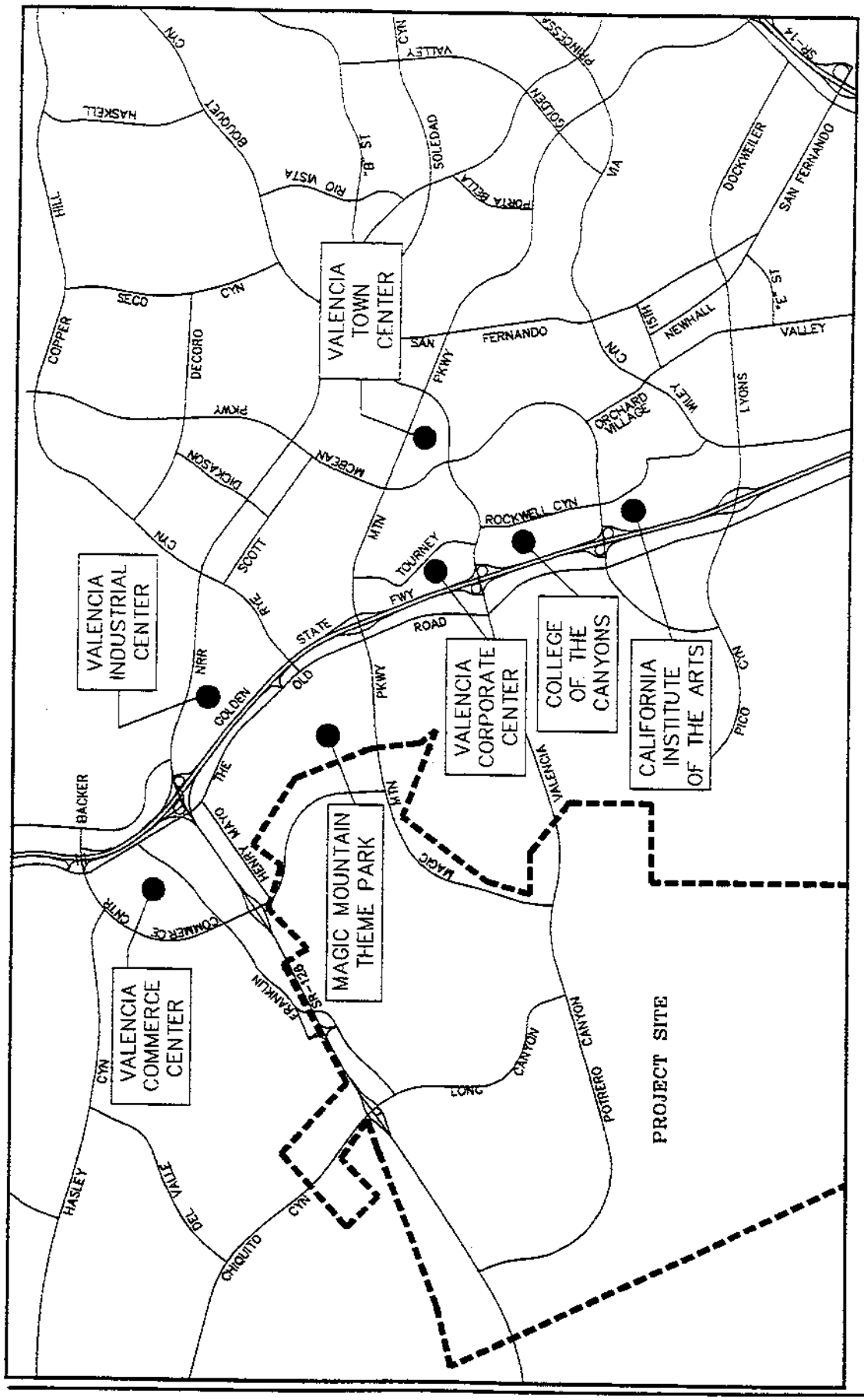
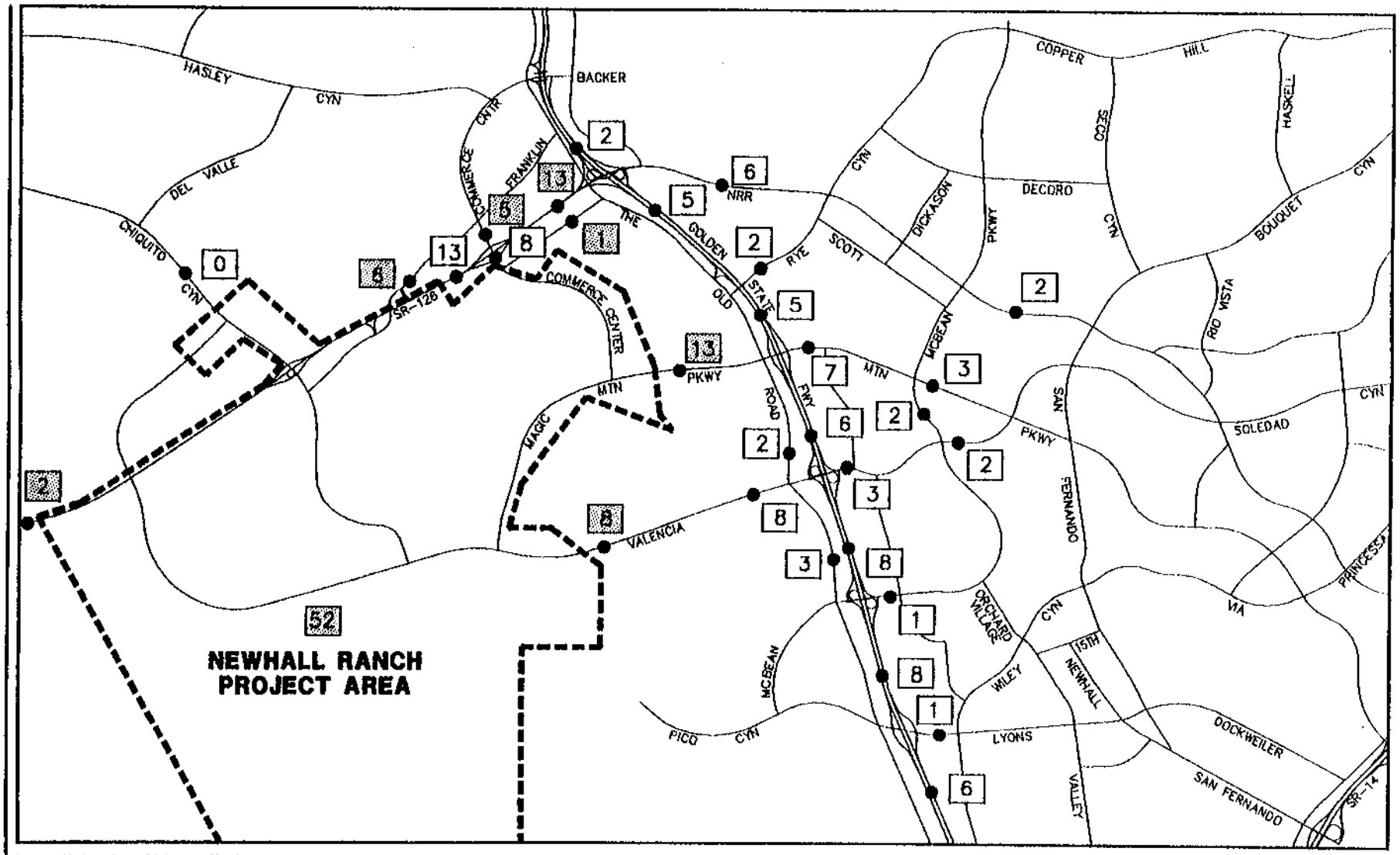


Figure III–2
ACTIVITY CENTERS SURROUNDING THE PROJECT SITE



LEGEND

X Project Distribution – Adds to 100 percent

X Percentage of Project Traffic at this location

Figure III–3

PROJECT DISTRIBUTION PATTERNS

As can be seen here, 52 percent of the project tripends (which represents 35 percent of project trips) remain on site. The remainder interacts with land uses in the Valley (38 percent), and outside the Valley (10 percent). Trips outside the Valley are accounted for by three major portals, I-5 south (six percent), I-5 north (two percent) and SR-126 (two percent). As noted in Chapter I, the Valley refers to the SCVCTM area.

A comparison of the external trip proportion for the Newhall Ranch project with the corresponding valleywide proportion can be seen by comparing total ADT tripends as follows:

EXTERNAL TRIP COMPARISON

	TOTAL TRIPENDS	EXTERNAL TRIPS	EXTERNAL PERCENT
Valleywide (no-project)	2,663,518	374,400	14%
Newhall Ranch Project	387,000	38,700	10%

The lower external percentage for the project compared to the valleywide external relationship reflects two major factors; the location of the project further from the Los Angeles/San Fernando Valley employment centers than many of the residential areas in Santa Clarita Valley, and the close proximity of the project to two large future employment centers, the Valencia Commerce Center and the Valencia Industrial Center.

The effect of this proximity of the project to major employment centers can be seen from the average trip distances derived by the SCVCTM for project trips compared to the Southern California Association of Governments (SCAG) regional averages in the Valley:

AVERAGE TRIP DISTANCES

	WORK	NON-WORK	ALL TRIPS
Newhall Ranch	10.2 (17.0 km)	6.4 (10.7 km)	7.4 (12.3 km)
Regional Average	11.7 (19.5 km)	6.9 (11.5 km)	8.2 (13.7 km)

Hence, the average trip distances are expected to be around 10 percent shorter than future averages for the Valley.

As Newhall Ranch develops over time, travel patterns in the Santa Clarita Valley will evolve in relation to development in Newhall Ranch and in other parts of the Valley. Residents of Newhall Ranch will make daily trips within their own community (for school, convenience shopping, etc.) and to destinations outside their community. Activity centers such as the Valencia Industrial Center, the Commerce Center, and the Town Center will attract work trips and major shopping trips from Newhall Ranch, additionally some Newhall Ranch trips will be made to areas outside the Santa Clarita Valley.

Because of this interaction between Newhall Ranch and the Valley, future travel patterns will be different than under a no-project scenario. Such differences in travel patterns are reflected in the comparative traffic volume data presented later in this report. Project trips are not merely "overlaid" onto the transportation system, but are modeled by the SCVCTM in a manner which depicts the future interaction between the project and the surrounding area.

ON-SITE CIRCULATION SYSTEM

There are currently no public roadways on the site, apart from SR-126 which passes along the northern edge of Newhall Ranch, Chiquito Canyon Road which extends north from SR-126 into the community of Val Verde and San Martinez Grande Road which also extends north of SR-126. As the project develops, a complete circulation system will be constructed to serve the on-site land uses and provide external access.

This on-site circulation system is illustrated in Figure III-4. It features three crossings of the Santa Clara River, one at Potrero Canyon, one at Long Canyon, and one at Commerce Center Drive. The combination of Potrero Canyon Road and Magic Mountain Parkway serve as a backbone roadway through the project, allowing for east-west on-site circulation. Long Canyon Road provides a direct connection to SR-126 from the central part of the site.

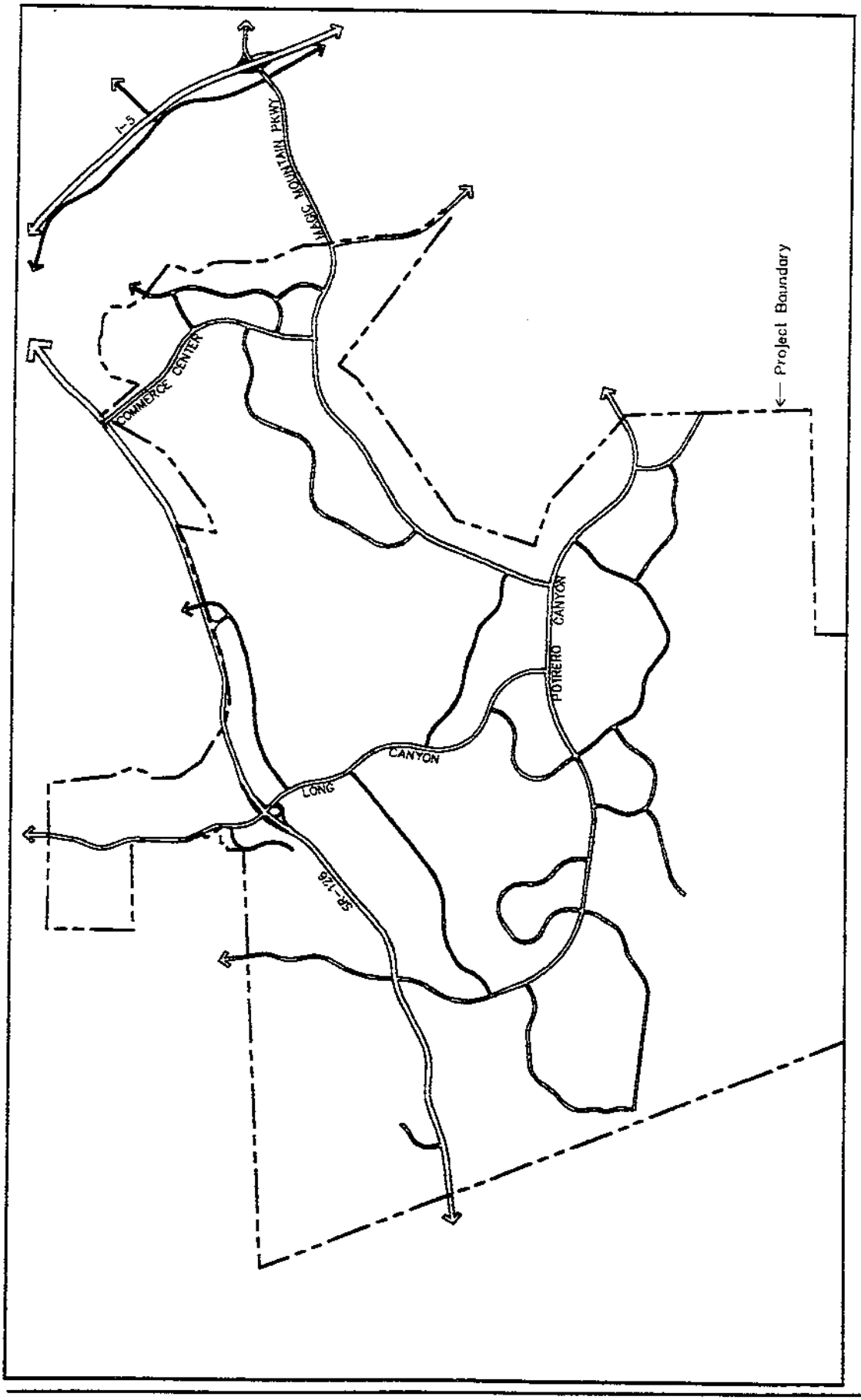


Figure III-4
NEWHALL RANCH ON-SITE CIRCULATION

A detailed description of the on-site circulation system can be found in Chapter V. The discussion includes descriptions of the type of roadways to be provided, signalization, and specific design treatments needed at certain locations to serve future traffic demands.

Proposed Changes to Master Plan of Highways

As part of the project, several changes are proposed to the planned highway system in the project area (see description of current Master Plan of Highways in Chapter II). These are illustrated in Figure III-5 and can be summarized as follows:

1. Deletion of Pico Canyon Road south of the project (i.e., Pico Canyon would not extend south from the project to connect with McBean Parkway.

2. Potrero Canyon Road - This would extend through the Potrero Canyon area of the project, providing a connection between SR-126 at the existing San Martinez Grande intersection to the eastern boundary of the project where it becomes Valencia Boulevard. It would essentially substitute for the northerly section of Pico Canyon Road on the current Arterial Master Plan of Highways.

3. Long Canyon Road - This new arterial would extend from SR-126 at Chiquito Canyon Road and terminate at Potrero Canyon Road.

4. Franklin Avenue Extension - The existing Franklin Avenue in the Commerce Center would extend over SR-126 and along the north bank of the Santa Clara River to connect with Long Canyon Road.

5. Magic Mountain Parkway - This roadway is proposed to extend westward into the project, terminating at Potrero Canyon Road.

6. Commerce Center Drive - Extending southward from the existing roadway north of SR-126, this roadway would terminate as a T-intersection at Magic Mountain Parkway. This connection represents a change from the current arterial highway plan in which Commerce Center Drive south of SR-126 and Magic Mountain Parkway west of I-5 are a single continuous roadway.

7. Chiquito Canyon Road - The designation of this roadway would change from a two-lane limited secondary to a four-lane secondary highway from the project boundary to SR-126.

8. SR-126 - This would be upgraded to an expressway between Commerce Center Drive and San Martinez Grande Canyon Road.

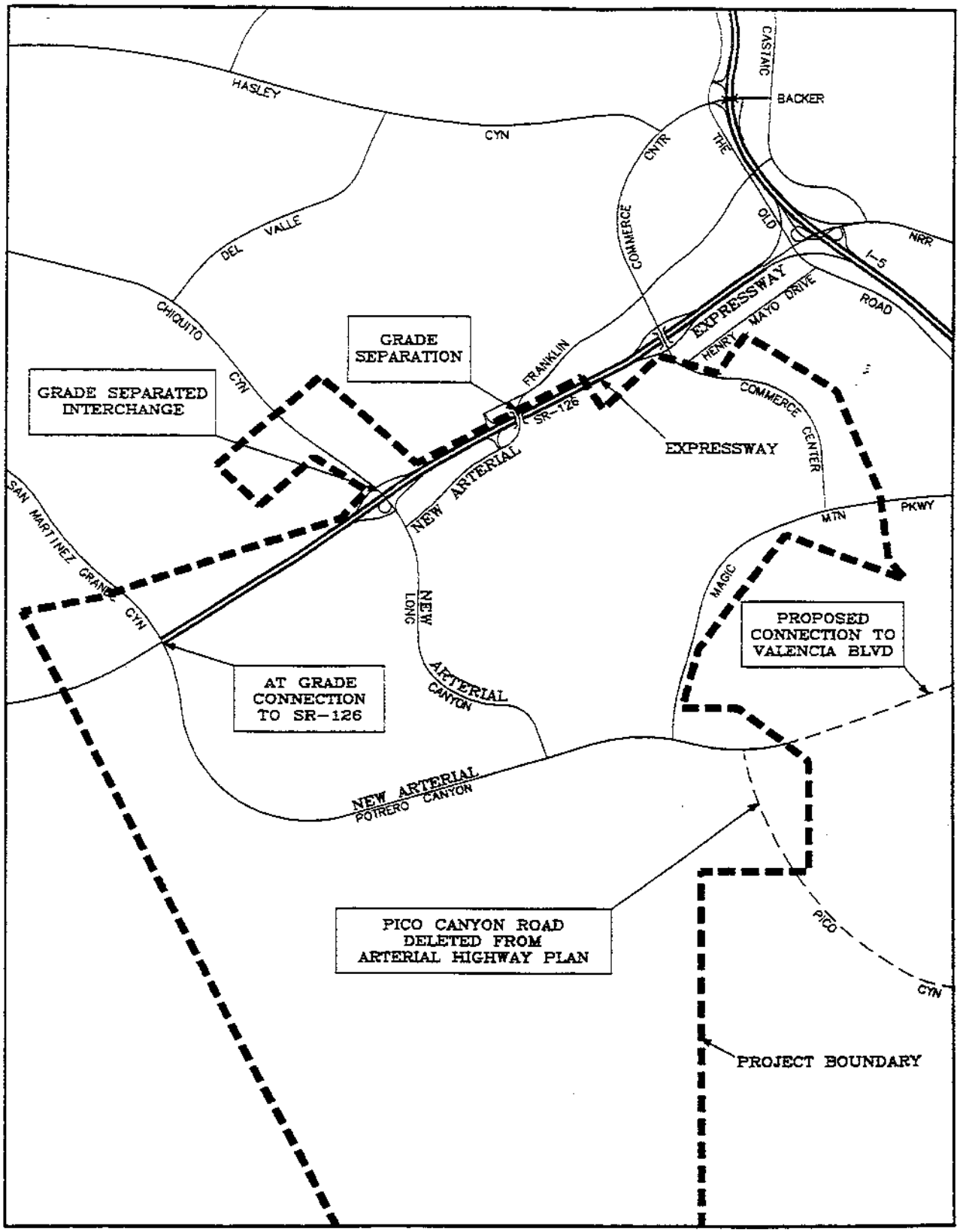


Figure III-5

PROPOSED ARTERIAL HIGHWAY SYSTEM CHANGES

As in the County Master Plan of Highways, it is assumed that SR-126 will be upgraded to an expressway through part of the project area. The suggested upgrading for SR-126 is to a six-lane major arterial between the Los Angeles County/Ventura County line and San Martinez Grande and to an expressway from San Martinez Grande to I-5. A detailed discussion on SR-126 can be found in Chapter V.

IV

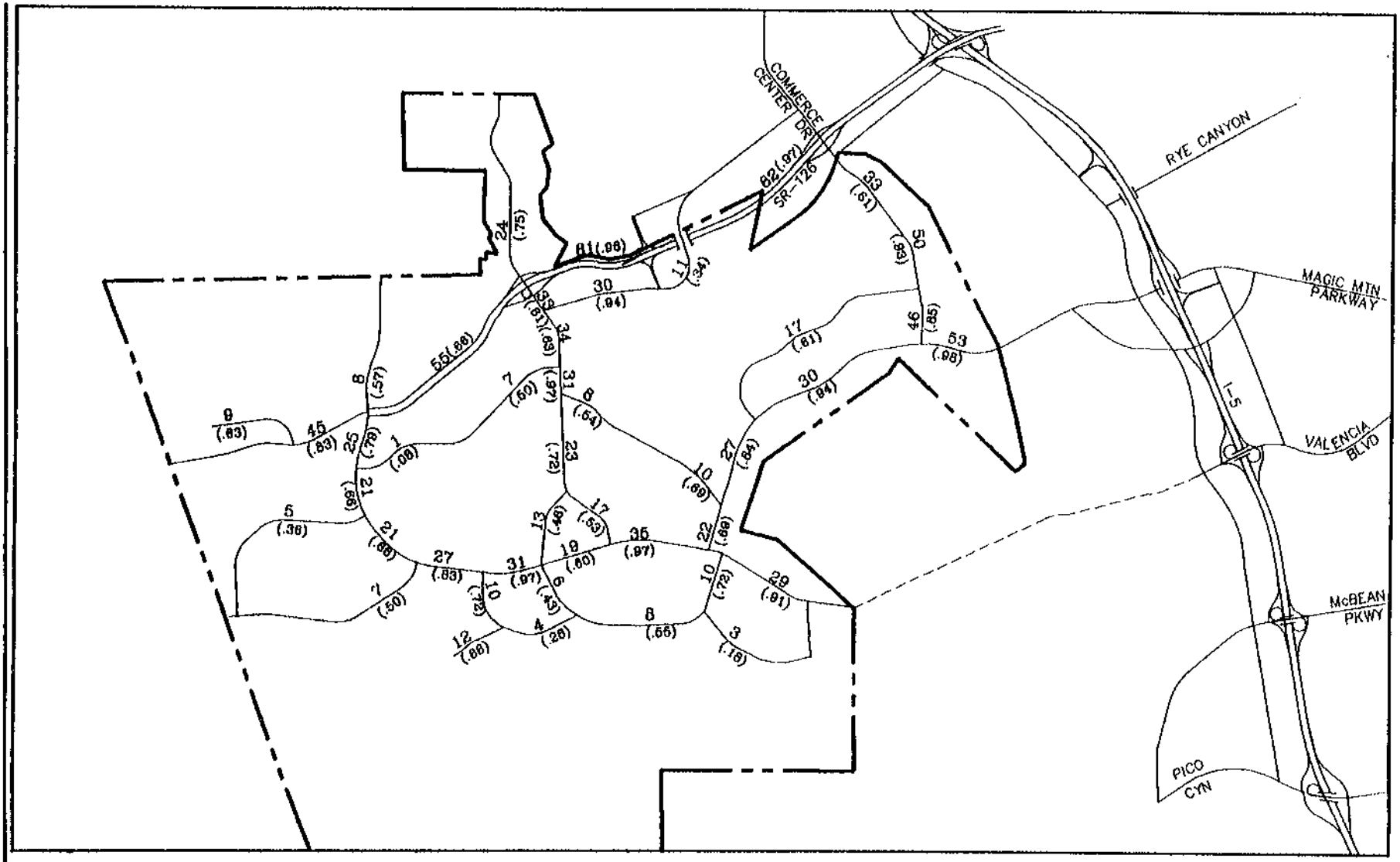
IMPACT ANALYSIS

This chapter describes the impact of the proposed project to the on-site and surrounding circulation system for a buildout time frame. Long-range traffic volumes and resulting level of services are compared for no-project versus with-project conditions and project impacts are identified accordingly. Project impact evaluation as required by the Congestion Management Program (CMP) is also addressed. Information from this analysis is then used to formulate the mitigation measures set out in Chapter V.

ON-SITE CAPACITY ANALYSIS

A capacity verification of the on-site circulation system was made using long-range traffic forecast data from the Newhall Ranch sub-area traffic model (see discussion in Chapter I and detailed description in Appendix B). The long-range volumes and volume/capacity (V/C) ratios for the project circulation system are illustrated in Figure IV-1. The on-site SR-126 volumes were evaluated using the Alternative Highway Plan. Capacities used to derive the V/C ratios are based on the proposed roadway system for the project, and a detailed description of this system is given in the next chapter. As shown, none of the on-site locations exceeds the ADT V/C of 1.00 (the threshold for determining a deficient location). All roadways have sufficient capacity for the estimated traffic demand.

A further verification of the adequacy of the on-site circulation system was made using peak hour intersection capacity utilization (ICU) values. Peak hour turn movement volumes were calculated for the set of intersections shown in Figure IV-2. These represent the major on-site intersections of the backbone roadway system within the project. The results are listed in Table IV-1 and actual ICU calculations can be found in Appendix A. It should be noted that the first seven intersections in this table were modeled using the SCVCTM, since the intersections carry non-project



LEGEND

XX ADT Volume (000's)
(.YY) Volume/Capacity Ratio (V/C)

Figure IV-1

LONG-RANGE ADT VOLUMES (000's) - PROJECT AREA

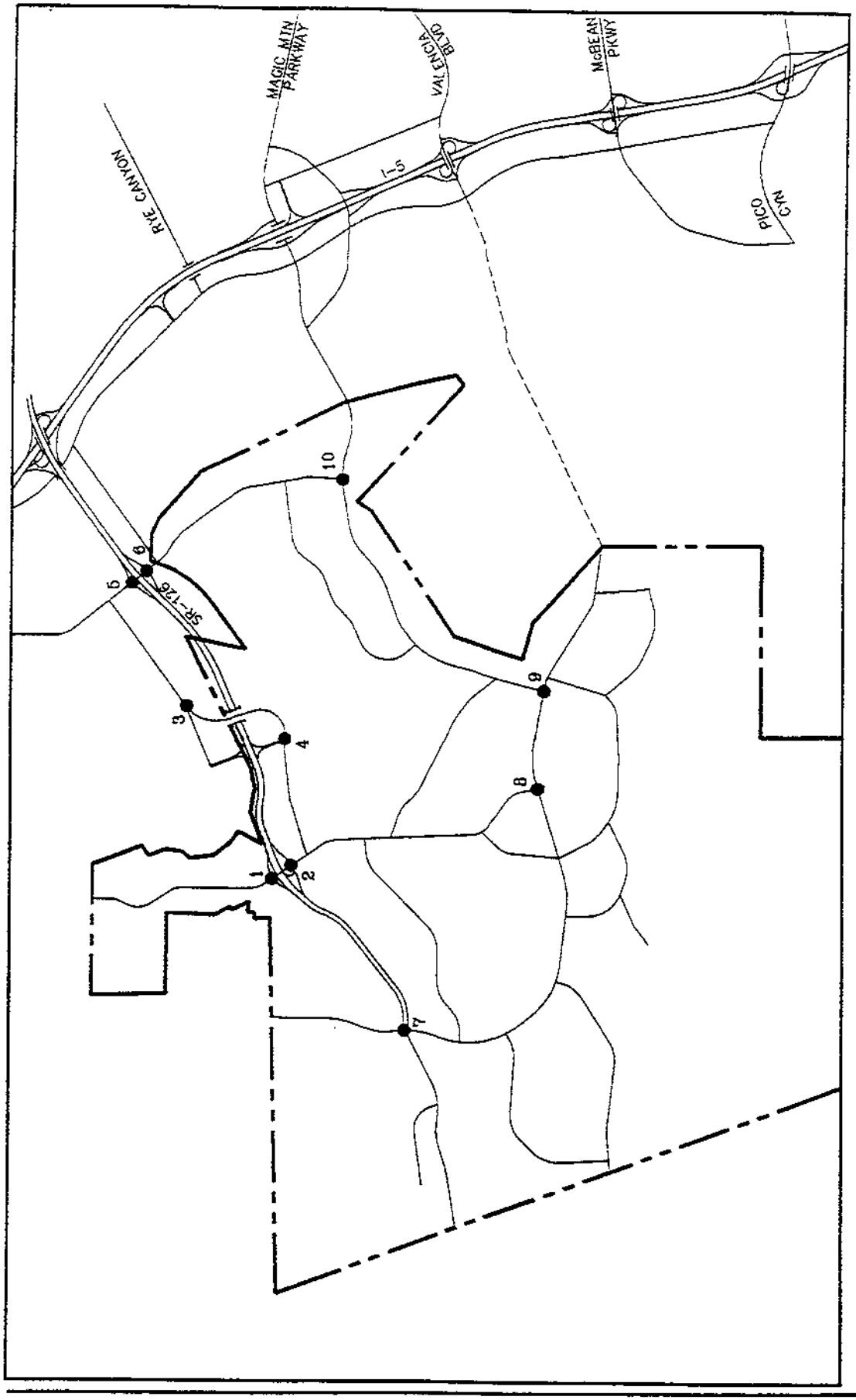


Figure IV-2

MAJOR INTERSECTION LOCATIONS

Table IV-1

LONG RANGE ICU SUMMARY - ON-SITE INTERSECTIONS

INTERSECTION	COUNTY BASE NO PROJ AM	COUNTY BASE NO PROJ PM	COUNTY BASE WITH PROJ AM	COUNTY BASE WITH PROJ PM	ALTERNATIVE HIGHWAY PLAN NO PROJ AM	ALTERNATIVE HIGHWAY PLAN NO PROJ PM	ALTERNATIVE HIGHWAY PLAN WITH PROJ AM	ALTERNATIVE HIGHWAY PLAN WITH PROJ PM
1. Chiquito Cyn & SR-126 WB Ramp	--	--	.64	.81	--	--	.62	.80
2. Chiquito Cyn & SR-126 EB Ramp	--	--	.61	.64	--	--	.80	.63
3. Franklin & SR-126 WB Ramp	--	--	.69	.53	--	--	.61	.50
4. Franklin & SR-126 EB Ramp	--	--	.93	.88	--	--	.80	.79
5. Commerce Ctr & SR-126 WB Ramp	.36	.68	.38	.73	.36	.73	.44	.75
6. Commerce Ctr & SR-126 EB Ramp	.48	.70	.66	.79	.54	.71	.69	.72
7. San Martinez Grande & SR-126	.50	.43	.73	.77	.50	.47	.74	.77

INTERNAL TO PROJECT	WITH PROJECT AM	WITH PROJECT PM
8. Long Canyon & Potrero Cyn	.70	.61
9. Magic Mountain & Potrero	.68	.76
10. Commerce Center & Magic Mtn	.78	.90

Level of service ranges: .00 - .60 A
.61 - .70 B
.71 - .80 C
.81 - .90 D
.91 - 1.00 E
Above 1.00 F

* See intersection locations in Figure IV-2

traffic in addition to project traffic. The remaining three are modeled using the Newhall Ranch Traffic Model. As can be seen, most intersections are forecast to have acceptable ICU values which operate at level of service "D" or better.

ARTERIAL HIGHWAY IMPACTS

This section discusses project impacts to the surrounding arterial highway system. Capacity values and level of service designations are first discussed, followed by performance criteria for impact identification. Results from a detailed arterial link analysis are then presented.

Arterial Capacity Values

As discussed in Chapter I, arterial highway impacts were identified by forecasting long-range average daily traffic (ADT) volumes and calculating the corresponding volume/capacity (V/C) ratios. The ADT capacity values used for this analysis are as follows:

ADT CAPACITY VALUES

FACILITY TYPE	ADT CAPACITY
Eight-lane Freeway (1-5)	180,000
Eight-lane Expressway	112,000
Six-lane Expressway	84,000
Augmented Major Highway	76,000
Major Highway (6-lanes)	54,000
Major Highway (4-lanes)	36,000
Major Highway (2-lanes)	18,000
Secondary Highway (4-lanes)	32,000
Secondary Highway (2-lanes)	16,000

These capacities, with the exception of the Augmented Major Highway classification, are used by the County of Los Angeles for ADT capacity evaluation, and indicate the maximum volume to be carried by each roadway type. The Augmented Major Highway classification is a special capacity designation developed by the City of Santa Clarita and is primarily applied to sections of roadway which are in the City or adjacent to the City. The Augmented Major classification applies to certain

highways on the Alternative Highway Plan (it is not used for the County Base) and a detailed discussion on augmented capacity is given in Chapter V. As described there, augmented capacity involves a variety of capacity enhancement strategies which increase the amount of traffic that can be carried by a standard Major Highway.

Performance Criteria

In transportation planning work, it is common to translate V/C ratios into level of service (LOS) designations. These are labeled "A" through "F", with "A" indicating free flow conditions (i.e., minimal traffic) and "F" indicating congested conditions. LOS "D" changes to LOS "E" when the V/C increases beyond .90, and LOS "F" occurs when the V/C exceeds 1.0.

Various operating LOS policy standards have been established which serve as a guideline for evaluating observed traffic conditions and as a target when evaluating future traffic conditions. At the regional planning level, the state-wide Congestion Management Plan (CMP) specifies LOS "E" (V/C less than or equal to 1.00) as the operating standard for roadways on the CMP highway system. Although the CMP program is typically applied to determine short-range project impacts, the LOS methodology is also appropriate to apply to long-range analyses.

For the purpose of this ADT arterial link analysis, a V/C of 1.0 is the maximum acceptable value. In long-range planning, a V/C of 1.0 is generally considered to be applicable as a threshold value when using ADT volumes. The lead agency, in this case the County of Los Angeles, has determined that this criteria is appropriate for a study of this type and scope, and uses this threshold for long-range planning studies within the County's jurisdiction. The 1.0 for ADT link analyses recognizes the more generalized nature of ADT link volumes (compared to intersection volumes, for example). Also, the ADT V/C values will typically translate to something less when discounts are made for future changes in travel behavior, particularly during peak hours. Various regulatory actions and other influences are expected to change travel behavior over time and increase the efficiency with which the transportation system is utilized.

To evaluate project impacts on the arterial highway system, three types of impacts are identified. They are given the following designations in the tabular data presented in this chapter.

P Project Impact - This refers to a location which has a V/C of less than or equal to 1.00 without the project and greater than 1.00 with the project. Hence, it can be considered a significant adverse impact of the project.

C Contribution - This is where the no-project V/C is greater than 1.00 and the project has a contribution of more than one percent. The project, hence contributes to a future deficiency, but does not cause that deficiency.

A Augmented capacity contribution - In the alternative highway network, several arterials have special capacity augmentation, this capacity augmentation being needed for no-project volumes. Where the project contributes traffic to such a location, then the amount of capacity augmentation that will be needed is increased. The project, hence, causes a potential impact at such locations, and is therefore identified here as a project impact.

In all cases, a project contribution of more than one percent is considered to be a measurable impact and is used as the impact criteria. Hence, V/C's for those locations where the project contributes more that one percent to the total volume are examined, and if any of the above impact types are found, then the location is identified as being impacted by the project.

In Chapter II, the two long-range highway plans used for this analysis were described. The following summarizes the with and without-project volumes and the corresponding project impacts for each roadway network alternative.

County Base (Current Master Plan of Highways) Network

As described in Chapter II, the current County Master Plan of Highways has, until recently, served as the long-range highway plan for the Santa Clarita Valley. One of its key features is the eastward extension of SR-126 as an expressway connecting with SR-14. Since there has not yet been any official action to change this plan, it has been used as one of the network alternatives in this impact analysis.

The no-project ADT volumes for the current Master Plan of Highways arterial system are shown in Figure IV-3, and the corresponding with-project volumes are illustrated in Figure IV-4. The SR-126 expressway (Newhall Ranch Road east of I-5) is prominent in both sets of forecasts, with volumes in excess of 100,000 along the central portion of this facility.

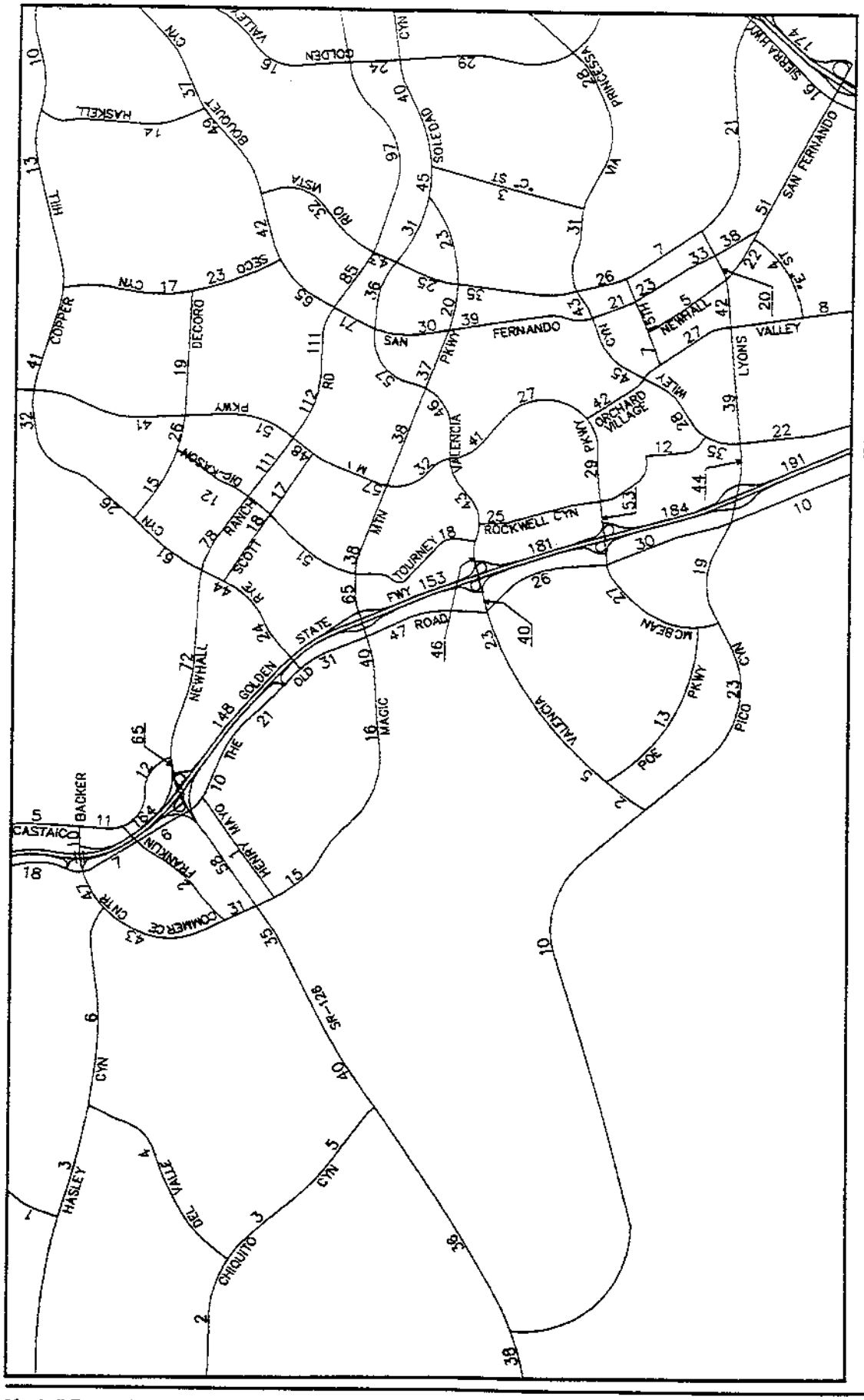


Figure IV-3
LONG RANGE ADT VOLUMES (000's)
COUNTY BASE NETWORK
(NO-PROJECT)

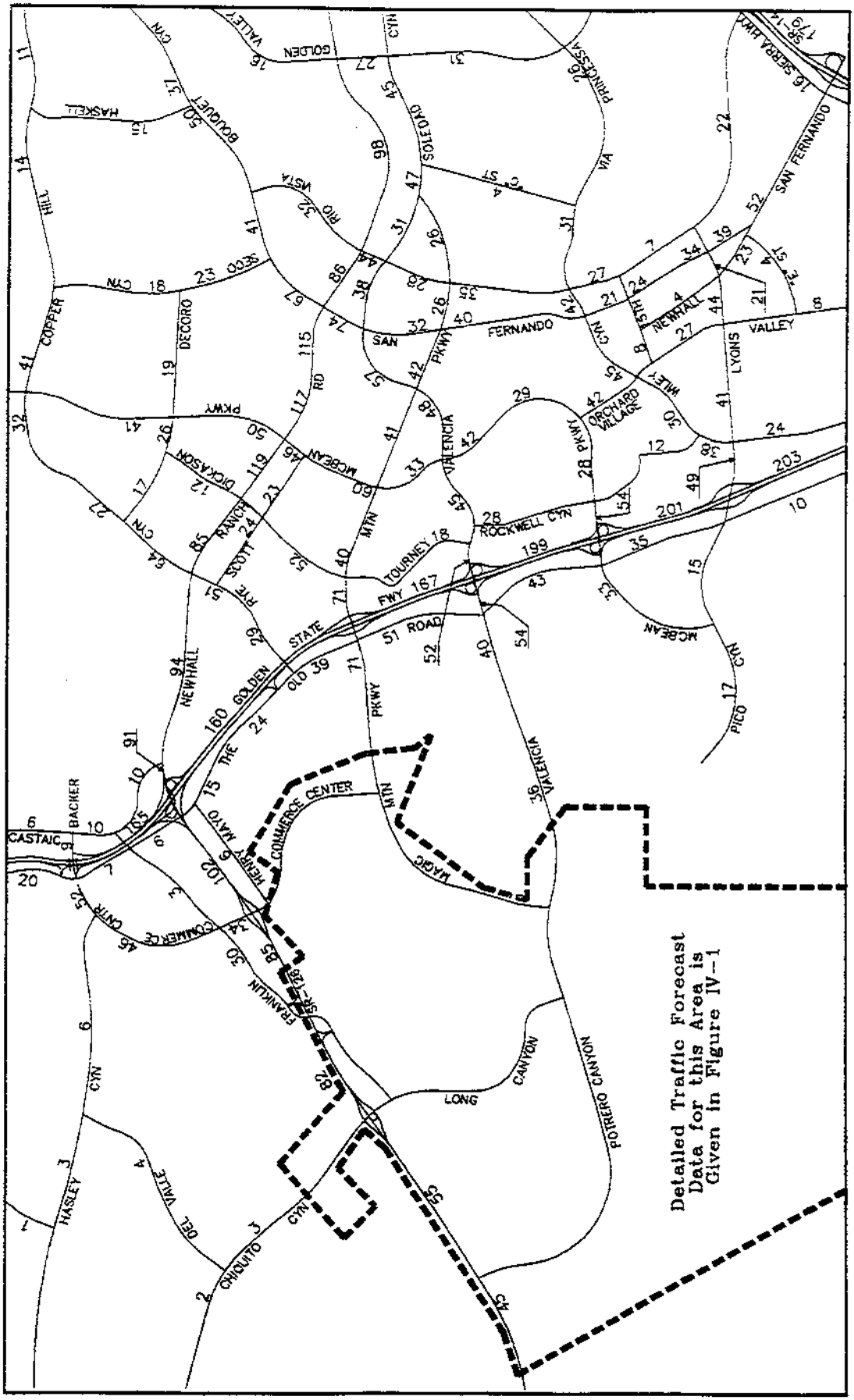


Figure IV-4
LONG RANGE ADT VOLUMES (000's)
COUNTY BASE NETWORK
(WITH PROJECT)

Comparison between the two sets of forecasts shows that the greatest volume differences occur on the east-west arterials directly serving the project. Valencia Boulevard just west of I-5 is forecast to carry 54,000 ADT with the project compared to 40,000 without the project, and Magic Mountain Parkway just west of The Old Road has a forecast volume of 71,000 ADT with the project compared to 40,000 without the project. On SR-126 west of I-5, the with-project volume is 102,000 compared to 58,000 without the project.

East of I-5, the project results in higher volumes on major arterials such as Newhall Ranch Road, Magic Mountain Parkway, and Valencia Boulevard. The difference between with and without project becomes generally insignificant east of Rio Vista. Land uses in that area to the east are assumed to be the same with or without the project and hence the total trips generated by that area are unchanged. Trips generated in that area are on the roadway system irregardless of the project, resulting in minimal differences between with and without project volumes.

A listing of the volumes and V/C ratios for the study area circulation system can be found in Table IV-2. (The link numbering system used in this table corresponds to an overall link numbering system for the SCVCTM, and a reference figure can be found in Appendix C.) Summarized here are the volumes and capacities and the resulting V/C ratios for the study area arterial highway system. The project contribution to the V/C is listed, and the "P", "C", and "A" notations are used to indicate where a project impact occurs. As noted earlier, a "P" notation is where the project causes a roadway with V/C below 1.00 under no-project conditions to have a V/C higher than 1.00. A "C" notation is where the V/C is greater than 1.00 for both no-project and with-project conditions, and where the project impact is more than one percent. An "A" notation is used to indicate augmented capacity where the addition of the project causes an impact of greater than one percent and adds to the need for the augmented capacity.

As can be seen from these results, several link locations are impacted by the project. These are summarized in the overall impact summary given at the end of this chapter, and mitigation measures are described in Chapter V.

Table IV-2

LONG-RANGE ADT VOLUME SUMMARY - COUNTY BASE NETWORK

LINK #/LOCATION*	LANES	CAPACITY	NO-PROJECT VOL	NO-PROJECT V/C	WITH-PROJECT VOL	WITH-PROJECT V/C	PROJ. CONTR.
1. Hasley Cyn w/o Del Valle	4	32000	3000	.09	3000	.09	.00
2. Hasley Cyn e/o Del Valle	4	32000	6000	.19	6000	.19	.00
3. Del Valle n/o Chiquito Cyn	4	32000	4000	.13	4000	.13	.00
4. Chiquito Cyn w/o Del Valle	2	14000	2000	.14	2000	.14	.00
5. Chiquito Cyn e/o Del Valle	4	32000	3000	.09	3000	.09	.00
9. Commerce Ctr Dr e/o I-5	6	54000	10000	.19	9000	.17	-.02
10. Commerce Ctr Dr w/o I-5	6	54000	47000	.87	52000	.96	.09
11. Commerce Ctr Dr s/o Hasley	6	54000	43000	.80	46000	.85	.06
12. Commerce Ctr Dr n/o SR-126	6	54000	31000	.57	34000	.63	.06
14. Valencia e/o MMP	6	54000	5000	.09	36000	.67	.58
18. Valencia w/o The Old Rd	6	54000	23000	.43	40000	.74	.31
19. Valencia e/o The Old Rd	6	54000	40000	.74	54000	1.00	.26
22. Magic Mtn w/o The Old Rd	6	54000	40000	.74	71000	1.31	.57 P
23. The Old Rd n/o Commerce Cnt	4	32000	18000	.56	20000	.63	.06
24. The Old Rd n/o Franklin	6	54000	7000	.13	7000	.13	.00
25. The Old Rd n/o SR-126	6	54000	6000	.11	6000	.11	.00
26. The Old Rd s/o SR-126	6	54000	10000	.19	15000	.28	.09
27. The Old Rd s/o Henry Mayo	6	54000	21000	.39	24000	.44	.06
28. The Old Rd n/o Magic Mtn	6	54000	31000	.57	39000	.72	.15
29. The Old Rd s/o Magic Mtn	6	54000	47000	.87	51000	.94	.07
30. The Old Rd s/o Valencia	6	54000	26000	.48	43000	.80	.31
31. The Old Rd s/o McBean	6	54000	30000	.56	35000	.65	.09
32. The Old Rd s/o Lyons	4	32000	10000	.31	10000	.31	.00
33. Pico w/o McBean	4	32000	23000	.72	17000	.53	-.19
34. Pico e/o McBean	4	32000	19000	.59	15000	.47	-.13
35. McBean w/o The Old Rd	6	54000	27000	.50	33000	.61	.11
36. McBean e/o I-5	6	54000	53000	.98	54000	1.00	.02
37. McBean e/o Tournament	6	54000	29000	.54	28000	.52	-.02
38. McBean s/o Valencia	6	54000	41000	.76	42000	.78	.02
39. McBean n/o Valencia	6	54000	32000	.59	33000	.61	.02
40. McBean n/o Magic Mtn	6	54000	57000	1.06	60000	1.11	.06 C
41. McBean s/o Newhall Ranch Rd	6	54000	48000	.89	46000	.85	-.04
42. McBean n/o Newhall Ranch Rd	6	54000	51000	.94	50000	.93	-.02
43. McBean n/o Decoro	6	54000	41000	.76	41000	.76	.00
50. Newhall Ranch Rd e/o I-5	8	112000	65000	.58	91000	.81	.23
51. Newhall Ranch Rd w/o Rye	8	112000	72000	.64	94000	.84	.20
52. Newhall Ranch Rd e/o Rye	8	112000	78000	.70	85000	.76	.06
53. Newhall Ranch e/o Dickason	8	112000	111000	.99	119000	1.06	.07 P
54. Newhall Ranch Rd e/o McBean	8	112000	112000	1.00	117000	1.04	.04 P
56. Castaic n/o Newhall Ranch Rd	4	32000	12000	.38	10000	.31	-.06
57. Castaic s/o Commerce Cnt Dr	4	32000	11000	.34	10000	.31	-.03
58. Castaic n/o Commerce Cnt Dr	4	32000	5000	.16	6000	.19	.03
60. Franklin w/o Commerce Cnt Dr	4	32000	0	.00	30000	.94	.94
61. Franklin e/o Commerce Cnt Dr	4	32000	2000	.06	3000	.09	.03
63. Rye e/o I-5	6	54000	24000	.44	29000	.54	.09
64. Rye e/o Scott	6	54000	44000	.81	51000	.94	.13
65. Copperhill e/o Newhall Ranch	6	54000	61000	1.13	64000	1.19	.06 C
66. Copperhill n/o Decoro	6	54000	26000	.48	27000	.50	.02
67. Copperhill e/o McBean	6	54000	41000	.76	41000	.76	.00
68. Copperhill e/o Seco	4	32000	13000	.41	14000	.44	.03
69. Copperhill e/o Haskell	6	54000	10000	.19	11000	.20	.02

(Continued)

Table IV-2 (cont)
LONG-RANGE ADT VOLUME SUMMARY - COUNTY BASE NETWORK

LINK #/LOCATION*	LANES	CAPACITY	NO-PROJECT VOL	NO-PROJECT V/C	WITH-PROJECT VOL	WITH-PROJECT V/C	PROJ. CONTR.	
70. Decoro e/o Copperhill	4	32000	15000	.47	17000	.53	.06	
71. Decoro e/o Dickason	4	32000	26000	.81	26000	.81	.00	
72. Decoro e/o McBean	4	32000	19000	.59	19000	.59	.00	
73. Haskell n/o Bouquet	4	32000	14000	.44	15000	.47	.03	
74. Seco n/o Decoro	4	32000	17000	.53	18000	.56	.03	
75. Seco s/o Decoro	4	32000	23000	.72	23000	.72	.00	
76. Bouquet e/o Haskell	6	54000	37000	.69	37000	.69	.00	
77. Bouquet e/o Rio Vista	6	54000	49000	.91	50000	.93	.02	
78. Bouquet n/o Newhall Ranch	8	72000	65000	.90	67000	.93	.03	
79. Bouquet s/o Newhall Ranch	6	54000	71000	1.31	74000	1.37	.06	c
80. Bouquet n/o Magic Mtn	6	54000	30000	.56	32000	.59	.04	
81. San Fernando s/o Magic Mtn	6	54000	39000	.72	40000	.74	.02	
82. San Fernando s/o Wiley	6	54000	21000	.39	21000	.39	.00	
83. San Fernando n/o Placerita	6	54000	23000	.43	24000	.44	.02	
84. San Fernando s/o Placerita	6	54000	33000	.61	34000	.63	.02	
85. San Fernando s/o Lyons	6	54000	38000	.70	39000	.72	.02	
86. Ave Scott e/o Rye	6	54000	18000	.33	24000	.44	.11	
87. Ave Scott e/o Dickason	6	54000	17000	.31	23000	.43	.11	
88. Magic Mtn e/o I-5	6	54000	65000	1.20	71000	1.31	.11	c
89. Magic Mtn e/o Tourney	6	54000	38000	.70	40000	.74	.04	
90. Mtn e/o McBean	6	54000	38000	.70	41000	.76	.06	
91. Magic Mtn e/o Valencia	6	54000	37000	.69	42000	.78	.09	
93. Tourney n/o Valencia	4	32000	18000	.56	18000	.56	.00	
94. Rockwell s/o Valencia	4	32000	25000	.78	28000	.88	.09	
95. Tournament s/o McBean	4	32000	12000	.38	12000	.38	.00	
96. Valencia e/o I-5	6	54000	46000	.85	52000	.96	.11	
98. Valencia e/o Rockwell	6	54000	43000	.80	45000	.83	.04	
99. Valencia e/o McBean	6	54000	46000	.85	48000	.89	.04	
100. Valencia n/o Magic Mtn	6	54000	57000	1.06	57000	1.06	.00	
101. Soledad e/o Bouquet	6	54000	31000	.57	31000	.57	.00	
102. Wiley s/o Lyons	4	32000	22000	.69	24000	.75	.06	
103. Wiley n/o Lyons	6	54000	35000	.65	38000	.70	.06	
104. Wiley e/o Tournament	6	54000	28000	.52	30000	.56	.04	
105. Wiley e/o Orchard Village	6	54000	45000	.83	45000	.83	.00	
106. Via Princessa e/o San Fern	6	54000	43000	.80	42000	.78	-.02	
107. Via Princessa e/o Magic Mtn	6	54000	28000	.52	26000	.48	-.04	
108. 15th St e/o Orchard Village	4	32000	7000	.22	8000	.25	.03	
109. Newhall n/o Lyons	4	32000	5000	.16	4000	.13	-.03	
110. Newhall s/o Lyons	4	32000	22000	.69	23000	.72	.03	
111. San Fernando e/o Newhall	6	54000	51000	.94	52000	.96	.02	
112. Orchard Village s/o McBean	6	54000	42000	.78	42000	.78	.00	
113. Orchard Village s/o Wiley	6	54000	27000	.50	27000	.50	.00	
114. Orchard Village s/o Lyons	4	32000	8000	.25	8000	.25	.00	
115. Lyons e/o I-5	6	54000	44000	.81	49000	.91	.09	
116. Lyons e/o Wiley	6	54000	39000	.72	41000	.76	.04	
117. Lyons e/o Orchard Village	6	54000	42000	.78	44000	.81	.04	
118. Lyons w/o San Fernando	6	54000	20000	.37	21000	.39	.02	
119. McBean e/o Orchard Village	6	54000	27000	.50	29000	.54	.04	
123. Dickason s/o Ave Scott	6	54000	51000	.94	52000	.96	.02	
124. Dickason s/o Decoro	4	32000	12000	.38	12000	.38	.00	

(Continued)

Table IV-2 (cont)
LONG-RANGE ADT VOLUME SUMMARY - COUNTY BASE NETWORK

LINK #/LOCATION*	LANES	CAPACITY	NO-PROJECT VOL	NO-PROJECT V/C	WITH-PROJECT VOL	WITH-PROJECT V/C	PROJ. CONTR.
126. Bouquet e/o Seco	6	54000	42000	.78	41000	.76	-.02
128. Newhall Ranch w/o Bouquet	8	112000	111000	.99	115000	1.03	.04 P
138. Golden Valley s/o Plum	4	32000	16000	.50	16000	.50	.00
143. Soledad w/o Golden Valley	6	54000	40000	.74	45000	.83	.09
151. Via Princessa w/o MMP	6	54000	31000	.57	31000	.57	.00
159. Sierra Hwy e/o San Fern	6	54000	16000	.30	16000	.30	.00
164. Rio Vista n/o NRR	6	54000	32000	.59	32000	.59	.00
165. NRR e/o San Fernando	8	112000	85000	.76	86000	.77	.01
166. NRR e/o Rio Vista	8	112000	97000	.87	98000	.88	.01
171. Rio Vista n/o Soledad	6	54000	43000	.80	44000	.81	.02
172. Rio Vista s/o Soledad	6	54000	35000	.65	35000	.65	.00
173. Golden Valley s/o NRR	6	54000	24000	.44	27000	.50	.06
174. Golden Valley s/o Soledad	6	54000	29000	.54	31000	.57	.04
176. Rio Vista s/o Via Princessa	6	54000	26000	.48	27000	.50	.02
177. Rio Vista n/o Lyons	6	54000	7000	.13	7000	.13	.00
178. Rio Vista n/o Sierra Hwy	6	54000	21000	.39	22000	.41	.02
186. Soledad e/o San Fernando	6	54000	36000	.67	38000	.70	.04
187. Soledad e/o MMP	6	54000	45000	.83	47000	.87	.04
188. MMP e/o San Fernando	4	32000	20000	.63	26000	.81	.19
189. MMP e/o Rio Vista	4	32000	23000	.72	26000	.81	.09
190. C Street s/o Soledad	4	32000	3000	.09	4000	.13	.03
191. North of Hasley	4	32000	1000	.03	1000	.03	.00
192. Henry Mayo w/o The Old Rd	2	14000	1000	.07	6000	.43	.36
193. Rio Vista s/o Soledad	6	54000	25000	.46	28000	.52	.06
194. Copperhill w/o McBean	6	54000	32000	.59	32000	.59	.00
198. "E" Street e/o Valley	2	16000	4000	.25	4000	.25	.00

P Project Impact - Project causes V/C to exceed 1.00
C Contribution - No-project and with-project V/C exceeds 1.00
* A reference map for the link numbering system can be found in Appendix C

Level of service ranges: .00 - .60 A
.61 - .70 B
.71 - .80 C
.81 - .90 D
.91 - 1.00 E
Above 1.00 F

Alternative Highway Plan

As discussed in Chapter II, the Alternative Highway Plan was formulated specifically for this analysis, and represents a potential alternative to the County Base. Technical reports prepared by the City of Santa Clarita (e.g., Reference 7 at the end of Chapter I) show an alternative similar to this, although as noted in the discussion, there is not an adopted plan at this time. The primary purpose of this alternative is to show how the project would impact the arterial highway system without the SR-126 expressway across the Valley as depicted in the County Base network.

The no-project and with project ADT volumes for the Alternative Highway Plan are illustrated in Figures IV-5 and IV-6, respectively. As with the County Base network, the east-west roadways directly serving the project show the greatest differences. Valencia Boulevard west of I-5 has a forecast volume of 54,000 compared to 39,000 for the no-project, Magic Mountain Parkway has 73,000 compared to 45,000, and on SR-126 west of I-5, the with-project volume is 97,000 compared to 53,000. Again, the east-west roadways east of the I-5 Freeway show increases near the freeway, diminishing to relatively low differences east of San Fernando Road.

Table IV-3 lists the ADT link volumes and V/C ratios for this scenario. The same "P" and "C" notations are used here to denote where the project contributes to a deficiency or causes a deficiency, respectively. In addition, the "A" notation for contributing to an augmented capacity need can be found in this table.

As can be seen from these results, a number of locations have project impacts. These are summarized at the end of this chapter, and mitigation measures are discussed in the next chapter.

STATE HIGHWAYS

The project impacts two State Highways; SR-126 and I-5. Some minor differences in volumes also occur on SR-14, but only on the section just north of the I-5 confluence does the project increase volumes by more than one percent. Impacts to the State Highway system were evaluated using a similar ADT V/C calculation to that used for the arterial system. All freeway locations within the study area were evaluated, as well as the freeway monitoring stations designated for evaluation

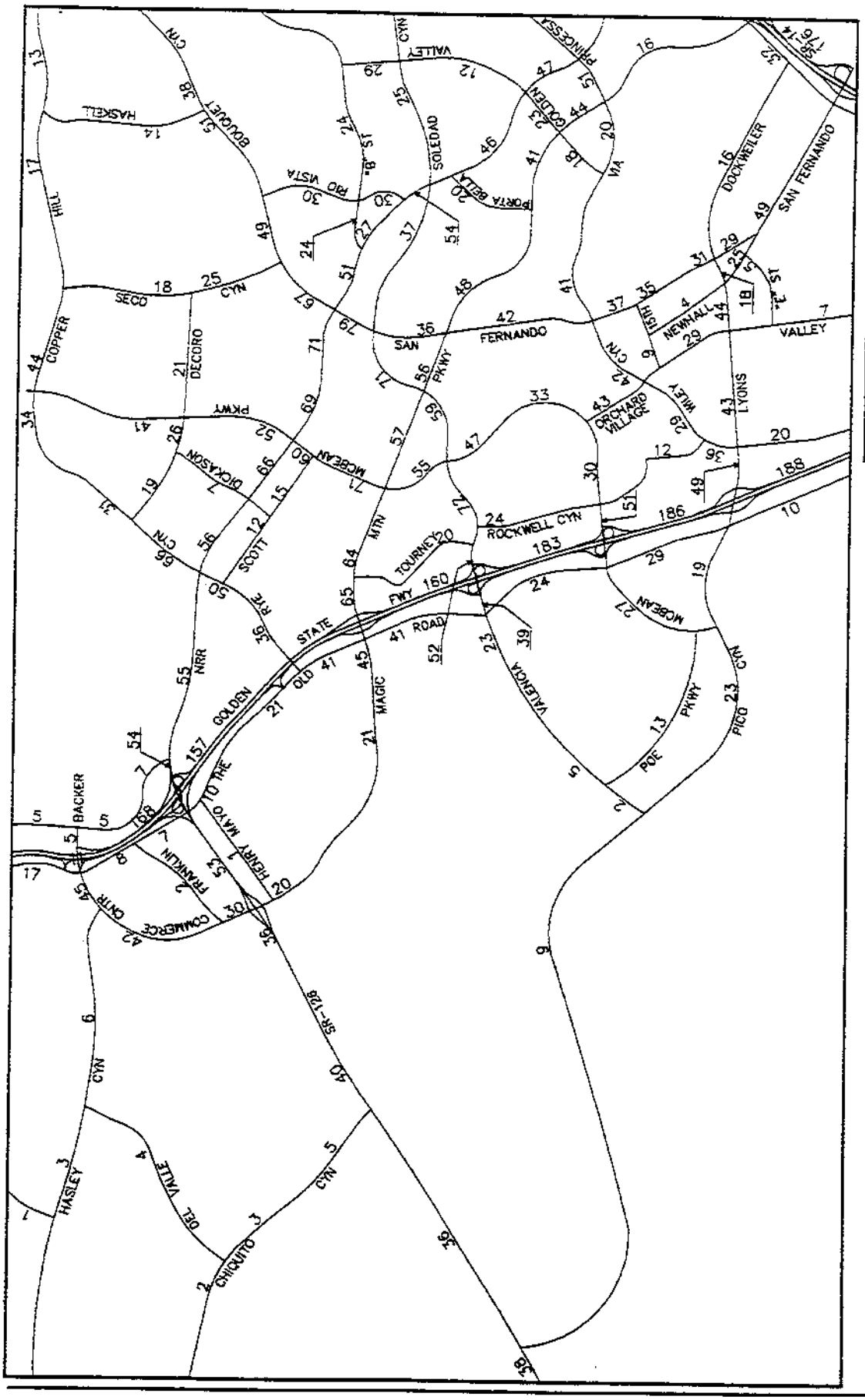


Figure IV-5
LONG RANGE ADT VOLUMES (000's)
ALTERNATIVE HIGHWAY PLAN
(NO-PROJECT)

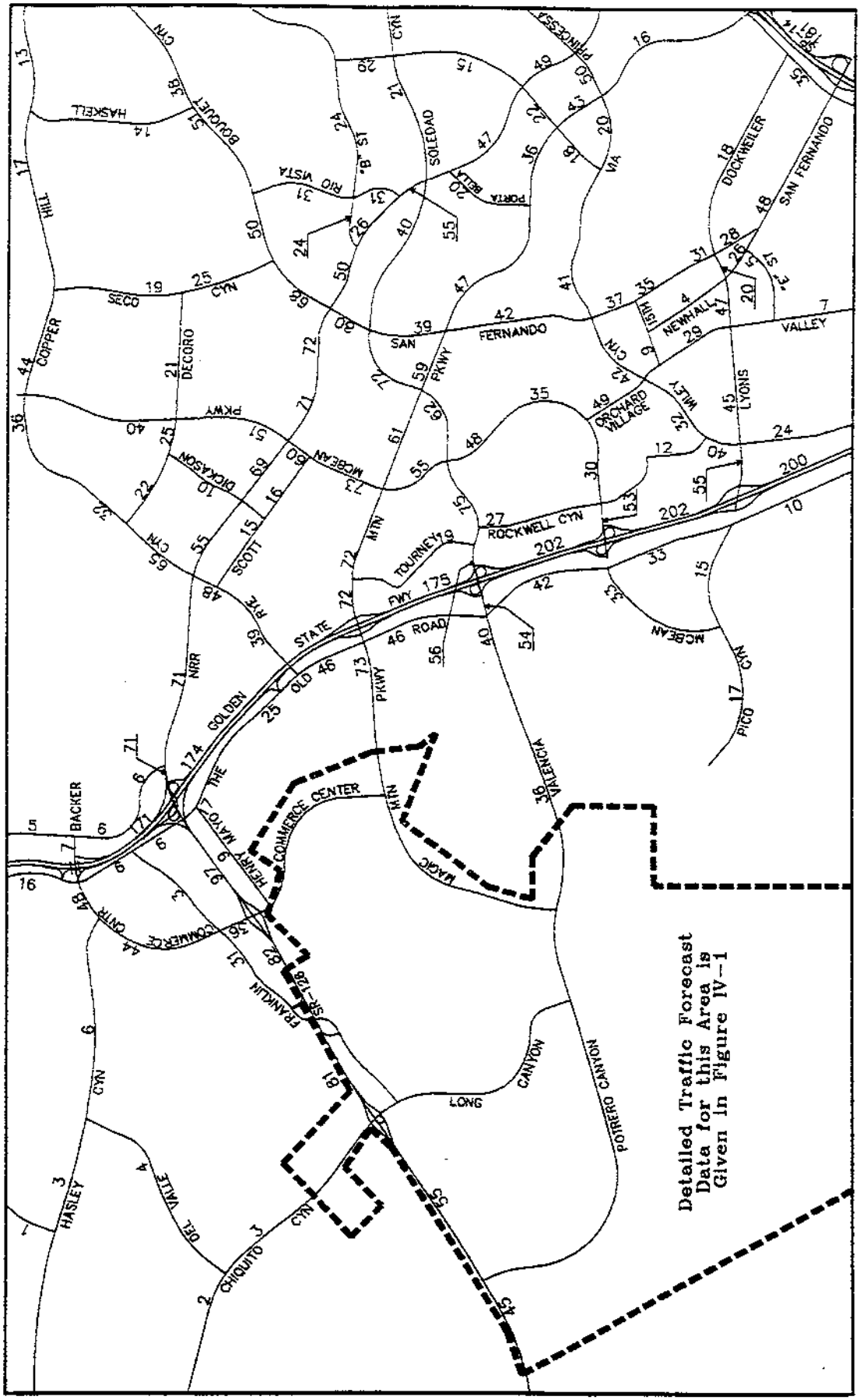


Figure IV-6
LONG RANGE ADT VOLUMES (000's)
ALTERNATIVE HIGHWAY PLAN
(WITH PROJECT)

Table IV-3

LONG-RANGE ADT VOLUME SUMMARY - ALTERNATIVE HIGHWAY PLAN

LOCATION*	LANES	CAPACITY	NO-PROJECT VOL	NO-PROJECT V/C	WITH-PROJECT VOL	WITH-PROJECT V/C	PROJ. CONTR.
1. Hasley Cyn w/o Del Valle	4	32000	3000	.09	3000	.09	.00
2. Hasley Cyn e/o Del Valle	4	32000	6000	.19	6000	.19	.00
3. Del Valle n/o Chiquito Cyn	4	32000	4000	.13	4000	.13	.00
4. Chiquito Cyn w/o Del Valle	2	14000	2000	.14	2000	.14	.00
5. Chiquito Cyn e/o Del Valle	4	32000	3000	.09	3000	.09	.00
9. Commerce Cnt Dr e/o I-5	6	54000	5000	.09	7000	.13	.04
10. Commerce Cnt Dr w/o I-5	6	54000	45000	.83	48000	.89	.06
11. Commerce Cnt Dr s/o Hasley	6	54000	42000	.78	44000	.81	.04
12. Commerce Cnt Dr n/o SR-126	6	54000	30000	.55	36000	.67	.12
14. Valencia e/o MMP	6	54000	5000	.09	36000	.67	.56
18. Valencia w/o The Old Rd	6	54000	23000	.43	40000	.74	.31
19. Valencia e/o The Old Rd	6	54000	39000	.72	54000	1.00	.28
22. Magic Mtn w/o The Old Rd	6	54000	45000	.83	73000	1.35	.52 P
23. The Old Rd n/o Commerce Cnt	4	32000	17000	.53	16000	.50	-.03
24. The Old Rd n/o Franklin	6	54000	8000	.15	6000	.11	-.04
25. The Old Rd n/o SR-126	6	54000	7000	.13	6000	.11	-.02
26. The Old Rd s/o SR-126	6	54000	10000	.19	17000	.32	.13
27. The Old Rd s/o Henry Mayo	6	54000	21000	.39	25000	.46	.07
28. The Old Rd n/o Magic Mtn	6	54000	41000	.76	46000	.85	.09
29. The Old Rd s/o Magic Mtn	6	54000	41000	.76	46000	.85	.09
30. The Old Rd s/o Valencia	6	54000	24000	.44	42000	.78	.33
31. The Old Rd s/o McBean	6	54000	29000	.54	33000	.61	.07
32. The Old Rd s/o Lyons	4	32000	10000	.31	10000	.31	.00
33. Pico w/o McBean	4	32000	23000	.72	17000	.53	-.19
34. Pico e/o McBean	4	32000	19000	.59	15000	.47	-.13
35. McBean w/o The Old Rd	6	54000	27000	.50	33000	.61	.11
36. McBean e/o I-5	6	54000	51000	.94	53000	.98	.04
37. McBean e/o Tournament	6	54000	30000	.56	30000	.56	.00
38. McBean s/o Valencia	6	54000	47000	.87	48000	.89	.02
39. McBean n/o Valencia	6A	76000	55000	.72	55000	.72	.00
40. McBean n/o Magic Mtn	6A	76000	71000	.93	73000	.96	.03 A
41. McBean s/o Newhall Ranch Rd	6A	76000	60000	.79	60000	.79	.00
42. McBean n/o Newhall Ranch Rd	6	54000	52000	.96	51000	.94	-.02
43. McBean n/o Decoro	6	54000	41000	.76	40000	.74	-.02
50. Newhall Ranch Rd e/o I-5	6A	76000	54000	.71	71000	.93	.22 A
51. Newhall Ranch Rd w/o Rye	6A	76000	55000	.72	71000	.93	.21 A
52. Newhall Ranch Rd e/o Rye	6A	76000	56000	.74	55000	.72	-.01
53. Newhall Ranch e/o Dickason	6A	76000	66000	.87	69000	.91	.04 A
54. Newhall Ranch Rd e/o McBean	6A	76000	69000	.91	71000	.93	.03 A
55. Newhall Ranch e/o Bouquet	6A	76000	51000	.67	50000	.66	-.01
56. Castaic n/o Newhall Ranch Rd	4	32000	7000	.22	6000	.19	-.03
57. Castaic s/o Commerce Cnt Dr	4	32000	5000	.16	6000	.19	.03
58. Castaic n/o Commerce Cnt Dr	4	32000	5000	.16	5000	.16	.00
60. Franklin w/o Commerce Cnt Dr	4	32000	0	.00	31000	.97	.97
61. Franklin e/o Commerce Cnt Dr	4	32000	2000	.06	3000	.09	.03
63. Rye e/o I-5	6	54000	36000	.67	39000	.72	.06
64. Rye e/o Scott	6	54000	50000	.93	48000	.89	-.04
65. Copperhill e/o Newhall Ranch	6A	76000	66000	.87	65000	.86	-.01
66. Copperhill n/o Decoro	6	54000	31000	.57	32000	.59	.02
67. Copperhill e/o McBean	6	54000	44000	.81	44000	.81	.00

(Continued)

Table IV-3 (cont)
LONG-RANGE ADT VOLUME SUMMARY - ALTERNATIVE HIGHWAY PLAN

LOCATION*	LANES	CAPACITY	NO-PROJECT VOL	NO-PROJECT V/C	WITH-PROJECT VOL	WITH-PROJECT V/C	PROJ. CONTR.
68. Copperhill e/o Seco	4	32000	17000	.53	17000	.53	.00
69. Copperhill e/o Haskell	4	32000	13000	.41	13000	.41	.00
70. Decoro e/o Copperhill	4	32000	19000	.59	22000	.69	.09
71. Decoro e/o Dickason	4	32000	26000	.81	25000	.78	-.03
72. Decoro e/o McBean	4	32000	21000	.66	21000	.66	.00
73. Haskell n/o Bouquet	4	32000	14000	.44	14000	.44	.00
74. Seco n/o Decoro	4	32000	18000	.56	19000	.59	.03
75. Seco s/o Decoro	4	32000	25000	.78	25000	.78	.00
76. Bouquet e/o Haskell	6	54000	38000	.70	38000	.70	.00
77. Bouquet e/o Rio Vista	6	54000	51000	.94	51000	.94	.00
78. Bouquet n/o Newhall Ranch	6A	76000	67000	.88	68000	.89	.01 A
79. Bouquet s/o Newhall Ranch	8A	80000	79000	.99	80000	1.00	.01 A
80. Bouquet n/o Magic Mtn	6	54000	36000	.67	39000	.72	.06
81. San Fernando s/o Magic Mtn	6	54000	42000	.78	42000	.78	.00
82. San Fernando s/o Wiley	6	54000	37000	.69	37000	.69	.00
83. San Fernando n/o Placerita	6	54000	35000	.65	35000	.65	.00
84. San Fernando s/o Placerita	6	54000	31000	.57	31000	.57	.00
85. San Fernando s/o Lyons	6	54000	29000	.54	28000	.52	-.02
86. Ave Scott e/o Rye	4	32000	12000	.38	15000	.47	.09
87. Ave Scott e/o Dickason	4	32000	15000	.47	16000	.50	.03
88. Magic Mtn e/o I-5	6A	76000	65000	.86	72000	.95	.09 A
89. Magic Mtn e/o Tourney	6A	76000	64000	.84	72000	.95	.11 A
90. Magic Mtn e/o McBean	6A	76000	57000	.75	61000	.80	.05 A
91. Magic Mtn e/o Valencia	6A	76000	56000	.74	59000	.78	.04 A
92. Magic Mtn e/o San Fern	6	54000	48000	.63	47000	.87	.24
93. Tourney n/o Valencia	4	32000	20000	.63	19000	.59	-.03
94. Rockwell s/o Valencia	4	32000	24000	.75	27000	.84	.09
95. Tournament s/o McBean	4	32000	12000	.38	12000	.38	.00
96. Valencia e/o I-5	6A	76000	52000	.68	56000	.74	.05 A
98. Valencia e/o Rockwell	6A	76000	72000	.95	75000	.99	.04 A
99. Valencia e/o McBean	6A	76000	59000	.78	62000	.82	.04 A
100. Valencia n/o Magic Mtn	6A	76000	71000	.93	72000	.95	.01 A
101. Soledad e/o Bouquet	6	54000	37000	.69	40000	.74	.06
102. Wiley s/o Lyons	4	32000	20000	.63	24000	.75	.13
103. Wiley n/o Lyons	6	54000	36000	.67	40000	.74	.07
104. Wiley e/o Tournament	6	54000	29000	.54	32000	.59	.06
105. Wiley e/o Orchard Village	6	54000	42000	.78	42000	.78	.00
106. Via Princessa e/o San Fern	6	54000	41000	.76	41000	.76	.00
107. Via Princessa e/o Magic Mtn	6	54000	51000	.94	50000	.93	-.02
108. 15th St e/o Orchard Village	4	32000	9000	.28	9000	.28	.00
109. Newhall n/o Lyons	4	32000	4000	.13	4000	.13	.00
110. Newhall s/o Lyons	4	32000	25000	.78	26000	.81	.03
111. San Fernando e/o Newhall	6	54000	49000	.91	48000	.89	-.02
112. Orchard Village s/o McBean	6	54000	43000	.80	49000	.91	.11
113. Orchard Village s/o Wiley	6	54000	29000	.54	29000	.54	.00
114. Orchard Village s/o Lyons	4	32000	7000	.22	7000	.22	.00
115. Lyons e/o I-5	6	54000	49000	.91	55000	1.02	.11 P
116. Lyons e/o Wiley	6	54000	43000	.80	45000	.83	.04
117. Lyons e/o Orchard Village	6	54000	44000	.81	47000	.87	.06
118. Lyons w/o San Fernando	6	54000	18000	.33	20000	.37	.04
119. McBean e/o Orchard Village	6	54000	33000	.61	35000	.65	.04

(Continued)

Table IV-3 (cont)
LONG-RANGE ADT VOLUME SUMMARY - ALTERNATIVE HIGHWAY PLAN

LOCATION*	LANES	CAPACITY	NO-PROJECT VOL	NO-PROJECT V/C	WITH-PROJECT VOL	WITH-PROJECT V/C	PROJ. CONTR.	
122. Dockweiler e/o San Fernando	4	32000	16000	.50	18000	.56	.06	
124. Dickason s/o Decoro	4	32000	7000	.22	10000	.31	.09	
126. Bouquet e/o Seco	6A	76000	49000	.64	50000	.66	.01	
128. Newhall Ranch w/o Bouquet	6A	76000	71000	.93	72000	.95	.01	A
129. Newhall Ranch e/o B St	6	54000	27000	.50	26000	.49	-.01	
130. NRR e/o Santa Clarita Pkwy	6A	76000	54000	.71	55000	.72	.01	A
131. NRR e/o Porta Bella	6A	76000	46000	.60	47000	.61	.01	
132. NRR e/o Golden Valley	6A	76000	47000	.62	49000	.65	.03	
135. Golden Valley e/o MMP	4	32000	23000	.72	22000	.69	-.03	
136. Golden Valley e/o NRR	4	32000	12000	.38	15000	.47	.09	
137. Golden Valley n/o Soledad	6	54000	29000	.54	29000	.54	.00	
139. B St w/o Rio Vista	4	32000	24000	.75	24000	.75	.00	
140. B St e/o Rio Vista	4	32000	24000	.75	24000	.75	.00	
141. Rio Vista s/o B St	6	54000	30000	.56	31000	.57	.02	
142. Santa Clarita n/o B St	6	54000	30000	.56	31000	.57	.02	
143. Soledad w/o Golden Valley	6	54000	25000	.46	21000	.39	-.07	
151. Via Princessa w/o MMP	6	54000	20000	.37	20000	.37	.00	
155. MMP e/o Golden Valley	6	54000	44000	.81	43000	.80	-.02	
156. MMP s/o Via Princessa	4	32000	16000	.50	16000	.50	.00	
159. Sierra Hwy e/o San Fern	6	54000	32000	.59	35000	.65	.06	
191. North of Hasley	4	32000	1000	.03	1000	.03	.00	
192. Henry Mayo w/o The Old Rd	2	14000	1000	.07	9000	.64	.57	
194. Copperhill w/o McBean	6	54000	34000	.63	36000	.67	.04	
196. Porta Bella s/o NRR	4	32000	20000	.63	20000	.63	.00	
197. MMP e/o Porta Bella	6	54000	41000	.54	36000	.67	.13	
198. "E" St e/o Valley	2	16000	5000	.31	5000	.31	.00	
199. Golden Valley n/o Via Princessa	4	32000	18000	.56	18000	.56	.00	

P Project Impact - Project causes V/C to exceed 1.00
C Contribution - No-project and with-project V/C exceeds 1.00
A Augmented Capacity Impact - Adds to the need for capacity augmentation
6A - Augmented capacity
* A reference map for the link numbering system can be found in Appendix C

Level of service ranges: .00 - .60 A
.61 - .70 B
.71 - .80 C
.81 - .90 D
.91 - 1.00 E
Above 1.00 F

under the Congestion Management Program (CMP). A special discussion on SR-126 at the Ventura County line is given later is this section.

State Highway Capacity Assumptions

The SCVCTM contains representative ADT values for capacity evaluation. These values were applied earlier in this chapter for identifying project impacts on the arterial highway system.

The freeway capacities used in the freeway capacity evaluation results were taken from the following sources:

ADT Capacities - Santa Clarita Valley Consolidated Traffic Model (SCVCTM)
I-5 Peak Hour Capacities - Caltrans Route Concept Report, Route 5, February 1991
SR-14 Peak Hour Capacities - Caltrans Route Concept Report, Route 14, June 1991
SR-126 Peak Hour Capacities - Caltrans Route Concept Report, Route 126, January 1991

The Caltrans route concept reports (see References 4, 5 and 6 at the end of Chapter I), represent the applicable long-range planning documents for the State Highway system. The route concept reports are long-range planning documents that evaluate projected travel demand over a 20 year period to determine the appropriate type of facility and level of service for each route. These reports provide a basis for the development of the State Transportation Improvement Program and provide a reference for highway improvement planning. The Route Concept Plans describe the long-range plans for each facility, and provide applicable capacities for evaluating traffic volumes.

The freeway capacities from the applicable sources can be summarized as follows:

FREEWAY CAPACITY ASSUMPTIONS

	LANES (One Direction)	PEAK HOUR (One Direction)	ADT (Both Directions)
I-5 north of SR-14			
Existing	4G	8,000	180,000
Planned	4G + T + HOV	12,500	225,000
SR-14 north of I-5			
Existing	4G	9,000	180,000
Planned	4G + HOV	12,000	225,000

G - General purpose lane T - Truck lane HOV - High occupancy vehicle lane

The capacity values listed here for the planned lanes have been used in the V/C calculations presented in this chapter.

Interstate 5 Widening Status

Interstate 5 is currently eight lanes from SR-126 to SR-14. This study assumes I-5 will be constructed to eight general purpose lanes plus two HOV lanes and two truck lanes for the buildout time frame. The Route Concept Report for I-5 (see Reference 4 at the end of Chapter I) indicates that the HOV lanes are needed to meet future traffic volumes and should be incorporated into the long-range planning efforts for this facility.

The Los Angeles County Metropolitan Transportation Authority (MTA) recently adopted a 20-year long-range transportation plan (see Reference 10 at the end of Chapter I). The goal of the long-range plan is to design, construct, operate and maintain a safe, reliable, affordable and efficient transportation system that increases mobility, relieves congestion and improves air quality to meet the needs of all Los Angeles County residents. One component of the long-range plan is HOV facilities. The plan shows costs have been allocated to the I-5 HOV project south of SR-14, but not for the HOV project north of SR-14. The long-range plan will be reviewed and readopted every two years and it is probable that because of its demonstrated necessity in the I-5 Route Concept Report, the I-5 HOV project north of SR-14 will be added to the list of projects as soon as funding becomes available. A special capacity analysis was conducted for the I-5 showing the differences in V/C calculations using an eight lane facility (see discussion in Chapter VII).

ADT Capacity Analysis - State Highways and Freeways

As described in the Caltrans Route Concept reports, the concept LOS for freeway facilities is LOS F0 (V/C between 1.01 - 1.25). This methodology differs from the arterial LOS ranges shown previously and only applies to freeways. The future ADT volumes and volume/capacity ratios for all locations along the two freeways in the study area are summarized in Table IV-4 for both the County Base Network and the Alternative Highway Network. Also included are the sections of SR-126 that are assumed to be upgraded to expressway. The SCVCTM capacity values of 14,000 ADT per lane have been used in the V/C calculations for the SR-126 Expressway locations. The link numbers

Table IV-4

FREEWAY AND EXPRESSWAY LONG-RANGE VOLUME SUMMARY

LINK #/LOCATION*	LANES	CAPACITY	NO-PROJECT VOL	NO-PROJECT V/C	WITH-PROJECT VOL	WITH-PROJECT V/C	PROJ. CONTR.
I. COUNTY BASE NETWORK							
45. SR-126 w/o Potrero Cyn	6	54000	38000	.70	45000	.83	.13
46. SR-126 w/o Chiquito Cyn	6	84000	36000	.43	55000	.65	.22
47. SR-126 e/o Chiquito Cyn	6	84000	40000	.48	82000	.98	.50
48. SR-126 w/o Commerce Cnt Dr	6	84000	35000	.42	85000	1.01	.60
49. SR-126 w/o I-5	8	112000	58000	.52	102000	.91	.39
200. I-5 n/o SR-126	10	225000	164000	.73	165000	.73	.00
201. I-5 s/o Newhall Ranch Rd	10	225000	148000	.66	160000	.71	.05
202. I-5 s/o Magic Mountain Pkwy	10	225000	153000	.68	167000	.74	.06
203. I-5 s/o Valencia	10	225000	181000	.80	199000	.88	.08
204. I-5 s/o McBean	10	225000	184000	.82	201000	.89	.08
205. I-5 s/o Lyons	10	225000	191000	.85	203000	.90	.05
206. SR-14 e/o San Fernando	10	225000	174000	.77	179000	.80	.02
210. SR-14 e/o I-5	10	225000	200000	.89	206000	.92	.03
211. I-5 n/o SR-14	10	225000	203000	.90	216000	.96	.06
212. I-5 s/o SR-14	14	315000	393000	1.25	412000	1.31	.06

LOCATION*	LANES	CAPACITY	NO-PROJECT VOL	NO-PROJECT V/C	WITH-PROJECT VOL	WITH-PROJECT V/C	PROJ. CONTR.
II. ALTERNATIVE HIGHWAY NETWORK							
45. SR-126 w/o Potrero Cyn	6	54000	38000	.70	45000	.83	.13
46. SR-126 w/o Chiquito Cyn	6	84000	36000	.43	55000	.65	.22
47. SR-126 e/o Chiquito Cyn	6	84000	40000	.48	81000	.96	.49
48. SR-126 w/o Commerce Cnt Dr	6	84000	36000	.43	82000	.98	.55
49. SR-126 w/o I-5	8	112000	53000	.47	97000	.87	.39
200. I-5 n/o SR-126	10	225000	168000	.75	171000	.76	.01
201. I-5 s/o Newhall Ranch Rd	10	225000	157000	.70	174000	.77	.08
202. I-5 s/o Magic Mountain Pkwy	10	225000	160000	.71	175000	.78	.07
203. I-5 s/o Valencia	10	225000	183000	.81	202000	.90	.08
204. I-5 s/o McBean	10	225000	186000	.83	202000	.90	.07
205. I-5 s/o Lyons	10	225000	188000	.84	200000	.89	.05
206. SR-14 e/o San Fernando	10	225000	176000	.78	181000	.80	.02
210. SR-14 e/o I-5	10	225000	202000	.90	208000	.92	.03
211. I-5 n/o SR-14	10	225000	200000	.89	212000	.94	.05
212. I-5 s/o SR-14	14	315000	393000	1.25	412000	1.31	.06

Note: The 10-lanes shown for I-5 north of SR-14 include eight general purpose lanes and two HOV lanes. The 14 lanes shown for I-5 south of SR-14 include 12 general purpose lanes and two HOV lanes. The Caltrans route concept report also includes truck lanes, and those are included in the capacities listed above.

* A link location map can be found in Appendix C

correspond to the SCVCTM link numbering system referred to earlier, and the complete numbering system can be seen in Appendix C.

The largest project related traffic increase on the freeway system is along I-5 south of SR-126. The project increases future traffic volumes by approximately 11 percent under the Alternative Highway Network. The results of this analysis show that future freeway volumes, both with and without the project, can be carried by the planned freeway system in this area within the LOS concept criteria (V/C < 1.25) except for I-5 south of the SR-14. Furthermore, two locations exceed the V/C > 1.00 criteria used throughout this study are the SR-126 segment west of Commerce Center Drive under the County Base Network, and I-5 south of SR-14 under both networks. For a further discussion of impacts to State Highways refer to the Congestion Management Program section found later in this chapter.

SR-126 Capacity Analysis - Ventura County Line

A special analysis was made for SR-126 west of the project. The methodology follows that used by Caltrans in the Route 126 Concept Report (Reference 7 at the end of Chapter I). Route Segment 4 in that analysis is from Fillmore to the County line, and the capacity evaluation is based on the four-lane rural highway planned for this section of roadway. A four-lane rural highway designation assumes minimal side street access, and no signalized intersections.

The Caltrans capacity evaluation procedure uses peak hour directional volumes and is based on the 1985 Highway Capacity Manual (HCM), the applicable capacity reference manual at the time it was prepared. The HCM has since been updated and the section for rural highways in the most recent HCM gives a set of peak hour lane capacities to be used for planning purposes (see Table 7-11 in the May 1992 revision to the 1985 HCM). Applicable values from that table together with the relevant assumptions from the HCM are as follows:

SR-126 RURAL HIGHWAY CAPACITY

Assumptions:	Free Flow Speed:	55 mph
	Type of Terrain:	Level
	Percent Trucks:	5 percent

Capacity (Maximum Peak Hour Vehicles Per Lane): 880 (LOS B)
1220 (LOS C)
1450 (LOS D)

For a four-lane divided roadway, the capacity for each direction is double these values, giving a maximum one-way peak hour volume of 2,440 for LOS "C" and 2,900 for LOS "D". The LOS criteria described in the Route Concept Report for SR-126 from Fillmore to the County line is LOS "D" (V/C < .90).

Comparing these values to the long-range peak hour volumes on SR-126 at the County line gives the following volumes and LOS results:

PEAK HOUR VOLUMES
- SR-126 AT VENTURA COUNTY LINE

		COUNTY BASE NETWORK				ALTERNATIVE NETWORK			
		NO-PROJECT VOLUME	LOS	W/PROJECT VOLUME	LOS	NO-PROJECT VOLUME	LOS	W/PROJECT VOLUME	LOS
AM	eastbound	1,765	(C)	1,892	(C)	1,766	(C)	1,891	(C)
	westbound	1,568	(B)	1,953	(C)	1,572	(B)	1,958	(C)
PM	eastbound	1,711	(B)	2,090	(C)	1,711	(B)	2,089	(C)
	westbound	1,824	(C)	2,046	(C)	1,820	(C)	2,037	(C)

Hence, the forecast peak hour volumes represent LOS "C" operation or better on the planned four-lane roadway, indicating no deficiencies.

HIGHWAY AND FREEWAY INTERCHANGES

A detailed analysis was made of the impacts of the project on the freeway interchanges which will serve project traffic. In this case, peak hour volumes were used to evaluate capacity impacts since ramp capacity is defined according to its ability to carry peak hour traffic. Long-range peak hour volumes for all freeway ramps were forecast using the SCVCTM, and with and without project V/C ratios compared. The results are summarized in Tables IV-5 and IV-6 for the County Base and Alternative Highway Networks, respectively. Peak hour ramp capacity is 1,600 vehicles per hour which is consistent with capacity assumptions used in freeway interchange studies. The "P" and "C" notation is again used here to indicate locations that are impacted by the project. Project impact mitigation for both networks is addressed in the next chapter.

CONGESTION MANAGEMENT PROGRAM (CMP)

Background

The CMP is a state-mandated program enacted by the State legislature with the passage of various Assembly Bills. The requirements for the program became effective with the voter approval of Proposition 111 in June of 1990. Proposition 111 provided a nine cent increase in the state gas tax over a five year period.

The 1995 Congestion Management Program document states that:

> *"the CMP was created to link land use, transportation, and air quality decisions; to develop a partnership among transportation decision makers on devising appropriate transportation solutions that includes all modes of travel; and to propose transportation projects which are eligible to compete for state gas tax funds."*

Table IV-5

LONG-RANGE PEAK HOUR FREEWAY RAMP VOLUMES - COUNTY BASE NETWORK

			AM PEAK HOUR					PM PEAK HOUR				
			NO-PROJECT		WITH-PROJECT		PROJ.	NO-PROJECT		WITH-PROJECT		PROJ.
LOCATION	LANES	CAPACITY	VOL	V/C	VOL	V/C	CONTR.	VOL	V/C	VOL	V/C	CONTR.
105. I-5 NB Off At Lyons	1	1600	810	.51	367	.23	-.28	1564	.98	1484	.93	-.05
106. I-5 NB On At Lyons	1	1600	390	.24	438	.27	.03	627	.39	731	.46	.06
107. I-5 SB Off At Lyons	1	1600	577	.36	685	.43	.07	502	.31	684	.43	.11
108. I-5 SB On At Lyons	1	1600	1073	.67	839	.52	-.15	907	.57	425	.27	-.30
109. I-5 NB Off At McBean	1	1600	1157	.72	1033	.65	-.08	975	.61	1233	.77	.16
110. I-5 NB On At McBean	1	1600	229	.14	270	.17	.03	151	.09	183	.11	.02
111. I-5 NB On Loop At McBean	1	1600	371	.23	567	.35	.12	276	.17	418	.26	.09
112. I-5 SB Off At McBean	1	1600	311	.19	517	.32	.13	565	.35	852	.53	.18
113. I-5 SB On At McBean	1	1600	119	.07	237	.15	.07	68	.04	198	.12	.08
114. I-5 SB On Loop At McBean	1	1600	714	.45	826	.52	.07	499	.31	373	.23	-.08
115. I-5 NB Off At Valencia	1	1600	1416	.88	1594	1.00	.11	1259	.79	1511	.94	.16
116. I-5 NB On At Valencia	1	1600	86	.05	116	.07	.02	57	.04	77	.05	.01
117. I-5 NB On Loop At Valencia	1	1600	337	.21	43	.03	-.18	106	.07	113	.07	.00
118. I-5 SB Off At Valencia	1	1600	103	.06	137	.09	.02	305	.19	339	.21	.02
119. I-5 SB On At Valencia	1	1600	87	.05	615	.38	.33	627	.39	905	.57	.17
120. I-5 SB On Loop At Valencia	1	1600	946	.59	811	.51	-.08	821	.51	773	.48	-.03
121. I-5 NB Off At MMP	1	1600	1613	1.01	1478	.92	-.08	1300	.81	1289	.81	-.01
122. I-5 NB On At MMP	1	1600	35	.02	88	.06	.03	178	.11	172	.11	-.00
123. I-5 SB Off At MMP	1	1600	859	.54	1198	.75	.21	1111	.69	1270	.79	.10
124. I-5 SB On At MMP	1	1600	1010	.63	1269	.79	.16	1451	.91	1419	.89	-.02
125. I-5 SB Off At Rye	1	1600	481	.30	563	.35	.05	167	.10	223	.14	.04
126. I-5 SB On At Rye	1	1600	103	.06	99	.06	-.00	950	.59	645	.40	-.19
127. I-5 NB Off At NRR/SR-126	1	1600	1507	.94	1599	1.00	.06	550	.34	1637	1.02	.68 P
128. I-5 NB On At NRR/SR-126	1	1600	1615	1.01	1451	.91	-.10	1947	1.22	1844	1.15	-.06
129. I-5 NB On Loop At NRR/SR-126	1	1600	397	.25	544	.34	.09	408	.26	453	.28	.03
130. I-5 NB Off-West At NRR/SR-126	1	1600	1723	1.08	1674	1.05	-.03	2065	1.29	1611	1.01	-.28
131. I-5 SB On At NRR/SR-126	1	1600	7	.00	1640	1.02	1.02 P	407	.25	1560	.98	.72
132. I-5 SB On Loop At NRR/SR-126	1	1600	16	.01	5	.00	-.01	2	.00	2	.00	.00
133. I-5 NB On Loop At MMP	1	1600	821	.51	958	.60	.09	789	.49	1070	.67	.18
134. SR-126 WB Off At Comm Cir	1	1600	1524	.95	1859	1.16	.21 P	569	.36	754	.47	.12
135. SR-126 WB On At Comm Cir	1	1600	40	.03	190	.12	.09	618	.39	974	.61	.22

(Continued)

Table IV-5 (cont)
LONG-RANGE PEAK HOUR FREEWAY RAMP VOLUMES - COUNTY BASE NETWORK

			AM PEAK HOUR					PM PEAK HOUR				
			NO-PROJECT		WITH-PROJECT		PROJ.	NO-PROJECT		WITH-PROJECT		PROJ.
LOCATION	LANES	CAPACITY	VOL	V/C	VOL	V/C	CONTR.	VOL	V/C	VOL	V/C	CONTR.
136. SR-126 EB Off At Comm Cent	1	1600	605	.38	726	.45	.08	201	.13	273	.17	.05
137. SR-126 EB On At Comm Cent	1	1600	178	.11	531	.33	.22	1597	1.00	1721	1.08	.08 [P]
138. SR-126 WB Off At Franklin	1	1600	0	.00	657	.41	.41	0	.00	762	.48	.48
139. SR-126 WB On At Franklin	1	1600	0	.00	359	.22	.22	0	.00	848	.53	.53
140. SR-126 EB Off At Franklin	1	1600	0	.00	893	.56	.56	0	.00	368	.23	.23
141. SR-126 EB On At Franklin	1	1600	0	.00	1132	.71	.71	0	.00	567	.35	.35
142. SR-126 WB Off At Chiquito	1	1600	0	.00	755	.47	.47	0	.00	1657	1.04	1.04 [P]
143. SR-126 WB On At Chiquito	1	1600	0	.00	202	.13	.13	0	.00	177	.11	.11
144. SR-126 EB Off At Chiquito	1	1600	0	.00	105	.07	.07	0	.00	275	.17	.17
145. SR-126 EB On At Chiquito	1	1600	0	.00	1258	.79	.79	0	.00	30	.02	.02
146. SR-126 EB On Loop Chiquito	1	1600	0	.00	266	.17	.17	0	.00	699	.44	.44

[P] Project Impact - Project causes V/C to exceed 1.00
[C] Contribution - No-project and with-project V/C exceeds 1.00

Table IV-6

LONG-RANGE PEAK HOUR FREEWAY RAMP VOLUMES - ALTERNATIVE HIGHWAY NETWORK

LOCATION	LANES	CAPACITY	AM PEAK HOUR NO-PROJECT VOL.	AM PEAK HOUR NO-PROJECT V/C	AM PEAK HOUR WITH-PROJECT VOL.	AM PEAK HOUR WITH-PROJECT V/C	AM PEAK HOUR PROJ. CONTR.	PM PEAK HOUR NO-PROJECT VOL.	PM PEAK HOUR NO-PROJECT V/C	PM PEAK HOUR WITH-PROJECT VOL.	PM PEAK HOUR WITH-PROJECT V/C	PM PEAK HOUR PROJ. CONTR.
105. I-5 NB Off At	1	1600	860	.54	397	.25	-.29	1582	.99	1543	.96	-.02
106. I-5 NB On At Lyons	1	1600	415	.26	566	.35	.09	597	.37	720	.45	.08
107. I-5 SB Off At Lyons	1	1600	636	.40	674	.42	.02	645	.40	714	.45	.04
108. I-5 SB On At Lyons	1	1600	1124	.70	863	.54	-.16	964	.60	426	.27	-.34
109. I-5 NB Off At McBean	1	1600	884	.55	924	.58	.02	1121	.70	1104	.69	-.01
110. I-5 NB On At McBean	1	1600	272	.17	346	.22	.05	160	.10	231	.14	.04
111. I-5 NB On Loop At McBean	1	1600	290	.18	429	.27	.09	218	.14	335	.21	.07
112. I-5 SB Off At McBean	1	1600	325	.20	641	.40	.20	658	.41	1013	.63	.22
113. I-5 SB On At McBean	1	1600	115	.07	130	.08	.01	67	.04	127	.08	.04
114. I-5 SB On Loop At McBean	1	1600	854	.53	1005	.63	.09	468	.29	417	.26	-.03
115. I-5 NB Off At Valencia	1	1600	1447	.90	1726	1.08	.17 P	1192	.75	1580	.99	.24
116. I-5 NB On At Valencia	1	1600	273	.17	187	.12	-.05	55	.03	158	.10	.06
117. I-5 NB On Loop At Valencia	1	1600	179	.11	54	.03	-.08	88	.06	78	.05	-.01
118. I-5 SB Off At Valencia	1	1600	131	.08	257	.16	.08	346	.22	365	.23	.01
119. I-5 SB On At Valencia	1	1600	87	.05	645	.40	.35	560	.35	862	.54	.19
120. I-5 SB On Loop At Valencia	1	1600	831	.52	648	.41	-.11	673	.42	591	.37	-.05
121. I-5 NB Off At MMP	1	1600	1370	.86	1408	.88	.02	956	.60	1034	.65	.05
122. I-5 NB On At MMP	1	1600	43	.03	76	.05	.02	192	.12	178	.11	-.01
123. I-5 SB Off At MMP	1	1600	1224	.76	1549	.97	.20	1461	.91	1869	1.17	.26 P
124. I-5 SB On At MMP	1	1600	950	.59	1279	.80	.21	1447	.90	1519	.95	.04
125. I-5 SB Off At Rye	1	1600	496	.31	648	.41	.09	211	.13	274	.17	.04
126. I-5 SB On At Rye	1	1600	114	.07	108	.07	-.00	1166	.73	1005	.63	-.10
127. I-5 NB Off At NRR/SR-126	1	1600	1555	.97	1824	1.14	.17 P	574	.36	1632	1.02	.66 P
128. I-5 NB On At NRR/SR-126	1	1600	1346	.84	976	.61	-.23	1610	1.01	1419	.89	-.12
129. I-5 NB On Loop At NRR/SR-126	1	1600	396	.25	660	.41	.16	411	.26	536	.34	.08
130. I-5 NB Off-West At NRR/SR-126	1	1600	1481	.93	1422	.89	-.04	1648	1.03	1529	.96	-.07
131. I-5 SB On At NRR/SR-126	1	1600	33	.02	1872	1.17	1.15 P	622	.39	1674	1.05	.66 P
132. I-5 SB On Loop At NRR/SR-126	1	1600	36	.02	8	.00	-.02	4	.00	3	.00	-.00
133. I-5 NB On Loop At MMP	1	1600	794	.50	1546	.97	.47	1077	.67	1348	.84	.17
134. SR-126 WB Off At Comm Ctr	1	1600	1545	.97	1744	1.09	.12 P	421	.26	905	.57	.30
135. SR-126 WB On At Comm Ctr	1	1600	67	.04	209	.13	.09	526	.33	969	.61	.28

(Continued)

Table IV-6 (cont)
LONG-RANGE PEAK HOUR FREEWAY RAMP VOLUMES - ALTERNATIVE HIGHWAY NETWORK

			AM PEAK HOUR					PM PEAK HOUR				
			NO-PROJECT		WITH-PROJECT		PROJ.	NO-PROJECT		WITH-PROJECT		PROJ.
LOCATION	LANES	CAPACITY	VOL.	V/C	VOL.	V/C	CONTR.	VOL	V/C	VOL.	V/C	CONTR.
135. SR-126 WB On At Comm Ctr	1	1600	67	.04	209	.13	.09	526	.33	969	.61	.28
136. SR-126 EB Off At Comm Ctr	1	1600	690	.43	718	.45	.02	236	.15	341	.21	.07
137. SR-126 EB On At Comm Ctr	1	1600	94	.06	553	.35	.29	1515	.95	1620	1.01	.07 [P]
138. SR-126 WB Off At Franklin	1	1600	0	.00	390	.24	.24	0	.00	526	.33	.33
139. SR-126 WB On At Franklin	1	1600	0	.00	276	.17	.17	0	.00	806	.50	.50
140. SR-126 EB Off At Franklin	1	1600	0	.00	1023	.64	.64	0	.00	364	.23	.23
141. SR-126 EB On At Franklin	1	1600	0	.00	725	.45	.45	0	.00	378	.24	.24
142. SR-126 WB Off At Chiquito	1	1600	0	.00	790	.49	.49	0	.00	1604	1.00	1.00
143. SR-126 WB On At Chiquito	1	1600	0	.00	217	.14	.14	0	.00	167	.10	.10
144. SR-126 EB Off At Chiquito	1	1600	0	.00	157	.10	.10	0	.00	280	.17	.17
145. SR-126 EB On At Chiquito	1	1600	0	.00	1858	1.16	1.16 [P]	0	.00	190	.12	.12
146. SR-126 EB On Loop Chiquito	1	1600	0	.00	246	.15	.15	0	.00	683	.43	.43

[P] Project Impact - Project causes V/C to exceed 1.00
[C] Contribution - No-project and with-project V/C exceeds 1.00

This traffic analysis addresses the Land Use Analysis Program, which requires that the impacts of land use decisions on the regional transportation system be evaluated for projects preparing an EIR.

The CMP highway network which is evaluated in the impact analysis, consists of all state highways (both freeways and arterials) and principal arterials that meet the criteria established by the Metropolitan Transportation Authority (MTA). Impacts are evaluated by monitoring level of service performance standards for highway segments and key roadway intersections on the CMP highway network as designated by MTA. The CMP guidelines indicate that for planning framework documents such as General Plan Amendments and Specific Plans, the arterial segment analysis (which monitors at least one segment between CMP intersections) may be substituted for the intersection analysis.

Another component of the CMP program is the Transit Analysis Program which monitors project impacts on the regional transit system and provides the planning framework to make the most effective use of transit services.

Land Use Analysis Program

The purpose of the Land Use analysis program is to ensure that local jurisdictions consider the regional impact of new development through the land use approval process. The program is designed to build on the California Environmental Quality Act (CEQA) process in identifying the impact of development on the CMP system. The program assists in inter-jurisdictional review of regional impacts in an EIR by providing a consistent methodology.

A Transportation Impact Analysis (TIA) is required in the EIR as part of the program. It should be noted that development projects requiring subsequent approvals do not need to repeat this process as long as no significant changes are made to the project.

The study area of the TIA is defined by a focused set of criteria used only to satisfy CMP requirements. In many cases, the study area used in the traffic analysis may differ from the study area used for the TIA. The study area for the TIA is defined by the following criteria:

Arterial segments - 50 or more peak hour trips (total of both directions)
Freeway segments - 150 or more peak hour trips (in either direction)

The CMP study area for the Newhall Ranch project was expanded from the study area used in the rest of the traffic study to include four freeway monitoring stations located south of the I-5/SR-14 confluence. Because these four freeway monitoring stations are located outside of the SCVCTM model area, regional growth forecasts approved by MTA were used to determine regional impacts at these locations. Although the segment of I-5 south of SR-14 is not a freeway monitoring station, it is shown here for informational purposes.

As specified in the CMP guidelines (Reference 9 at the end of Chapter I), the criteria for determining significant impacts for arterial segments and freeway monitoring stations is defined by a V/C increase of two percent or more (V/C ≥ .02) which causes or worsens LOS "F" (V/C > 1.00).

Evaluation of project impacts for CMP locations is based on peak hour volumes. The peak hour capacities for the freeway system was taken from the appropriate route concept report and the peak hour capacities for arterials were taken from the SCVCTM. These are presented below:

PEAK HOUR CAPACITIES

	CAPACITY PER LANE
FREEWAYS	
I-5, I-405, SR-126	
General Purpose Lane (G)	2,000
Truck Lane (T)	1,500
High Occupancy Vehicle Lane (HOV)	3,000
SR-14	
General Purpose Lane (G)	2,250
ARTERIALS	
Major Highway (6 lane)	1,000
Secondary Highway (4 lane)	850

The long-range with and without project volume/capacity ratios for CMP locations are summarized in Table IV-7. The table is in two parts, the first section is for the County Base Network and the second section is for the Alternative Highway Network.

Table IV-7

CMP LOCATION ANALYSIS

LOCATION	LANES	CAPACITY	AM PEAK HOUR NO-PROJECT VOL	AM PEAK HOUR NO-PROJECT V/C	AM PEAK HOUR WITH-PROJECT VOL	AM PEAK HOUR WITH-PROJECT V/C	AM PEAK HOUR PROJECT CONTR	PM PEAK HOUR NO-PROJECT VOL	PM PEAK HOUR NO-PROJECT V/C	PM PEAK HOUR WITH-PROJECT VOL	PM PEAK HOUR WITH-PROJECT V/C	PM PEAK HOUR PROJECT CONTR
I. COUNTY BASE NETWORK												
101. SR-14 NB e/o I-5	4G + HOV	12000	4616	.38	4387	.37	-.01	10111	.84	10904	.91	.07
102. SR-14 SB e/o I-5	4G + HOV	12000	10405	.87	11433	.95	.08	6562	.55	6601	.55	.00
103. I-5 NB n/o SR-14	4G + T + HOV	12500	7456	.60	7021	.56	-.04	9500	.76	10398	.83	.07
104. I-5 SB n/o SR-14	4G + T + HOV	12500	9268	.74	10468	.84	.10	8200	.66	8118	.65	-.01
148A. MMP e/o Valencia (EB)	3	3000	695	.23	863	.29	.06	1784	.59	2001	.67	.07
148B. MMP e/o Valencia (WB)	3	3000	2108	.70	1789	.60	-.11	984	.33	1082	.36	.03
153A. Lyons e/o San Fern (EB)	2	1700	536	.32	717	.42	.10	981	.58	966	.57	-.01
153B. Lyons e/o San Fern (WB)	2	1700	959	.56	854	.50	-.06	887	.52	1063	.62	.10
158A. SR-126 e/o Chiquito (EB)	3	6000	1900	.32	2419	.40	.08	1353	.23	4308	.72	.49
158B. SR-126 e/o Chiquito (WB)	3	6000	1131	.19	4185	.70	.51	2022	.34	2764	.46	.12
165. I-5 NB n/o SR-126	5	10000	5087	.51	5341	.53	.03	7177	.72	7160	.72	-.00
166. I-5 SB n/o SR-126	5	10000	6664	.67	6670	.67	.00	6685	.67	6363	.64	-.03
167A. Sierra Hwy n/o I-5 (EB)	3	3000	298	.10	245	.08	-.02	1410	.47	1416	.47	.00
167B. Sierra Hwy n/o I-5 (WB)	3	3000	1414	.47	1480	.49	.02	677	.23	663	.22	-.00
200A. I-5 NB s/o Osborne	6G + HOV	15000	6980	.46	7470	.50	.04	18048	1.20	19308	1.29	.09
200B. I-5 SB s/o Osborne	6G + HOV	15000	14382	.96	15642	1.04	.08	7393	.49	7883	.53	.04
201A. I-5 NB n/o Burbank	4G + HOV	11000	6012	.55	6217	.57	.02	7880	.72	8405	.75	.04
201B. I-5 SB n/o Burbank	4G + HOV	11000	8913	.81	9438	.86	.05	6348	.58	6553	.60	.02
202A. I-405 NB n/o Roscoe	5G + HOV	13000	5408	.41	5743	.44	.03	8012	.62	8873	.68	.06
202B. I-405 SB n/o Roscoe	5G + HOV	13000	8040	.62	8901	.69	.07	5377	.41	5712	.44	.03
203A. I-405 NB s/o Mulholland	5G + HOV	13000	9880	.76	9953	.77	.01	14600	1.12	14787	1.14	.02
203B. I-405 SB s/o Mulholland	5G + HOV	13000	11680	.90	11867	.91	.01	7880	.61	7953	.61	.00
204a. I-5 NB s/o SR-14	6G + 2t + HOV	18000	11817	.66	11161	.62	-.04	19560	1.09	21244	1.18	.09
204b. I-5 SB s/o SR-14	6G + 2t + HOV	18000	19637	1.09	21858	1.21	.12	14520	.81	14484	.80	-.01
II. ALTERNATIVE HIGHWAY NETWORK												
101. SR-14 NB e/o I-5	4G + HOV	12000	4572	.38	4362	.36	-.02	10240	.85	11070	.92	.07
102. SR-14 SB e/o I-5	4G + HOV	12000	10521	1.88	11554	.96	.08	6600	.55	6625	.55	.00

(Continued)

Table IV-7 (cont)
CMP LOCATION ANALYSIS

LOCATION	LANES	CAPACITY	AM PEAK HOUR NO-PROJECT VOL	AM PEAK HOUR NO-PROJECT V/C	AM PEAK HOUR WITH-PROJECT VOL	AM PEAK HOUR WITH-PROJECT V/C	AM PEAK HOUR PROJECT CONTR	PM PEAK HOUR NO-PROJECT VOL	PM PEAK HOUR NO-PROJECT V/C	PM PEAK HOUR WITH-PROJECT VOL	PM PEAK HOUR WITH-PROJECT V/C	PM PEAK HOUR PROJECT CONTR
II. ALTERNATIVE HIGHWAY NETWORK (cont)												
103. I-5 NB n/o SR-14	4G + T + HOV	12500	7546	.60	7086	.57	-.03	9383	.75	10237	.82	.07
104. I-5 SB n/o SR-14	4G + T + HOV	12500	9141	.73	10334	.83	.10	8150	.65	8083	.64	-.01
148A. MMP e/o Valencia (EB)	3A	3200	1470	.46	1681	.53	.07	2862	.89	3074	.96	.07
148B. MMP e/o Valencia (WB)	3A	3200	2721	.85	2944	.92	.07	1985	.62	2163	.68	.06
153A. Lyons e/o San Fern (EB)	2	1700	367	.22	550	.32	.11	570	.34	674	.40	.06
153B. Lyons e/o San Fern (WB)	2	1700	683	.40	762	.45	.05	653	.38	894	.53	.14
158A. SR-126 e/o Chiquito (EB)	3	6000	1841	.31	2370	.40	.09	1273	.21	4245	.71	.50
158B. SR-126 e/o Chiquito (WB)	3	6000	1037	.17	4779	.80	.63	2011	.34	2886	.48	.14
165. I-5 NB n/o SR-126	5	10000	5195	.52	5503	.55	.03	7174	.72	7233	.72	.01
166. I-5 SB n/o SR-126	5	10000	6756	.68	6814	.68	.01	6710	.67	6862	.69	.02
167A. Sierra Hwy n/o I-5 (EB)	3	3000	258	.09	230	.08	-.01	1407	.47	1438	.48	.01
167B. Sierra Hwy n/o I-5 (WB)	3	3000	1426	.48	1479	.49	.02	691	.23	680	.23	-.00
200A. I-5 NB s/o Osborne	6G + HOV	15000	6980	.46	7470	.50	.04	18048	1.20	19308	1.29	.09
200B. I-5 SB s/o Osborne	6G + HOV	15000	14382	.96	15642	1.04	.08	7393	.49	7883	.53	.04
201A. I-5 NB n/o Burbank	4G + HOV	11000	6012	.55	6217	.57	.02	7880	.72	8405	.75	.04
201B. I-5 SB n/o Burbank	4G + HOV	11000	8913	.81	9438	.86	.05	6348	.58	6553	.60	.02
202A. I-405 NB n/o Roscoe	5G + HOV	13000	5408	.41	5743	.44	.03	8012	.62	8873	.68	.06
202B. I-405 SB n/o Roscoe	5G + HOV	13000	8040	.62	8901	.69	.07	5377	.41	5712	.44	.03
203A. I-405 NB s/o Mullholland	5G + HOV	13000	9880	.76	9953	.77	.01	14600	1.12	14787	1.14	.02
203B. I-405 SB s/o Mullholland	5G + HOV	13000	11680	.90	11867	.91	.01	7880	.61	7953	.61	.00
204a. I-5 NB s/o SR-14	6G + 2t + HOV	18000	11817	.66	11161	.62	-.04	19559	1.09	21243	1.18	.09
204b. I-5 SB s/o SR-14	6G + 2t + HOV	18000	19623	1.09	21840	1.21	.12	14511	.81	14465	.80	-.01

Notes: G = General Purpose Freeway Lane
T = Truck Freeway Lane
HOV = High Occupancy Vehicle Freeway Lane
A = Augmented Arterial

The CMP freeway monitoring station located on I-5 south of Osborne Street shows a significant project impact in the AM peak hour for the southbound direction and in the PM peak hour for the northbound direction. Although a project impact of two percent is also shown for the I-405 south of Mullholland Drive during the PM peak hour for the northbound direction, the actual project contribution is just over one percent (1.4 percent) when the volume to capacity ratios are calculated without rounding the ratios to two decimal places. Hence this location is not impacted according to CMP guidelines.

The impacts shown on the I-5 Freeway at I-5\Osborne Street and I-5 south of SR-14 are regional in nature and is under the jurisdiction of Caltrans. The I-5 route concept report published by Caltrans indicates that HOV travel lanes are recommended by the year 2010. The HOV lanes were included in the capacity analysis, but it appears that additional capacity may be necessary to accommodate future growth in the region based on CMP guidelines. Caltrans' guidelines in the route concept report indicate that satisfactory performance is given with the addition of the HOV lanes.

The MTA long-range plan identifies the need for capacity enhancement projects and allocates future revenues through the year 2015 accordingly. The I-5 HOV project is listed as an additional project that would enhance the baseline transportation system. Funding for HOV projects consists of monies from Proposition C (the countywide one-half cent sales tax increase to be used for public transit purposes), State and Local partnerships, State TDM funds, Intermodal Surface Transportation Efficiency Act (ISTEA), and Flexible Congestion Relief funds (state and federal gas tax revenues). As previously noted, the MTA long range plan is updated every two years and will regularly re-evaluate the need for additional capacity.

The Newhall Ranch Specific Plan identifies transit-friendly design standards to promote alternative transportation methods in response to the congestion and air quality goals for Los Angeles County. These alternative commuting methods are promoted in the Specific Plan through project design components such as the extensive walking and bicycle trail system that links the various development areas to the village centers where access to non-residential uses such as schools, offices, and retail shopping can occur. Provisions for bus turnouts and the reservation of right-of-way for a future Metrolink line is being reserved for the anticipated future transit demand of the project. The Specific Plan is also subject to the Los Angeles County's Transportation Demand Management Ordinance, as well as on-going CMP review at the tract map level. Examples of future TDM

strategies could include childcare facilities integrated with development, employer based ridesharing operations and incentives or park- and-ride lots. All of these elements encourage the use of travel modes other than driving alone and help to reduce the amount of vehicle trips on the roadway system during peak hours and reduce the impact of project-generated traffic on the regional highway system.

Countywide Deficiency Plan

The CMP statute requires the preparation of deficiency plans when portions of the CMP highway system do not meet the established level of service standard, such as impacts identified above at the Osborne Street/I-5 Freeway monitoring station. The deficiency plan is linked to the Land Use Analysis Program because it provides jurisdictions the opportunity to plan for mitigation before impacts occur due to new development.

The CMP allows each jurisdiction to mitigate impacts created by new development with an appropriate amount of improvements and/or land use strategies based on a point system. Under this point system, new development generates debit points which represent the jurisdiction's mitigation goal. Credit points are awarded based on the construction of improvements and/or a number of land use strategies. These credits serve as the basis by which the jurisdictions meet mitigation goals. The CMP allows mitigation in the form of credits to not be directly associated with a specific deficiency, thereby giving local jurisdictions the flexibility to prioritize improvements based on local needs and also to partner with other jurisdictions to resolve regional issues.

While the CMP requires an assessment of project impacts through the TIA and the estimation of debit and credit points through the Countywide Deficiency Plan, impacts will be assessed with each tract map, and the deficiency plan debits and credits will be assigned when building permits are issued, or when land use strategies are implemented and/or transportation improvements are made. Therefore, this analysis shows the gross impact on the CMP system and provides an estimate of the relative balance of mitigation contained in the plan. Actual debits and credits will be determined in the future and documented through an Annual Monitoring Activity Report based on the CMP guidelines and prepared in consultation with MTA. The specific value of individual development and improvement projects within the Newhall Ranch Specific Plan area will be determined at that time.

The Countywide Deficiency Plan and Annual Monitoring Activity Report also serve as a basis for the allocation of state gas tax funds to the County. For instance, gas taxes could be withheld from the County if the County's overall mitigation goal is not met. These gas taxes are used for various regional improvements such as freeway widening, HOV lanes, and mass transit. Specific facilities are identified in MTA's Long Range Plan which dedicates gas tax dollars as well as other funding sources to construct needed freeway and other transit improvements in the future.

Table IV-8 shows the debit points accrued by the Newhall Ranch project for each type of residential and non-residential land use. The total debit points for the project are projected to be 209,826. As defined in the CMP, these debit points are the mitigation goals associated with the project.

Credit points to offset debit points are earned by a variety of means. Land use strategies such as development near transit centers, mixed-use development, and integrated child care facilities are examples of how to earn credit points. Many of these concepts have been incorporated into the Newhall Ranch Specific Plan, and will be implemented as development occurs. Capital improvements for highway lanes, freeway grade separation, freeway ramp additions or modifications, and rail stations can also be used to earn credit points.

The CMP document states that:

> *"each local jurisdiction may select the actions it deems most appropriate for its community. Mitigation measures can be applied throughout the jurisdiction, within a subarea, at a specific project, or in partnership with other jurisdictions. Once the jurisdiction chooses its mitigation strategies, the basic requirement is that the overall value of the mitigation program must achieve the jurisdiction's mitigation goal as determined by new development activity."*

Table IV-9 summarizes the credit points from the project's residential mixed use development and the capital improvements being planned for construction by the project. While credits are preliminary at this point, and will be evaluated in the future at the tentative tract map level, even in this preliminary form, the 209,826 debit points of the project are offset by the 332,770 credit points. Of these credit points, 110,400 points were awarded for the SR-126 improvements between the

Table IV-8

CMP PROJECT DEBITS

SECTION I - NEW DEVELOPMENT ACTIVITY REPORT
PART 1: NEW DEVELOPMENT ACTIVITY

Category	Dwelling Units		Debit Value		Subtotal
RESIDENTIAL DEVELOPMENT ACTIVITY					
Single Family Residential	11,025	x	6.80	=	(74,970)
Multi-Family Residential	13,655	x	4.76	=	(64,997)
Category	**1000 Gross Square Feet**		**Debit Value**		**Subtotal**
COMMERCIAL DEVELOPMENT ACTIVITY					
Commercial (> 300,000 sq.ft.)	1,718	x	17.80	=	(30,580)
Category	**1000 Gross Square Feet**		**Debit Value**		**Subtotal**
NON-RETAIL DEVELOPMENT ACTIVITY					
Industrial	1,513	x	6.08	=	(9,199)
Office (> 300,000 sq.ft.)	2,489	x	7.35	=	(18,294)
Category	**Trips**		**Value**		**Subtotal**
OTHER DEVELOPMENT ACTIVITY					
Schools	7,900	x	0.71	=	(5,609)
Other	8,700	x	0.71	=	(6,177)
Subtotal New Development Activity				=	(209,829)
Total Current Congestion Mitigation Goal (Debit Points)				=	(209,826)

Table IV-9

CMP PROJECT CREDITS

Project	Lane Miles		Credit Value		Subtotal
RESIDENTIAL MIXED USE DEVELOPMENT					
Dwelling Units	4,493	x 1.5 (per du)		=	6,740
Retail Uses	829	x 7.3 (per GSF)		=	6,050
Non-Retail Uses	2,707	x 3.2 (per GSF)		=	8,660
BICYCLE PATH OR LANE					
Miles	14.2	x 700 (per mile)		=	9,940
GENERAL USE HIGHWAY LANE ON CMP ARTERIAL					
SR-126 (Widen to 6-lane)	4.8(2)	x	11,500	=	110,400
2 new lanes - County line to Commerce Center Drive					
GENERAL USE HIGHWAY LANE (NON-CMP ARTERIAL)					
Magic Mountain Parkway	2.5(4)	x	2,900	=	29,000
New 4-lane arterial - Project Boundary to Potrero Canyon					
Long Canyon Road	1.8(4)	x	2,900	=	20,880
New 4-lane arterial - SR-126 to Potrero Canyon					
Potrero Canyon Road	4.3(4)	x	2,900	=	49,880
New 4-lane arterial - Project Boundary to SR-126					
Commerce Center Drive	1.4(6)	x	2,900	=	24,360
New 6-lane arterial - SR-126 to Magic Mountain Parkway					
Franklin Avenue	1.2(4)	x	2,900	=	13,920
New 4-lane arterial - SR-126 to Long Canyon					
GRADE SEPARATION ON CMP NETWORK					
SR-126 at Long Canyon			5,750	=	5,750
SR-126 at Franklin			5,750	=	5,750
FREEWAY ON/OFF RAMP ADDITION OR MODIFICATION					
SR-126 WB Off at Franklin			1,150	=	1,150
SR-126 WB On at Franklin			1,150	=	1,150
SR-126 EB Off at Franklin			1,150	=	1,150
SR-126 EB On at Franklin			1,150	=	1,150
SR-126 WB Off at Long Canyon			1,150	=	1,150
SR-126 WB On at Long Canyon			1,150	=	1,150
SR-126 EB Off at Long Canyon			1,150	=	1,150
SR-126 EB On at Long Canyon			1,150	=	1,150

(Continued)

Table IV-9 - (Cont)
CMP PROJECT CREDITS

Project	Lane Miles		Credit Value (Project Share %)		Subtotal
OFF-SITE IMPROVEMENTS GENERAL USE HIGHWAY LANE (NON-CMP ARTERIAL)					
Magic Mtn w/o The Old Rd	1.00 (2)	x	2,900 (100)	=	5,800
Newhall Ranch e/o McBean	.66 (2)	x	2,900 (12)	=	460
Newhall Ranch w/o Bouquet	.67 (2)	x	2,900 (6)	=	230
McBean n/o Magic Mtn	.35 (2)	x	2,900 (10)	=	200
Newhall Ranch e/o Dickason	.32 (2)	x	2,900 (20)	=	370
Bouquet n/o Newhall Ranch	.81 (2)	x	2,900 (7)	=	330
Bouquet s/o Newhall Ranch	.16 (2)	x	2,900 (4)	=	40
Newhall Ranch e/o I-5	.41 (2)	x	2,900 (100)	=	2,380
Newhall Ranch w/o Rye	1.23 (2)	x	2,900 (94)	=	6,710
Magic Mtn e/o I-5	.20 (2)	x	2,900 (39)	=	450
Magic Mtn e/o Tourney	.90 (2)	x	2,900 (44)	=	2,300
Magic Mtn e/o McBean	.97 (2)	x	2,900 (57)	=	3,210
Magic Mtn e/o Valencia	.53 (2)	x	2,900 (60)	=	1,840
Valencia e/o I-5	.15 (2)	x	2,900 (100)	=	870
Valencia e/o Rockwell	.59 (2)	x	2,900 (14)	=	480
Valencia e/o McBean	.77 (2)	x	2,900 (38)	=	1,700
Valencia n/o Magic Mtn	.66 (2)	x	2,900 (6)	=	230
Lyons e/o I-5	.34 (2)	x	2,900 (100)	=	1,970
Newhall Ranch e/o Santa Clarita Pkwy	.46 (2)	x	2,900 (100)	=	2,670
Subtotal Deficiency Plan Credit Points				=	332,770
Total Current Congestion Mitigation Goal (Debit Points)				=	(209,826)
Surplus Credit Points				=	122,944

County line and Commerce Center Drive. If Caltrans funded these improvements, the total project credit points would be reduced to 222,370, still providing a surplus of credit points.

The preliminary surplus credit points provide the county with added flexibility in the future because the surplus credit points can be transferred to other jurisdictions or can be pooled through subregional forums to offset impacts at I-5/Osborne Street, I-5 south of SR-14 and/or other locations as determined by Los Angeles County in cooperation with other local jurisdictions.

The project's buildout land uses were shown with the ultimate preliminary capital improvement program for the project to emphasize that the project is providing a direct benefit and a surplus of capacity to the regional transportation system. This debit/credit calculation was provided for informational purposes since jurisdictions actually track new development through building permit activity that occurs at the tract map level, just as the project will be built in phases and the roadway improvements will be evaluated according to the amount of development proposed.

It can be anticipated that the land use strategies detailed in the Specific Plan will be implemented at the tract map level and will provide a substantial amount of additional credit points. Likewise, the Specific Plan promotes the use of alternative transportation modes and transit opportunities and is subject to the County's Transportation Demand Ordinance.

Transit Impact Analysis

The purpose of the CMP transit analysis is:

> *"to make the most effective use of transit services as an alternative to the automobile, thereby alleviating congestion on the CMP highway system and improving countywide mobility".*

The CMP has a transit monitoring network which consists of bus and rail routes that are within the corridors of the Congested Corridor Progress Report and provide service parallel to the CMP highway system for 5 miles or greater.

The required components of the Transit Impact review process include evidence that transit operators received the Notice of Preparation, identification of existing transit services near the project, estimation of the number of project trips assigned to transit, development of programs that will encourage public transit use, and an analysis of project impacts on transit service.

Appendix D contains evidence that affected transit operators received the Notice of Preparation.

The CMP requires that existing transit service in the project area be summarized according to a quarter-mile radius for fixed-route bus service and a two mile radius for express bus and rail service. Existing fixed-route bus service within a quarter-mile of the project includes Route 20 of Santa Clarita Transit. Route 20 currently is within the quarter-mile radius of the project along SR-126 (west of Commerce Center Drive to Chiquito Canyon Road) and along Chiquito Canyon Road (north of SR-126 and s/o Del Valle Road). There is no express bus service or rail service located within the two-mile radius of the project. Route 20 is not listed on the CMP transit network, but will still be impacted by the project. The metrolink rail station located on Soledad Canyon Road is approximately three and one-half miles away from the closest project boundary. Express bus service that runs from Santa Clarita to Los Angeles via McBean Parkway and Orchard Village Road/Valley Street is also located approximately three miles from the closest project boundary. Although these services are not located within the radius specified by MTA, it is probable that the residents and the employee population of the project would still use these services to some degree and have an impact on them.

Project impacts on the transit system are analyzed here using daily trips, consistent with the long-range impact analysis methodology used throughout this report. The Newhall Ranch project generates 387,000 average daily traffic (ADT) vehicle trips. The conversion to person trips is accomplished by using the MTA guidelines (multiplying the ADT by an occupancy factor of 1.4) which results in 541,800 ADT person trips. The MTA guidelines specify that approximately 3.5 percent of person trips will become trips assigned to transit, which gives 18,963 ADT transit trips. Using a representative peak hour factor of 10 percent, this would give around 1900 peak hour transit trips for each peak hour to be potentially generated by the Newhall Ranch project.

The transit demand created by the Newhall Ranch project will occur in increments as the project develops. Actual transit impacts to transit services will be evaluated at the tentative tract map level as development occurs within the project. At this detailed level, the site plan can implement the transit friendly design standards contained in the Specific Plan and transit operators can assess the capacity and demand of transit services. The ultimate transit service network can be implemented through the MTA 20 year plan as transit demand is demonstrated and funding opportunities exist. As outlined in the MTA 20 year plan, funding sources for transit projects are available at the local, state and federal levels.

SUMMARY OF IMPACTS

Table IV-10 summarizes the impacts of the project on the surrounding circulation system. This table combines the results from the various impact sections in this chapter to show where off-site project mitigation is needed. The next chapter discusses a comprehensive transportation improvement program designed to provide this mitigation.

Table IV-10

SUMMARY OF PROJECT IMPACTS

LOCATION	COUNTY BASE NETWORK	ALTERNATIVE HIGHWAY PLAN
I. COUNTY ARTERIALS		
22. Magic Mtn w/o The Old Rd	P	P
54. Newhall Ranch e/o McBean	P	A
65. Copperhill n/o NRR	C	--
128. Newhall Ranch w/o Bouquet	P	A
II. COUNTY/CITY ARTERIALS		
40. McBean n/o Magic Mtn	C	A
53. Newhall Ranch e/o Dickason	P	A
78. Bouquet n/o Newhall Ranch	--	A
79. Bouquet s/o Newhall Ranch	C	A
III. CITY ARTERIALS		
50. Newhall Ranch e/o I-5	--	A
51. Newhall Ranch w/o Rye	--	A
88. Magic Mtn e/o I-5	C	A
89. Magic Mtn e/o Tourney	--	A
90. Magic Mtn e/o McBean	--	A
91. Magic Mtn e/o Valencia	--	A
96. Valencia e/o I-5	--	A
98. Valencia e/o Rockwell	--	A
99. Valencia e/o McBean	--	A
100. Valencia n/o Magic Mtn	--	A
115. Lyons e/o I-5	--	P
130. Newhall Ranch e/o Santa Clarita Pkwy	--	A
IV. FREEWAY INTERCHANGE RAMPS		
115. I-5 NB off at Valencia	--	P
123. I-5 SB off at MMP	--	P
127. I-5 NB off at NRR	P	P
131. I-5 SB on at SR-126	P	P
134. SR-126 WB off at Comm Ctr	P	P
137. SR-126 EB on at Comm Ctr	P	P
142. SR-126 WB off at Chiquito	P	--
145. SR-126 EB on at Chiquito	--	P

P - Project causes deficiency
C - Project contributes to a no-project deficiency
A - Project contributes to a need for augmented capacity

V

TRANSPORTATION IMPROVEMENTS

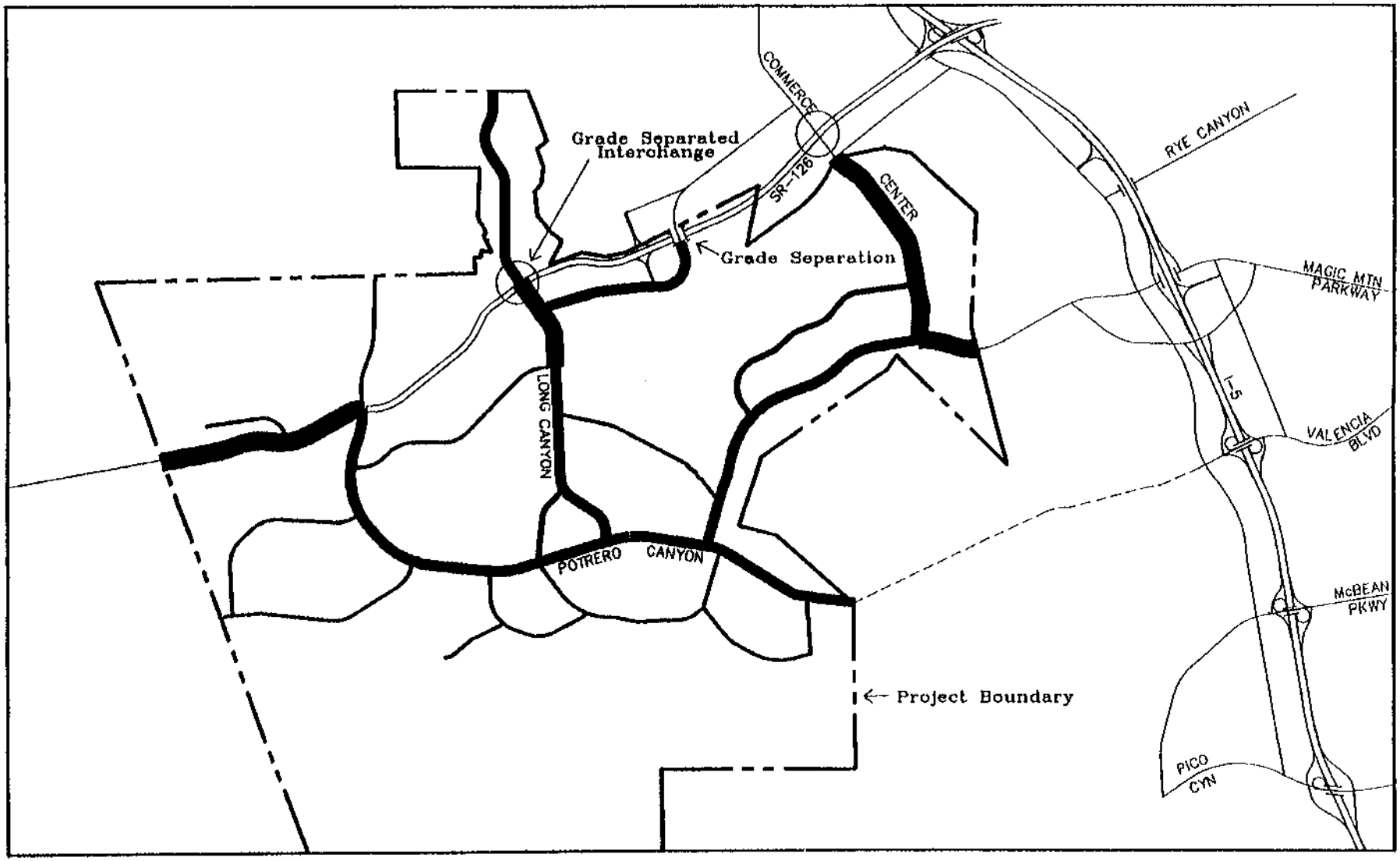
This chapter summarizes the transportation improvements designed to serve project traffic and to mitigate the impacts of the proposed project. On-site circulation is first discussed, followed by a proposed program of off-site improvements.

ON-SITE CIRCULATION SYSTEM

The proposed on-site circulation system was shown diagrammatically as part of the project description in Chapter III. To serve future traffic demand, that system has different roadway types throughout the project area. These are shown in Figure V-1. Roadway cross-sections for each roadway type can be found in the Newhall Ranch Specific Plan (see Reference 11 in Chapter I).

Figure V-2 shows the midblock lanes for the on-site circulation system. Certain local collector roadways have been shown here as potentially requiring four-lanes rather than the two lanes more typically provided for a collector. These capacity needs are based on the distribution of land uses in the Specific Plan, and will undergo further verification when individual tract maps are prepared.

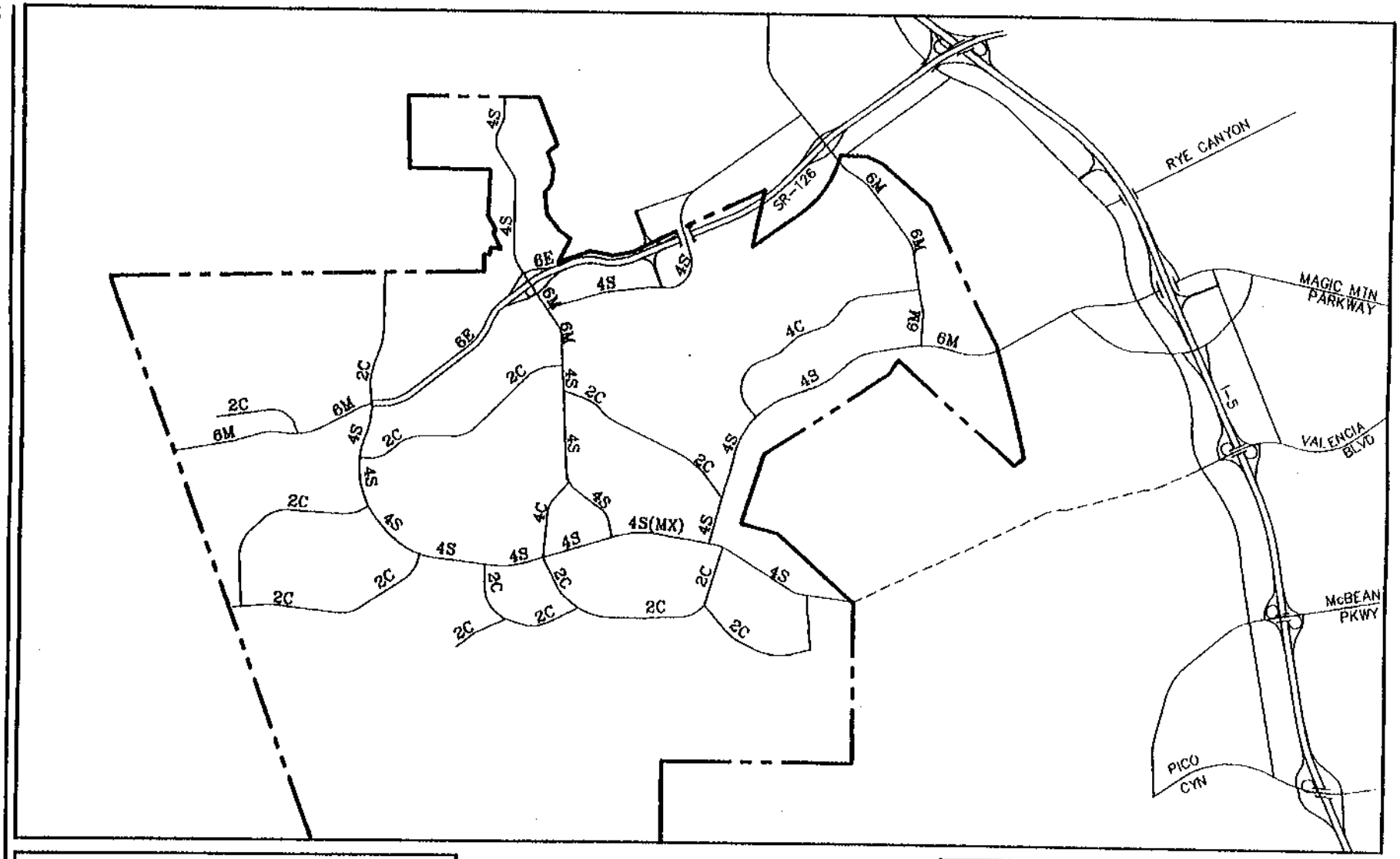
Special design considerations are proposed for the intersection of Commerce Center Drive and Magic Mountain Parkway to accommodate the project traffic volumes. Figure V-3 shows a design concept for this location. For the southbound left turn, Commerce Center Drive and the east leg of Magic Mountain Parkway would act as a continuous roadway, rather than be configured as a triple left turn. This "turning roadway" concept maximizes the capacity for this high volume turn movement.



LEGEND
- Expressway
- Major Highway (6 Lanes)
- Secondary Highway (4 Lanes)
- Local Collector (2–4 Lanes)
- Future Interchange

Figure V–1

PROJECT ROADWAY SYSTEM



LEGEND

6E	6 Lane Expressway
6M	6 Lane Major
4S(MX)	4 Lane Secondary (Max)
4S	4 Lane Secondary
2–4C	2 or 4 Lane Collector

Figure V–2

MIDBLOCK LANES
– PROJECT AREA

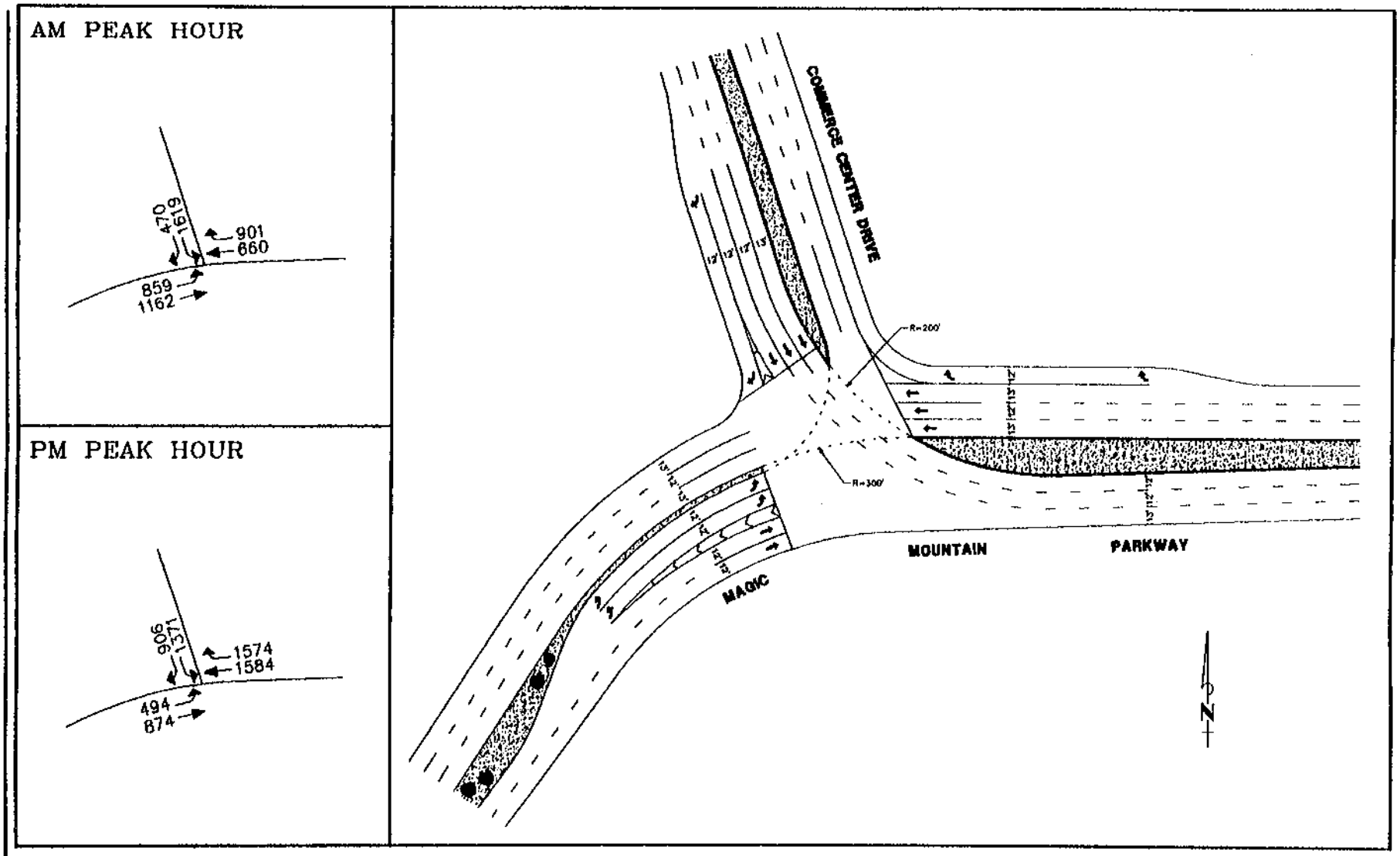


Figure V-3

MAGIC MTN PKWY/COMMERCE CTR DR
CONCEPTUAL DESIGN

Potrero Canyon Road between Long Canyon and Magic Mountain Parkway also has unique lane configurations that are necessary to accommodate project volumes. As shown in Figure V-4, a third westbound thru-lane is necessary for the intersection of Magic Mountain Parkway/Potrero Canyon. This lane could either merge into the two adjacent northbound lanes, or be a continuous auxiliary lane, ending as a free right-turn at Long Canyon Road. Deployment of a westbound auxiliary lane would be an augmentation of the secondary roadway section described earlier.

Signalization

The need for signalization was evaluated for each significant on-site intersection within the project. Figure V-5 shows the locations where signal warrants were analyzed, together with the long-range ADT volumes as presented earlier in this chapter.

Traffic signal warrants as adopted by the Federal Highway Administration and Caltrans are used to determine the need for signalization. Figure V-6 shows the ADT signal warrant methodology. In applying this warrant, the volumes of both the major and minor street must exceed those shown in the Caltrans Manual. Determining the major street signal warrant volume involves calculating the number of vehicles approaching the intersection on both major street legs. The minor street signal warrant volume is the number of daily vehicles approaching the intersection on only the highest volume leg. Consistent with the Caltrans Manual, two tests are conducted to determine the need for signalization. The first is for minimum total vehicular traffic, and the second for interruption of a continuous traffic stream. Typically, a signal is installed if either warrant is satisfied or if 80 percent of both warrants are satisfied. Table V-1 shows the results of the signal warrant analysis.

Based on the forecast volumes, 15 out of the 16 locations meet the warrant for signalization. These results are given here for long-range planning purposes. The actual need and precise timing for signalization would be reassessed at the time that actual tract maps are prepared.

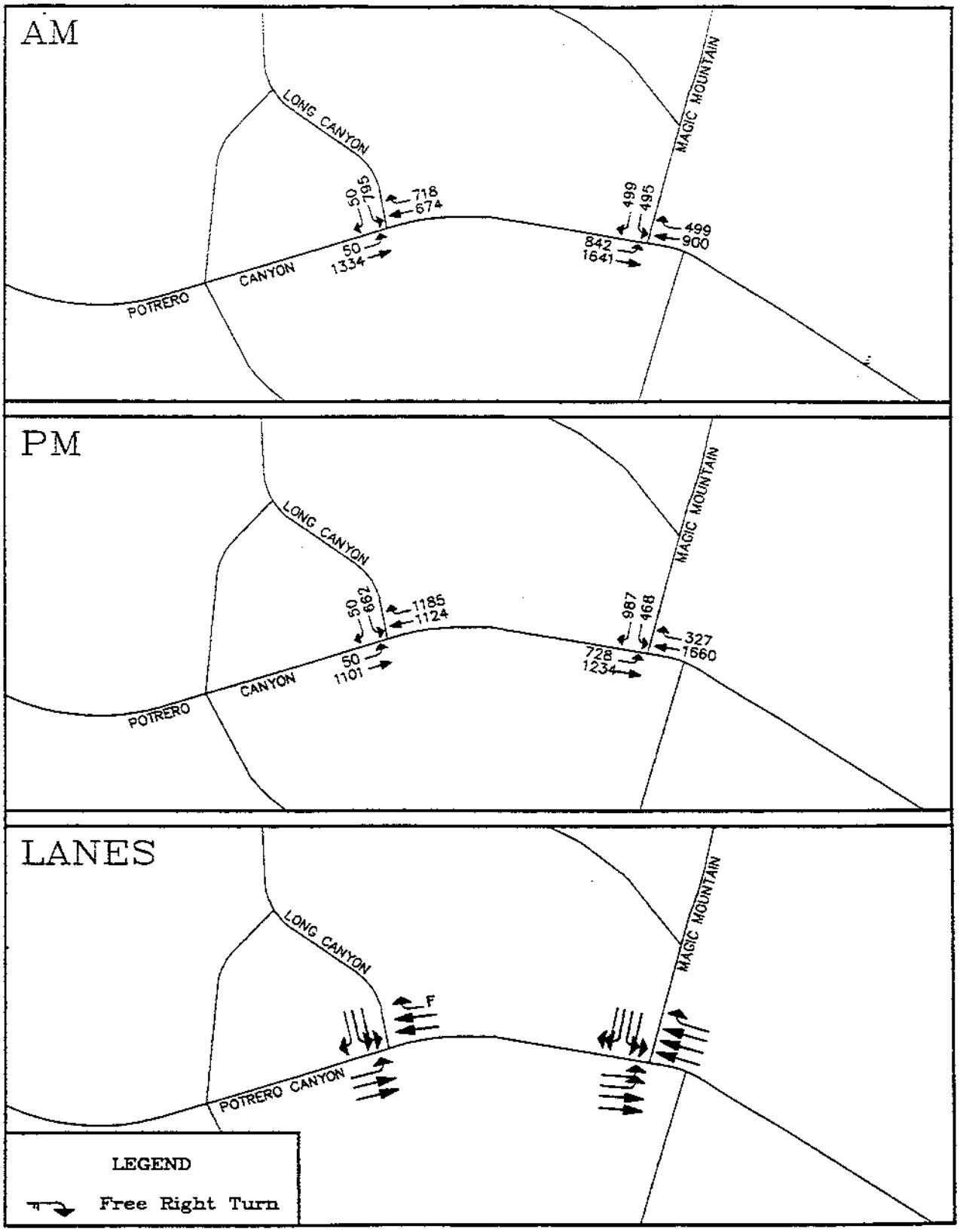
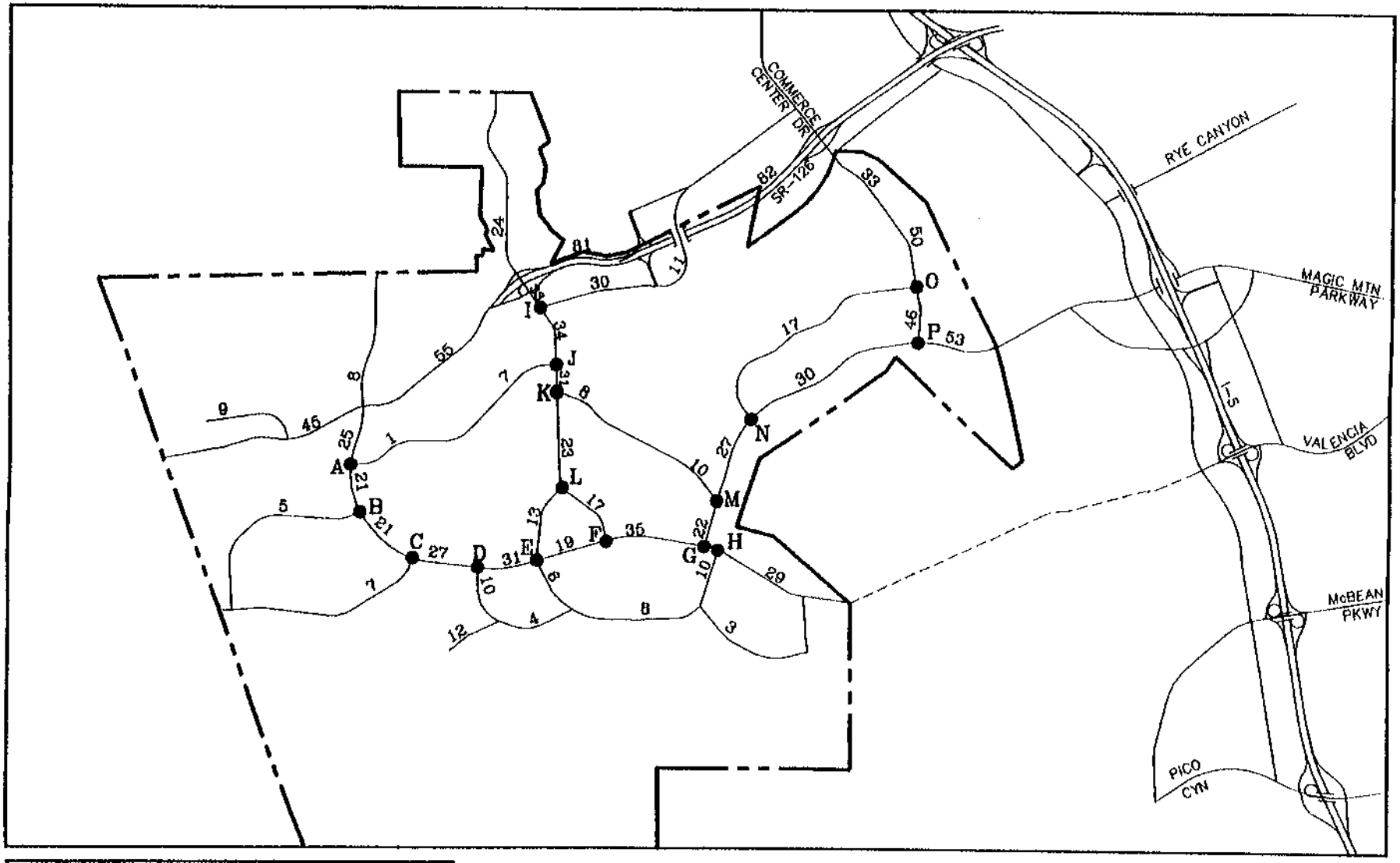


Figure V–4

VOLUMES AND LANE CONFIGURATIONS FOR POTRERO CANYON ROAD AT MAGIC MOUNTAIN PKWY AND LONG CANYON ROAD



LEGEND

● Intersection Location

XX ADT Volume (000's)

Figure V-5

SIGNAL WARRANT LOCATIONS

Figure 9-4
TRAFFIC SIGNAL WARRANTS

(Based on Estimated Average Daily Traffic - See Note 2)

URBAN ..... RURAL	Minimum Requirements EADT			
1. Minimum Vehicular				
Satisfied _____ Not Satisfied _____	Vehicles per day on major street (total of both approaches)		Vehicles per day on higher-volume minor-street approach (one direction only)	
Number of lanes for moving traffic on each approach				
Major Street / Minor Street	Urban	Rural	Urban	Rural
1 ..... 1	8,000	5,600	2,400	1,680
2 or more 1	9,600	6,720	2,400	1,680
2 or more ..... 2 or more	9,600	6,720	3,200	2,240
1 ..... 2 or more	8,000	5,600	3,200	2,240
2. Interruption of Continuous Traffic				
Satisfied _____ Not Satisfied _____	Vehicles per day on major Street (total of both approaches)		Vehicles per day on higher-volume minor-street approach (one direction only)	
Numbers of lanes for moving traffic on each approach				
Major Street / Minor Street	Urban	Rural	Urban	Rural
1 ..... 1	12,000	8,400	1,200	850
2 or more 1	14,400	10,080	1,200	850
2 or more ..... 2 or more	14,400	10,080	1,600	1,120
1 ..... 2 or more	12,000	8,400	1,600	1,120
3. Combination				
Satisfied _____ Not Satisfied _____	2 Warrants		2 Warrants	
No one warrant satisfied, but following warrants fulfilled 80% or more ..... _____ (1) _____ (2)				

NOTE:

1. Heavier left turn movement from the major street may be included with minor street volume if a separate signal phase is to be provided for the left-turn movement.
2. To be used only for NEW INTERSECTIONS or other locations where actual traffic volumes cannot be counted.

Rev:

LEGEND
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Figure V–6

SIGNAL WARRANT CRITERIA

Table V-1

NEWHALL RANCH ON-SITE
ADT SIGNAL WARRANT SUMMARY

INTERSECTION		ESTIMATED ADT
1. Location A		
Major Approach	NB	10,500
	SB	12,500
	Total	23,000
Minor Approach	WB	500
Warrant 1 Satisfied?	9,600/2,400	No
Warrant 2 Satisfied?	14,400/1,200	No
2. Location B		
Major Approach	NB	10,500
	SB	10,500
	Total	21,000
Minor Approach	EB	2,500
Warrant 1 Satisfied?	9,600/2,400	Yes
Warrant 2 Satisfied?	14,400/1,200	Yes
3. Location C		
Major Approach	EB	10,500
	WB	13,500
	Total	24,000
Minor Approach	NB	3,500
Warrant 1 Satisfied?	9,600/2,400	Yes
Warrant 2 Satisfied?	14,400/1,200	Yes
4. Location D		
Major Approach	EB	13,500
	WB	15,500
	Total	29,000
Minor Approach	NB	5,000
Warrant 1 Satisfied?	9,600/2,400	Yes
Warrant 2 Satisfied?	14,400/1,200	Yes
5. Location E		
Major Approach	EB	15,500
	WB	9,500
	Total	25,000
Minor Approach	SB	6,500
Warrant 1 Satisfied?	9,600/3,200	Yes
Warrant 2 Satisfied?	14,400/1,600	Yes
6. Location F		
Major Approach	EB	9,500
	WB	17,500
	Total	27,000
Minor Approach	SB	8,500
Warrant 1 Satisfied?	9,600/3,200	Yes
Warrant 2 Satisfied?	14,400/1,600	Yes

(Continued)

Table V-1 (cont)
NEWHALL RANCH ON-SITE
ADT SIGNAL WARRANT SUMMARY

INTERSECTION		ESTIMATED ADT
7. Location G		
Major Approach	EB	17,500
	WB	13,500
	Total	31,000
Minor Approach	SB	11,000
Warrant 1 Satisfied?	9,600/3,200	Yes
Warrant 2 Satisfied?	14,400/1,600	Yes
8. Location H		
Major Approach	EB	13,500
	WB	14,500
	Total	28,000
Minor Approach	NB	5,000
Warrant 1 Satisfied?	9,600/2,400	Yes
Warrant 2 Satisfied?	14,400/1,200	Yes
9. Location I		
Major Approach	NB	17,000
	SB	16,500
	Total	33,500
Minor Approach	WB	15,000
Warrant 1 Satisfied?	9,600/3,200	Yes
Warrant 2 Satisfied?	14,400/1,600	Yes
10. Location J		
Major Approach	NB	15,500
	SB	17,000
	Total	32,500
Minor Approach	EB	3,500
Warrant 1 Satisfied?	9,600/2,400	Yes
Warrant 2 Satisfied?	14,400/1,200	Yes
11. Location K		
Major Approach	NB	11,500
	SB	15,500
	Total	27,000
Minor Approach	WB	4,000
Warrant 1 Satisfied?	9,600/2,400	Yes
Warrant 2 Satisfied?	14,400/1,200	Yes
12. Location L		
Major Approach	NB	8,500
	SB	11,500
	Total	20,000
Minor Approach	EB	6,500
Warrant 1 Satisfied?	9,600/3,200	Yes
Warrant 2 Satisfied?	14,400/1,600	Yes

(Continued)

Table V-1 (cont)
NEWHALL RANCH ON-SITE
ADT SIGNAL WARRANT SUMMARY

INTERSECTION		ESTIMATED ADT
13. Location M		
Major Approach	NB	11,000
	SB	13,500
	Total	24,500
Minor Approach	EB	5,000
Warrant 1 Satisfied?	9,600/2,400	Yes
Warrant 2 Satisfied?	14,400/1,200	Yes
14. Location N		
Major Approach	NB	13,500
	SB	15,000
	Total	28,500
Minor Approach	EB	8,500
Warrant 1 Satisfied?	9,600/3,200	Yes
Warrant 2 Satisfied?	14,400/1,600	Yes
15. Location O		
Major Approach	NB	23,000
	SB	25,000
	Total	48,000
Minor Approach	EB	8,500
Warrant 1 Satisfied?	9,600/3,200	Yes
Warrant 2 Satisfied?	14,400/1,600	Yes
16. Location P		
Major Approach	EB	15,000
	WB	26,500
	Total	41,500
Minor Approach	SB	23,000
Warrant 1 Satisfied?	9,600/3,200	Yes
Warrant 2 Satisfied?	14,400/1,600	Yes

CITY AND COUNTY ARTERIAL HIGHWAYS

The project will cause higher volumes on a number of arterial roadways in the study area. The extent to which the increase in traffic can be considered a project impact depends on the future capacities that will be provided on these arterials.

As has been discussed throughout this report, the City of Santa Clarita is evaluating its long-range circulation needs, with the objective of adopting a new General Plan Circulation Element. This work is being carried out in cooperation with the County of Los Angeles, and the goal is to concurrently amend the County Master Plan of Highways for the Santa Clarita Valley. Revisions to the Master Plan will almost certainly include deleting the SR-126 expressway across the valley, and replacing it with at-grade arterial facilities. The Alternative Highway Plan used in this analysis addressed the potential Master Plan revisions that could arise from this process. Traffic forecast data presented in Chapter IV showed the effects of deleting the SR-126 expressway and replacing it with other roadways as depicted on the Alternative Highway Plan.

The impact analysis results presented in Chapter IV were based on the assumption that certain arterials on the Alternative Highway Plan would have some form of augmented capacity, which is needed to serve future traffic demands even under no-project conditions. Neither the Alternative Highway Network nor the augmented capacity concept has been adopted by the City or County at this time, and hence a project traffic volume contribution to an augmented roadway was noted under a special impact designation.

Initial traffic analysis work by the City (e.g., Reference 7 in Chapter I) has indicated that providing replacement capacity for the SR-126 expressway will require augmenting several major arterial highways to a capacity beyond that of a standard six-lane highway. The traffic data presented in this report supports the need for arterial augmentation, and has used the maximum capacity that can be achieved by augmentation as the basis for identifying future V/C ratios. In reality, arterial capacity augmentation involves a variety of strategies ranging from simple intersection enhancement to full roadway widening. A typical menu of augmentation actions includes but is not limited to the following:

- Intersection Improvements

  Added left-turn lane
  Separate right-turn lane
  Free right-turn lane
  Additional thru-lane

- Roadway Improvements

  Deceleration lanes at driveways
  Acceleration lanes at driveways
  Auxiliary lanes for all or part of a roadway section
  Additional lanes (e.g., eight lanes versus six lanes)

- Efficiency Improvements

  Traffic signal optimization
  Signal progression
  Areawide signal control
  Advanced areawide traffic management

Intersection improvements involve adding lanes as necessary to serve high demand movements through the intersection. Roadway improvements typically involve auxiliary lanes between intersections. Carrying additional lanes through an intersection would provide substantial capacity enhancement, and represents a maximum treatment for arterial augmentation. Efficiency improvements maximize the use of the physical roadway system.

The actual capacity enhancements to be deployed at any location will be based on future traffic demand. Hence, the maximum capacity assumption used in the impact analysis does not fully indicate the degree to which the project adds to the cost of future improvements. Additional traffic due to the project will typically create the need for capacity augmentation beyond that which might be implemented without the project. For this reason, where the project adds traffic to locations that are candidates for augmentation, that additional traffic is considered a project impact. The proposed project mitigation is to participate in capacity augmentation on a fair share basis.

Examples of how a fair share formula could be derived for individual sections of augmented roadways can be seen in Table V-2. This shows the roadways in the City and County that need augmentation beyond a standard Master Plan of Highways roadway capacity, the additional capacity needed, and the project share of that additional capacity. It is intended that this share percentage define the project obligation for participating in the implementation of appropriate augmented capacity in each case.

Table V-2

PROJECT PARTICIPATION IN AUGMENTED
ARTERIAL ROADWAY IMPROVEMENTS
(Alternative Highway Plan)

LOCATION*	NON-AUG CAPACITY	ADT WITHOUT PROJECT	ADT WITH PROJECT	PROJECT DIFF.[1]	AUG CAPACITY NEEDED[2]	PROJECT SHARE (%)[3]
I. COUNTY						
22. Magic Mtn w/o The Old Rd	54,000	45,000	73,000	28,000	19,000	100
54. Newhall Ranch e/o McBean	54,000	69,000	71,000	2,000	17,000	12
128. Newhall Ranch w/o Bouquet	54,000	71,000	72,000	1,000	18,000	6
II. COUNTY/CITY						
40. McBean n/o Magic Mtn	54,000	71,000	73,000	2,000	19,000	10
53. Newhall Ranch e/o Dickason	54,000	66,000	69,000	3,000	15,000	20
78. Bouquet n/o Newhall Ranch	54,000	67,000	68,000	1,000	14,000	7
79. Bouquet s/o Newhall Ranch	54,000	79,000	80,000	1,000	26,000	4
III. CITY						
50. Newhall Ranch e/o I-5	54,000	54,000	71,000	17,000	17,000	100
51. Newhall Ranch w/o Rye	54,000	55,000	71,000	16,000	17,000	94
88. Magic Mtn e/o I-5	54,000	65,000	72,000	7,000	18,000	39
89. Magic Mtn e/o Tourney	54,000	64,000	72,000	8,000	18,000	44
90. Magic Mtn e/o McBean	54,000	57,000	61,000	4,000	7,000	57
91. Magic Mtn e/o Valencia	54,000	56,000	59,000	3,000	5,000	60
96. Valencia e/o I-5	54,000	52,000	56,000	4,000	2,000	100
98. Valencia e/o Rockwell	54,000	72,000	75,000	3,000	21,000	14
99. Valencia e/o McBean	54,000	59,000	62,000	3,000	8,000	38
100. Valencia n/o Magic Mtn	54,000	71,000	72,000	1,000	18,000	6
115. Lyons e/o I-5	54,000	49,000	55,000	6,000	1,000	100
130. Newhall Ranch e/o Santa Clarita Pkwy	54,000	54,000	55,000	1,000	1,000	100

AUG - augmented
Note: The ADT volumes used here were taken from the Alternative Highway Plan.
* A link location map can be found in Appendix C
[1] ADT with project minus ADT without project
[2] ADT with project minus non-augmented capacity
[3] Project difference divided by augmented capacity needed

Certain locations are shown as having full (100 percent) project responsibility for augmentation beyond the standard Master Plan of Highways capacity, and comments on these follow.

Location 22. Magic Mountain west of The Old Road - This section of Magic Mountain Parkway between the theme park entrance and The Old Road is significantly impacted by the project and has forecast volumes which exceed its six-lane capacity. Mitigation measures proposed for this location involve a set of improvements as described later in the section on Magic Mountain Parkway.

Locations 50 and 130. Newhall Ranch Road - Newhall Ranch Road east of I-5 has different capacity assumptions in the County Base network compared to the Alternative Highway Network. In the former, it is an expressway with limited access and grade separations at major intersections. In the latter, it is an at-grade arterial with augmented capacity. The most-likely scenario is that this will be an at-grade arterial, in which case it is proposed that the project participate in the capacity augmentation on a fair share basis.

Location 96. Valencia east of I-5 - The project creates the need for augmentation of this section of roadway, and hence would be responsible for enhancements to serve the additional 2000 ADT volumes that cause the need for additional augmented capacity.

Location 115. Lyons east of I-5 - Upon buildout of the project, this location is slightly over capacity (V/C = 1.02) due largely to indirect project impacts. Only one percent of project traffic actually uses this link, but non-project trips are diverted from other roadways such as McBean Parkway and Valencia Boulevard. Because of the minor nature of the deficiency, no major improvements such as roadway widening are needed here. If capacity enhancements are actually found to be needed in the future, operational improvements in the augmented capacity menu such as signal system enhancements should be the preferred means of providing the necessary increase in capacity.

SR-126 IMPROVEMENTS

The section of SR-126 between the east end of Fillmore in Ventura County and its connection with I-5 just east of the project is currently two-lanes, and is programmed to be upgraded

to four-lanes by Caltrans. This upgrade is expected to be constructed by 1999, before Newhall Ranch is expected to begin developing. To serve the additional traffic on this facility due to the project, further upgrading of the section of SR-126 between the Ventura county line and I-5 is proposed. Figure V-7 shows this section of SR-126 with the proposed improvements, and key features of these improvements are as follows:

1. Upgrading to a six-lane expressway from San Martinez Grande Road to Commerce Center Drive and to an eight lane expressway from Commerce Center Drive to I-5

2. Grade separated interchanges at Chiquito Canyon and Franklin Avenue/Wolcott (a grade separated interchange is already planned for Commerce Center Drive)

Under these proposals, the roadway would transition from a four-lane to a six-lane highway between Ventura County line and San Martinez Grande Road. The intersection at San Martinez Grande Road would be an at-grade intersection and SR-126 would become an expressway just east of that intersection to its interchange with I-5. Descriptions of these various improvements follow.

SR-126 in Ventura County

State Route 126 west of the Los Angeles County line is shown on the Ventura County General Plan as a four-lane Arterial Highway and as noted above is programmed in the State Transportation Improvement Plan (STIP) for widening to four-lanes. The widening project for this roadway is currently listed in the Ventura County Congestion Management Program, seven-year Capital Improvement Program. The widening project has received funding and is currently under construction. As mentioned previously, this widening project would be expected to be completed before development is expected to occur on the Newhall Ranch project.

The capacity analysis in Chapter IV showed this section of highway to have adequate capacity with and without the project based on the capacity assumptions given in the Caltrans SR-126 Route Concept Report. Not addressed there is the transition from a rural highway to an urban arterial with signalized intersections in the City of Fillmore. It is likely that improvements beyond the basic four lanes will be required at those intersections. Similarly, access for the community of Piru may require some intersection improvements beyond the basic Caltrans project.

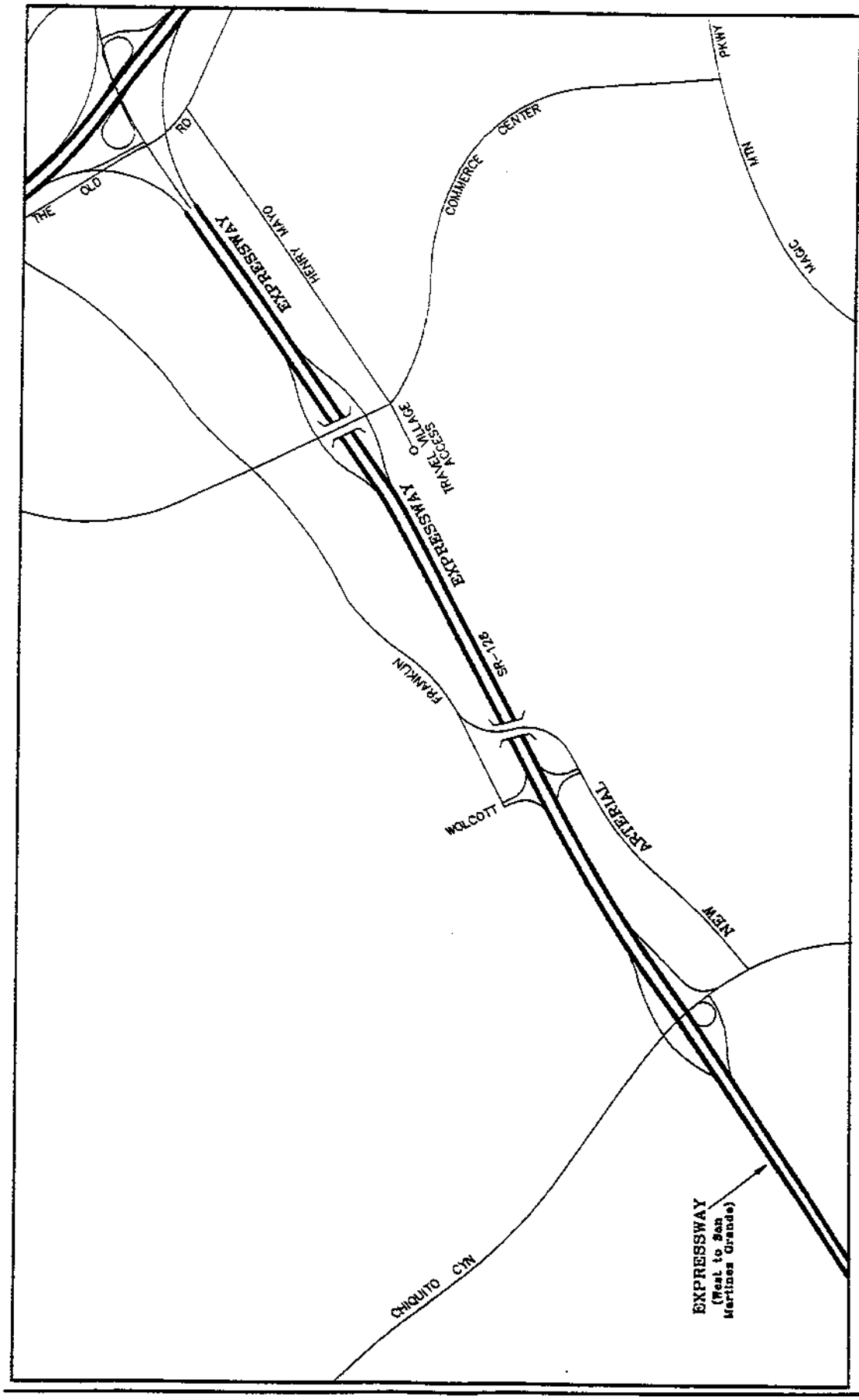


Figure V-7
SR-126 ROADWAY IMPROVEMENTS

Since the Newhall Ranch project will add to these intersection capacity needs, some participation in the SR-126 intersection improvements on a fair share basis would be an appropriate project mitigation. The improvements would include pavement modification and striping, but would not involve additional right-of-way.

Chiquito Canyon Intersection

This intersection will serve project traffic from development both north and south of SR-126. An analysis of peak hour volumes shows that an at-grade intersection will not have adequate capacity and that a grade-separated interchange will be necessary. The peak hour volumes and V/C results are illustrated in Figure V-8, together with a proposed interchange configuration. The half-diamond on the north side and parclove on the south side represents a suitable layout to serve anticipated traffic demands. However, it must be recognized that the final design will be the product of special design studies and may differ from what is shown here (for example, the south side could also be a half-diamond, which would eliminate the loop on-ramp but necessitate a wider bridge).

In the interim, a signalized intersection will be provided at this location. The grade separation will not be needed until some time in the future when much of the west end of Newhall Ranch is developed and other (i.e., non-project) traffic increases have occurred on SR-126. It is also possible that the interchange itself may be phased, with a half-section of the bridge being built first, followed by the full section.

Wolcott/Franklin Avenue

There is currently a signalized intersection at Wolcott Avenue and SR-126. It is anticipated that this will remain for some time into the future, with capacity improvements taking the form of additional lanes on SR-126 itself. The Caltrans project will add two lanes to the existing SR-126 (for a total of four), and an additional two lanes will be needed as part of the full widening project to provide the six expressway lanes.

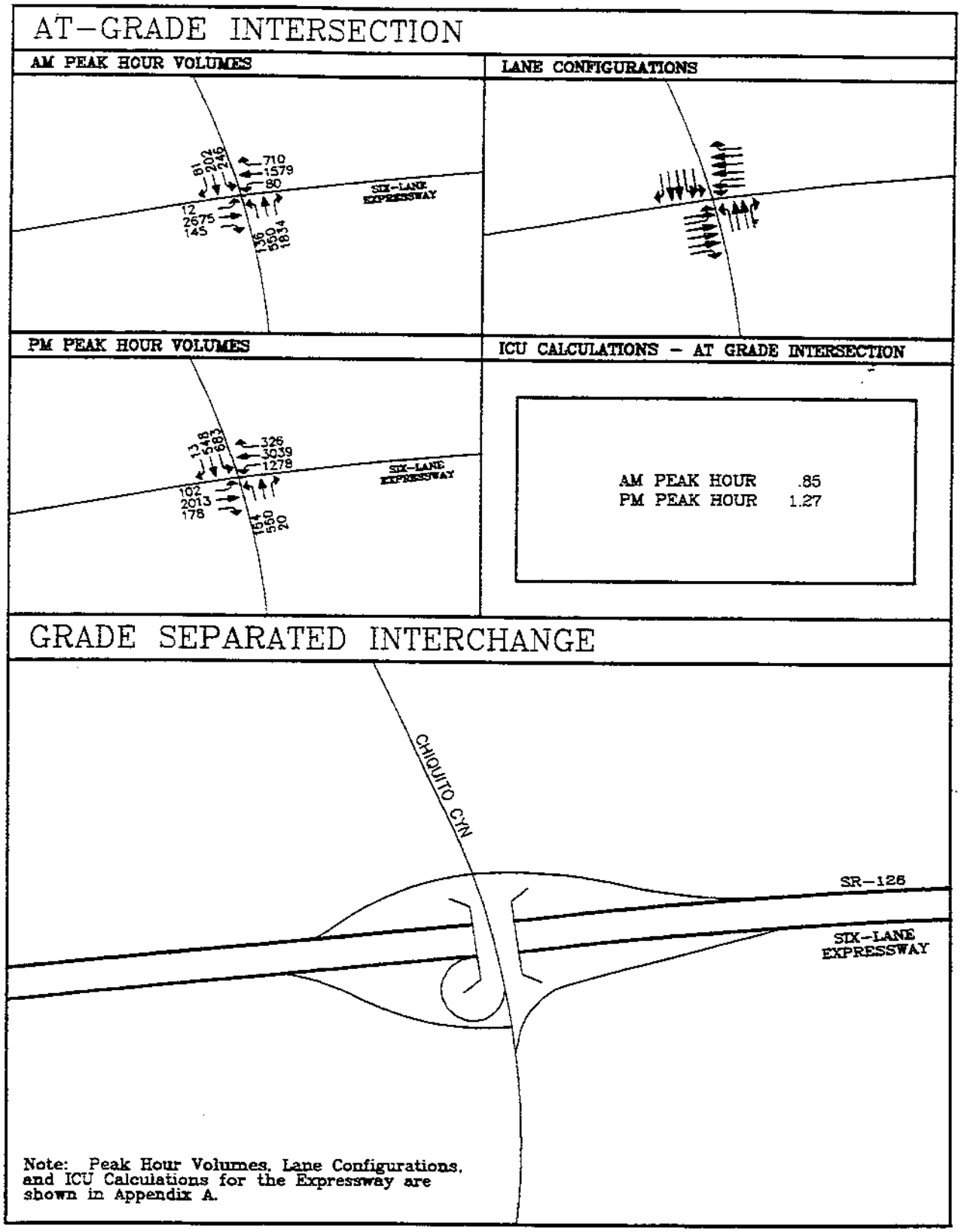


Figure V-8

SR-126/CHIQUITO CANYON INTERSECTION VOLUMES & LAYOUT

Eventually, a grade separation will need to be constructed at this location. Figure V-9 shows the long-range with-project traffic volumes and ICUs for an at-grade intersection plus the proposed grade separation. Under this proposal, the existing intersection will revert to on-off ramps, and Franklin Avenue will be extended over SR-126 as an over-crossing, essentially creating a full interchange at this location.

Commerce Center Drive

The Commerce Center traffic analysis and EIR identified the need for a future grade separation at this location. While no formal design studies have been carried out by or for Caltrans, preliminary work has suggested that a diamond configuration would provide adequate capacity within the space limitation of this location. This configuration was assumed in the impact analysis, and a project impact was identified at the eastbound on-ramp where the addition of project traffic caused the capacity of a single lane to be exceeded.

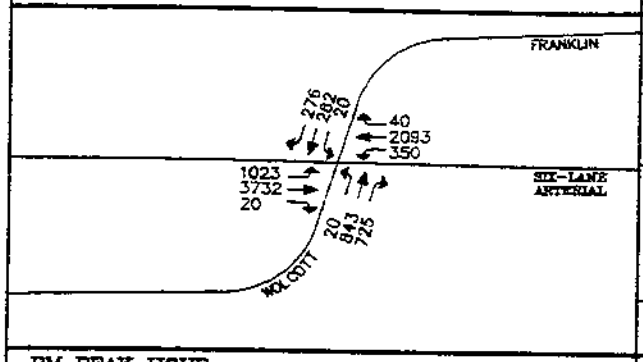
Figure V-10 shows three potential layouts for this interchange. The first two feature conventional diamond configurations, while the third has a modified parclove on the south side. The first scheme has an at-grade intersection for Travel Village, while the second provides that access from Commerce Center Drive. In the third scheme, the eastbound off-ramp and the eastbound loop on-ramp would actually access a westward extension of Henry Mayo Drive. This extension would then connect to a new driveway serving the Travel Village area.

The loop on-ramp depicted in scheme three would provide one means of providing extra capacity for project traffic. Even though it would not directly serve project traffic, it would provide an additional eastbound on-ramp to be used by traffic from the Commerce Center heading east on SR-126. Project traffic would then have full utilization of the direct eastbound on-ramp. Alternatively, two lanes would need to be deployed for a single eastbound ramp in the standard diamond configuration.

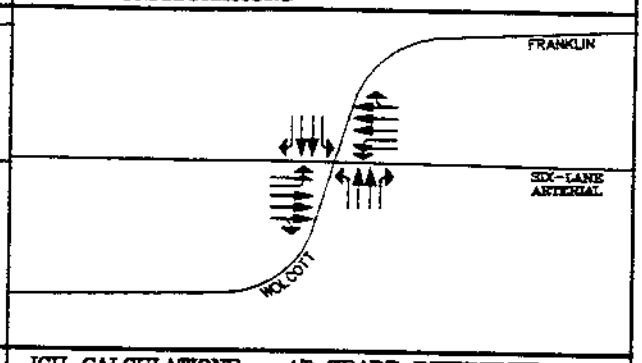
A variation on schemes one and two could be an urban diamond rather than a tight diamond. The actual configuration will be the subject of special design and environmental studies. The obligation of Newhall Ranch will be to provide whatever additional capacity is required over and above that needed to serve no-project volumes.

AT-GRADE INTERSECTION

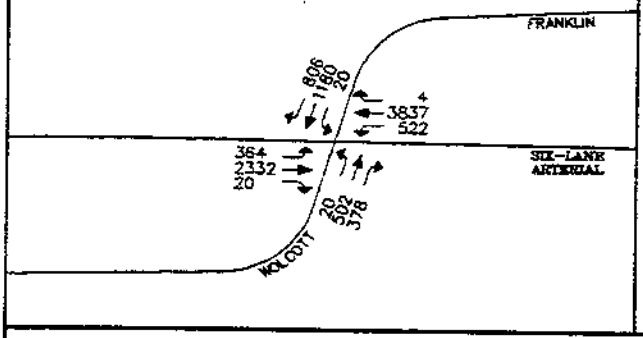
AM PEAK HOUR



LANE CONFIGURATIONS



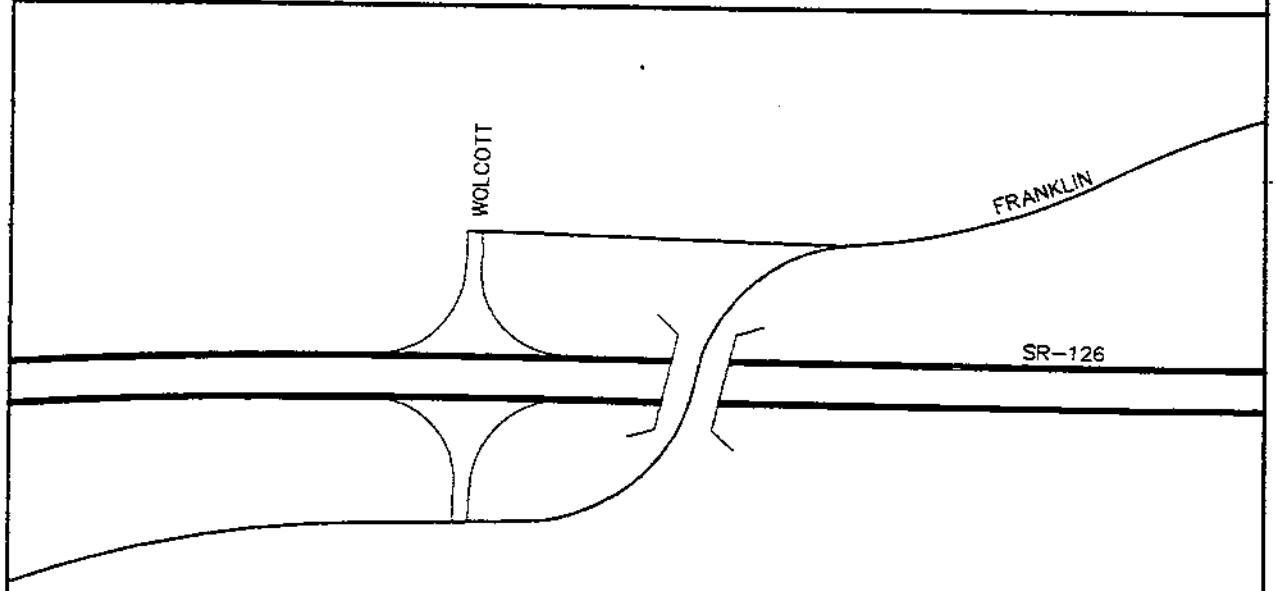
PM PEAK HOUR



ICU CALCULATIONS – AT GRADE INTERSECTION

AM PEAK HOUR	1.36
PM PEAK HOUR	1.44

GRADE SEPARATED INTERCHANGE



Note: Peak Hour Volumes, Lane Configurations, and ICU Calculations for the Expressway are shown in Appendix A.

Figure V-9

SR-126 WOLCOTT/FRANKLIN INTERSECTION

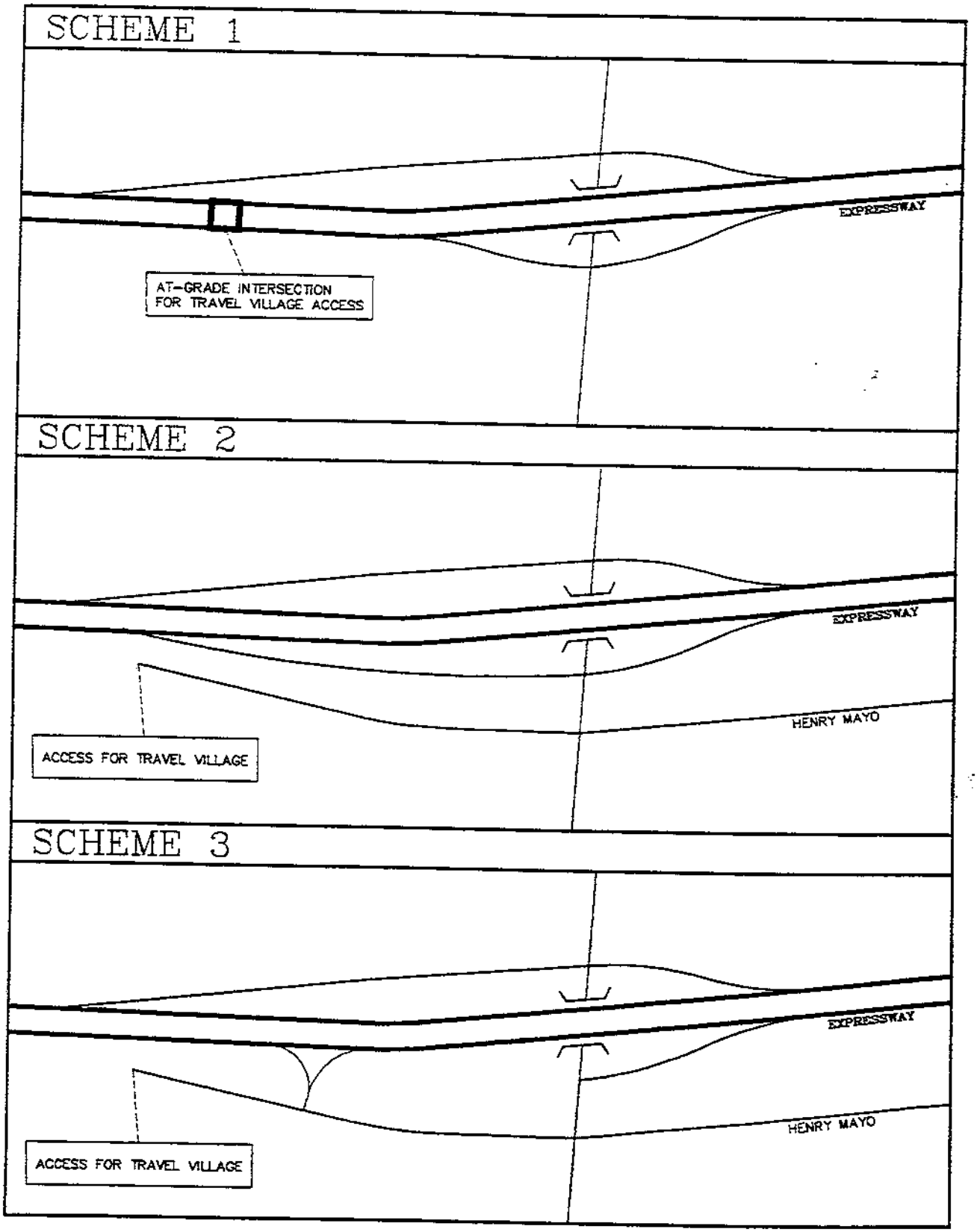


Figure V-10

SR-126 COMMERCE CENTER DRIVE INTERCHANGE

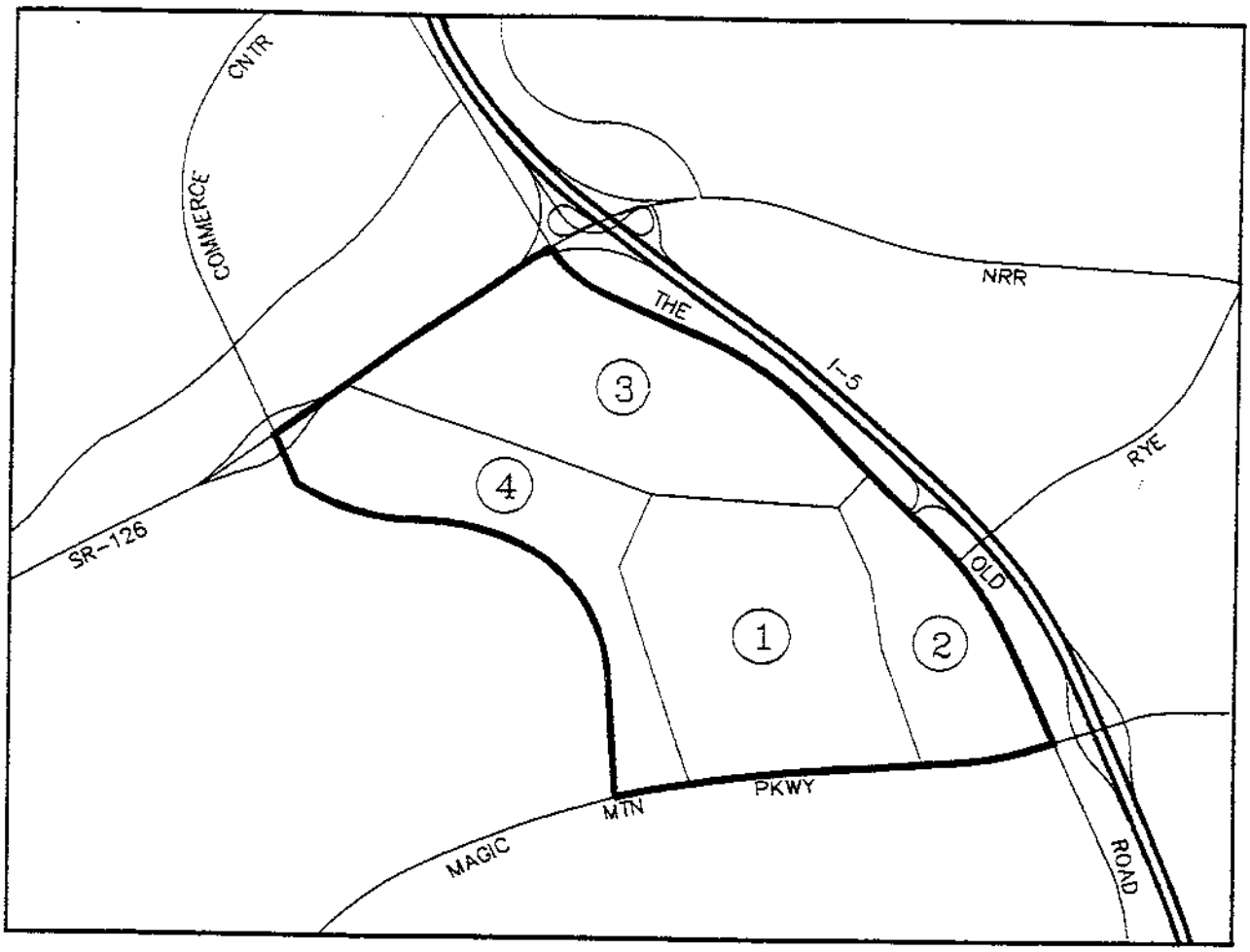
MAGIC MOUNTAIN PARKWAY AT I-5

The section of Magic Mountain Parkway west of I-5 will serve a variety of future land uses and is a major entry point to the proposed project from the east. At the present time, this portion of Magic Mountain Parkway extends only to the theme park entrance. Volumes are seasonal and relatively low west of The Old Road. Between The Old Road and I-5, current traffic volumes are somewhat higher due to the adjacent commercial area, plus the use of this section of roadway to reach the Valencia Industrial area.

Future traffic forecasts show significant increases in traffic on Magic Mountain Parkway west of I-5. The primary sources of this increase in traffic can be seen in Figure V-11, which summarizes the existing and future trip generation for the area north of Magic Mountain Parkway and west of The Old Road. In the future, the Magic Mountain theme park is assumed in the SCVCTM to offer year-round weekday operation, resulting in 24,000 daily trips. The theme park and Magic Mountain resort area account for a future 73,300 VPD of the total trip generation. This results in a no-project trip generation of 94,300 VPD for this area.

The project area adjacent to the theme park has land uses which generate 63,000 VPD, and when added to the above, results in a total daily trip generation of 157,300 VPD for this area. In addition, project development west of this area is served by Magic Mountain Parkway, adding to the total future traffic demand. The result is that future traffic demands on sections of Magic Mountain Parkway just west of The Old Road are estimated to be approximately 73,000 ADT, considerably higher than the 54,000 ADT capacity of a six-lane roadway.

The proposed improvements to Magic Mountain Parkway in the vicinity of I-5 are illustrated in Figure V-12. It is anticipated that they will occur in two stages. The first stage involves a relocation of the northbound off-ramp and the addition of a northbound loop on-ramp. These two new ramps would have an intersection with Tourney Road. The primary purpose of the new on-ramp is to eliminate the eastbound left-turn at the existing northbound on-ramp. This existing ramp would be for westbound traffic only, and eastbound traffic would make a right-turn at Tourney Road then another right-turn onto the ramp. This configuration has been reviewed conceptually by Caltrans.



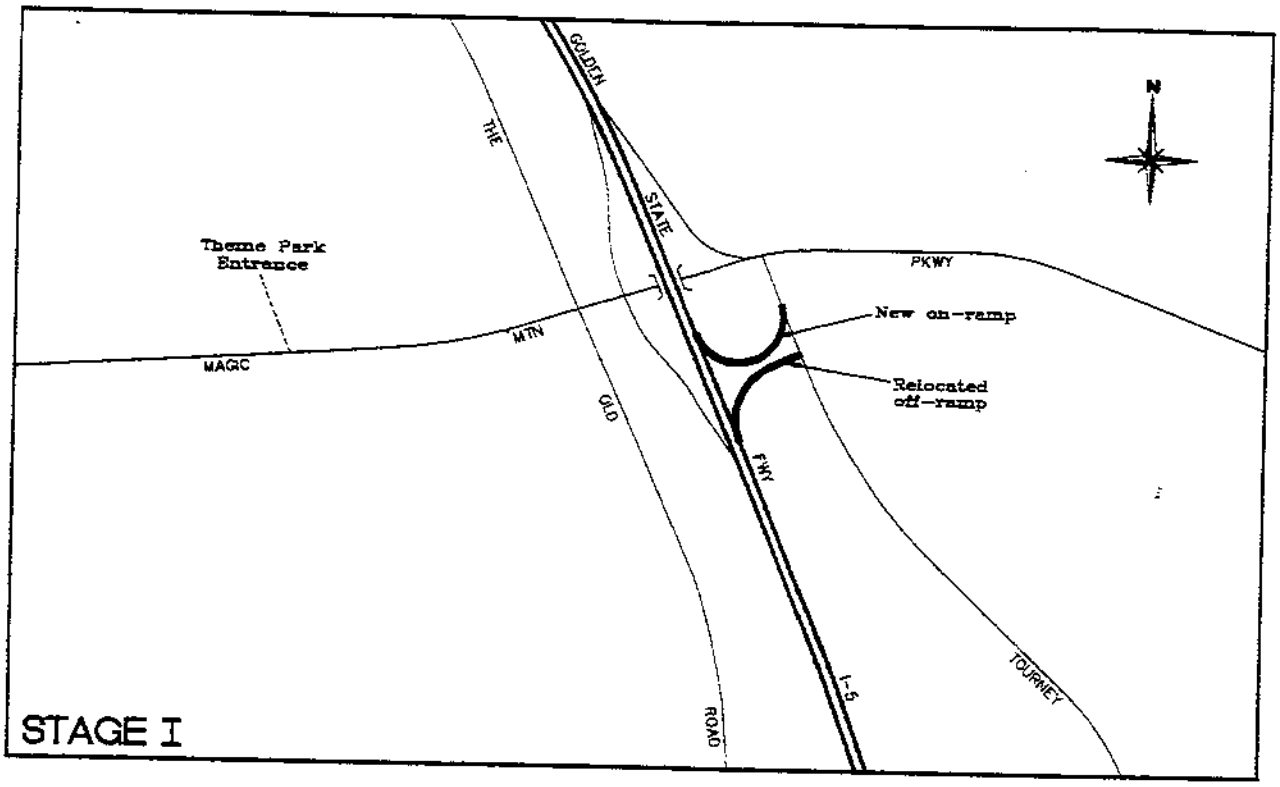
TRIP GENERATION SUMMARY

AREA	USE	EXISTING VPD	FUTURE VPD
1	THEME PARK	16000	24000
2	MAGIC MOUNTAIN RESORT	3800	49300
3	INDUSTRIAL PARK	400	21000
4	NEWHALL RANCH PROJECT	--	63000
TOTAL		20200	157300

VPD – VEHICLES PER DAY

Figure V–11

MAGIC MOUNTAIN AREA TRIP GENERATION



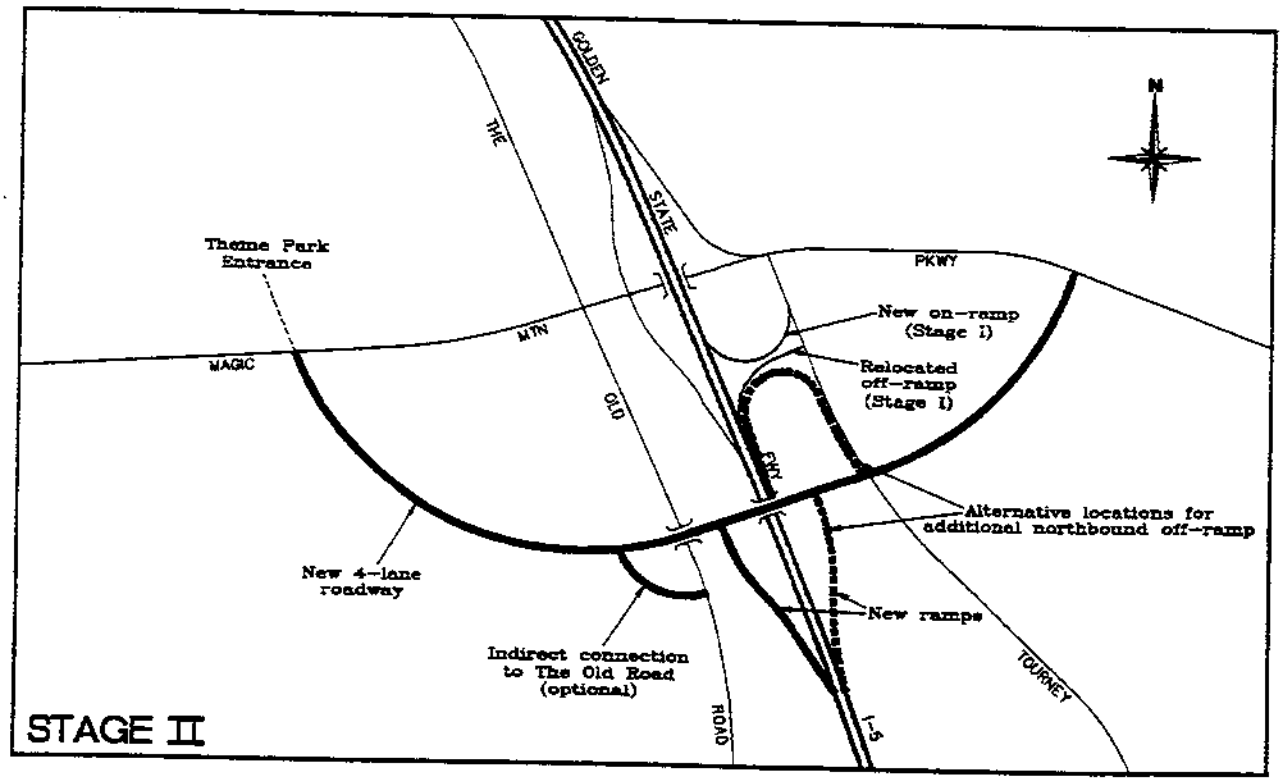


Figure V-12

MAGIC MOUNTAIN/I-5
PROPOSED IMPROVEMENTS

For longer term capacity increases at this interchange there are two serious constraints; the width of the I-5 undercrossing, and the short distance between the southbound ramp intersection with Magic Mountain Parkway and The Old Road. The undercrossing can only provide sufficient width for two thru-lanes in each direction plus a westbound left-turn lane to access the southbound on-ramp. The short distance between that ramp intersection and The Old Road causes operational problems which in turn degrade the capacity at this location.

Stage II improvements would therefore provide a new parallel crossing of the freeway and additional ramps to and from the south. The added northbound off-ramp would either connect directly to the new overcrossing or be a second lane on the relocated (Stage I) off-ramp. The added southbound on-ramp would be accessed from the new overcrossing. This concept provides several major benefits:

1. East-west capacity across I-5 is doubled (from four lanes to eight lanes)
2. Newhall Ranch project traffic to and from the south on I-5 does not use the section of Magic Mountain Parkway under and adjacent to I-5, but rather uses the new overcrossing.
3. Theme Park traffic is likewise diverted from Magic Mountain Parkway at I-5.
4. The critical westbound left-turn from Magic Mountain Parkway onto the southbound on-ramp is reduced, since westbound traffic can turn at Tourney Road and use the new overcrossing and on-ramp.

Ideally, the new overcrossing would have some form of indirect connection to The Old Road. However, this is not an essential part of the overall concept, and the benefits noted above would be achieved with or without such connection.

FREEWAY INTERCHANGES

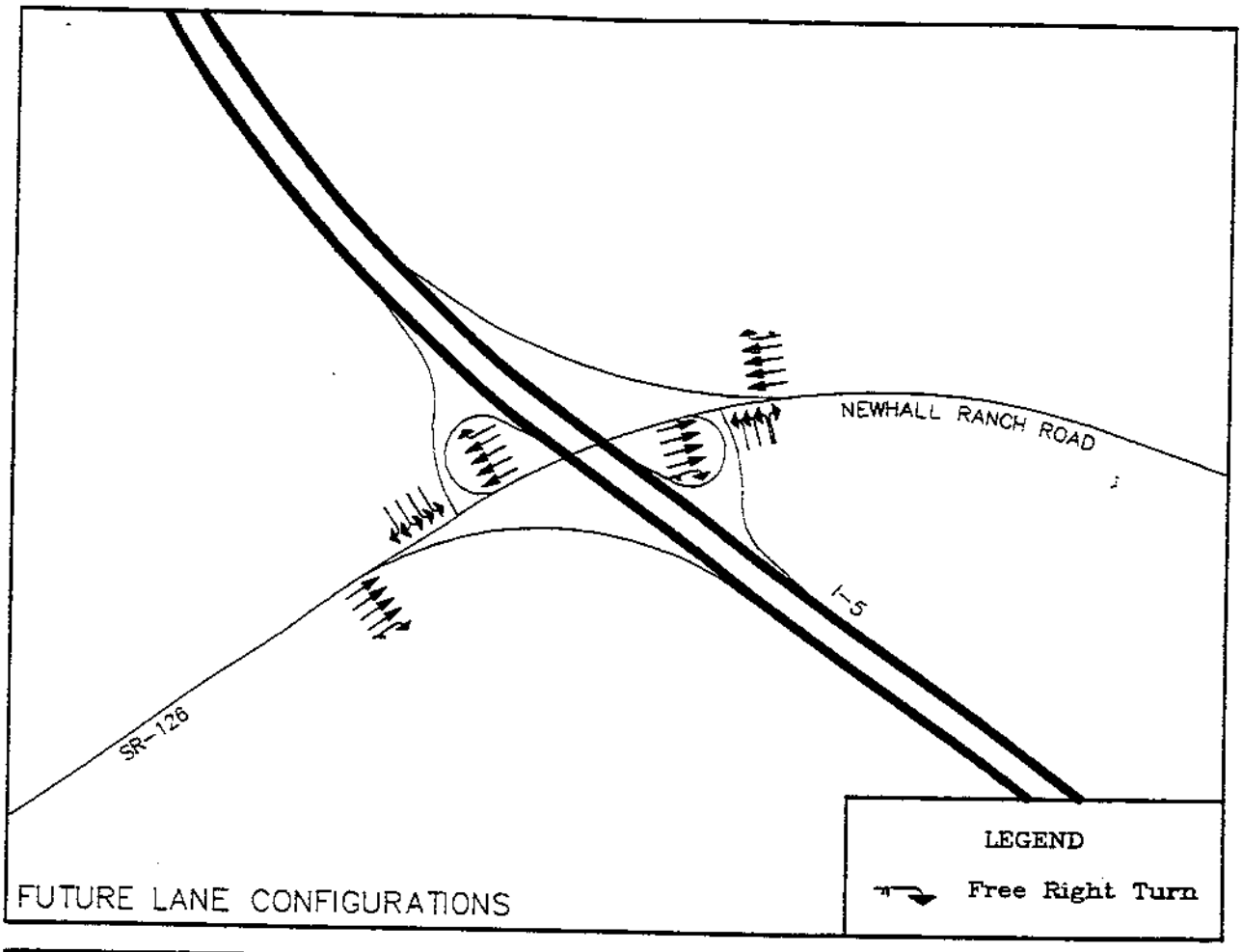
The impact analysis identified several freeway interchanges that would be impacted by the project. The Magic Mountain Parkway/I-5 interchange was discussed above, and proposed mitigation for the freeway interchange impacts are as follows:

SR-126/I-5 - This interchange was assumed to be a partial cloverleaf for the purpose of this analysis (i.e., upgraded from the existing configuration). Lane configurations and peak hour ICUs for the two off-ramp intersections are shown in Figure V-13. As can be seen here, while the partial cloverleaf configuration would be inadequate for the County Base network, it would be adequate for the Alternative Highway Network. Since this interchange serves as a connection between two state highways, it would be the subject of a future design study to evaluate various options. The purpose of the information provided here is to show a future design that could serve future traffic volumes, including traffic from the Newhall Ranch project.

I-5/Valencia - The northbound off-ramp at this location was shown to be over capacity in the AM peak hour (Alternative network only). The mitigation for this deficiency is the proposed additional northbound off-ramp at Magic Mountain Parkway, which would divert some traffic from Valencia to that location, thereby relieving the deficiency.

MITIGATION MEASURE SUMMARY

Table V-3 contains a complete list of the project mitigation measures. They are organized here according to the locational category used in this chapter of the report, and together form an overall transportation improvement program to be implemented by the project. They are based on the Alternative Highway Plan, since this is a more likely scenario than the County Base, and also represents a "worst case" as far as project impacts and mitigation requirements are concerned. Where the mitigation measure involves participating in future improvements, then the jurisdiction involved will be responsible for the actual timing and implementation of such improvements.



LONG-RANGE PEAK HOUR ICU's
WITH NEWHALL RANCH

LOCATION	COUNTY BASE AM	COUNTY BASE PM	ALTERNATIVE HIGHWAY PLAN AM	ALTERNATIVE HIGHWAY PLAN PM
I-5/SR-126 SB RAMPS	.93	.90	.78	.81
I-5/SR-126 NB RAMPS	.86	.95	.81	.84

Figure V-13

SR-126/I-5 INTERCHANGE

Table V-3

PROJECT MITIGATION MEASURE SUMMARY
(Alternative Highway Plan)

LOCATION	IMPROVEMENT(S)	RESPONSIBILITY
I. ON-SITE HIGHWAY SYSTEM		
On-site roadways	Construction of complete on-site roadway system including signalization where warranted	Full
II. COUNTY ARTERIALS		
Magic Mtn w/o The Old Rd	Augmented capacity	Full
Newhall Ranch e/o McBean	Augmented capacity	Partial
Newhall Ranch w/o Bouquet	Augmented capacity	Partial
III. COUNTY/CITY ARTERIALS		
McBean n/o Magic Mtn	Augmented capacity	Partial
Newhall Ranch e/o Dickason	Augmented capacity	Partial
Bouquet n/o Newhall Ranch	Augmented capacity	Partial
Bouquet s/o Newhall Ranch	Augmented capacity	Partial
IV. CITY ARTERIALS		
Newhall Ranch e/o I-5	Augmented capacity	Full
Newhall Ranch w/o Rye	Augmented capacity	Partial
Magic Mtn e/o I-5	Augmented capacity	Partial
Magic Mtn e/o Tourney	Augmented capacity	Partial
Magic Mtn e/o McBean	Augmented capacity	Partial
Magic Mtn e/o Valencia	Augmented capacity	Partial
Valencia e/o I-5	Augmented capacity	Full
Valencia e/o Rockwell	Augmented capacity	Partial
Valencia e/o McBean	Augmented capacity	Partial
Valencia n/o Magic Mtn	Augmented capacity	Partial
Lyons e/o I-5	Augmented capacity	Full
Newhall Ranch e/o Santa Clarita Pkwy	Augmented capacity	Full
V. SR-126		
San Martinez Grande to Chiquito Cyn	Two additional arterial lanes	Full
Chiquito Cyn to I-5	Upgrade to six-lane expressway	Full
Chiquito Cyn and Franklin/Wolcott	Grade separated interchanges	Full
VI. MAGIC MOUNTAIN PARKWAY AT I-5		
Stage I	Relocate northbound off-ramp Construct northbound loop on-ramp	Partial
Stage II	Construct parallel crossing of I-5; Construct additional ramps to/from the south Construct additional northbound off-ramp	Partial

VI

CUMULATIVE IMPACT ANALYSIS

This chapter describes the results of a cumulative analysis which includes current General Plan Amendment applications in addition to the land uses in the current General Plans for both Los Angeles County and the City of Santa Clarita. Impacts of the project are addressed in this long-range time setting.

LAND USE

The Santa Clarita Valley Consolidated Traffic Model (SCVCTM) contains land use summarized by the status of individual projects and by general plan designations for areas in which development proposals are not on file. The status of each project, or area, is divided into the following categories: existing land use, recorded tracts, approved tracts, tracts pending approval, and open tracts which are still available for future development. The combination of land uses in all categories corresponds to buildout of the City and County General Plans which was used for analyzing project impacts on the current General Plans. In order to analyze cumulative impacts an assessment of general plan amendments currently being processed was made by Los Angeles County Department of Regional Planning Staff to determine what other reasonably foreseeable projects should be added to the buildout data base to create a cumulative data base. A list of these cumulative projects and a corresponding traffic analysis zone (TAZ) map are included in Appendix E.

IMPACT ANALYSIS

An ADT capacity analysis was conducted which included the cumulative projects in the long-range database. A comparison of tripends with and without the cumulative projects shows an

additional 129,467 ADT (or an increase of four percent) which is distributed throughout the model area on both the east and west side of Interstate 5. The resulting capacity analysis was conducted for both the County Base Highway Network and the Alternative Highway Plan Network.

County Base Network

Figure VI-1 shows the long-range with-project ADT volumes with the addition of the cumulative projects using the County Base Highway Network. These forecasts can be compared with the corresponding with-project volumes for the General Plan database (see Figure IV-4 on Page IV-9 in Chapter IV).

The resulting impact of the cumulative projects on the County Base circulation system along with the Newhall Ranch project can be seen on Table VI-1. This table shows the combined project contribution for both the cumulative projects and the Newhall Ranch project and also shows the project contribution for the Newhall Ranch project alone. The lane and capacity assumptions listed in the table are the same as those used previously in Chapter IV for the County Base Highway Network.

Several locations exceed the acceptable level of service (V/C > 1.00) with the addition of the cumulative projects, these impacted locations are as follows:

DEFICIENT LOCATIONS

10. Commerce Ctr w/o I-5	65. Copperhill e/o Newhall Ranch
19. Valencia w/o The Old Rd	79. Bouquet s/o Newhall Ranch
22. Magic Mtn w/o The Old Rd	88. Magic Mtn e/o I-5
40. McBean n/o Magic Mtn	96. Valencia e/o I-5
53. Newhall Ranch e/o Dickason	100. Valencia n/o Magic Mtn
54. Newhall Ranch e/o McBean	111. San Fernando e/o Newhall
60. Franklin w/o Commerce Ctr	123. Dickason s/o Ave Scott
64. Rye e/o Scott	128. Newhall Ranch w/o Bouquet

Alternative Highway Plan

Figure VI-2 shows the long-range with-project ADT volumes with the addition of the cumulative projects using the Alternative Highway Plan Network. These forecasts can be compared

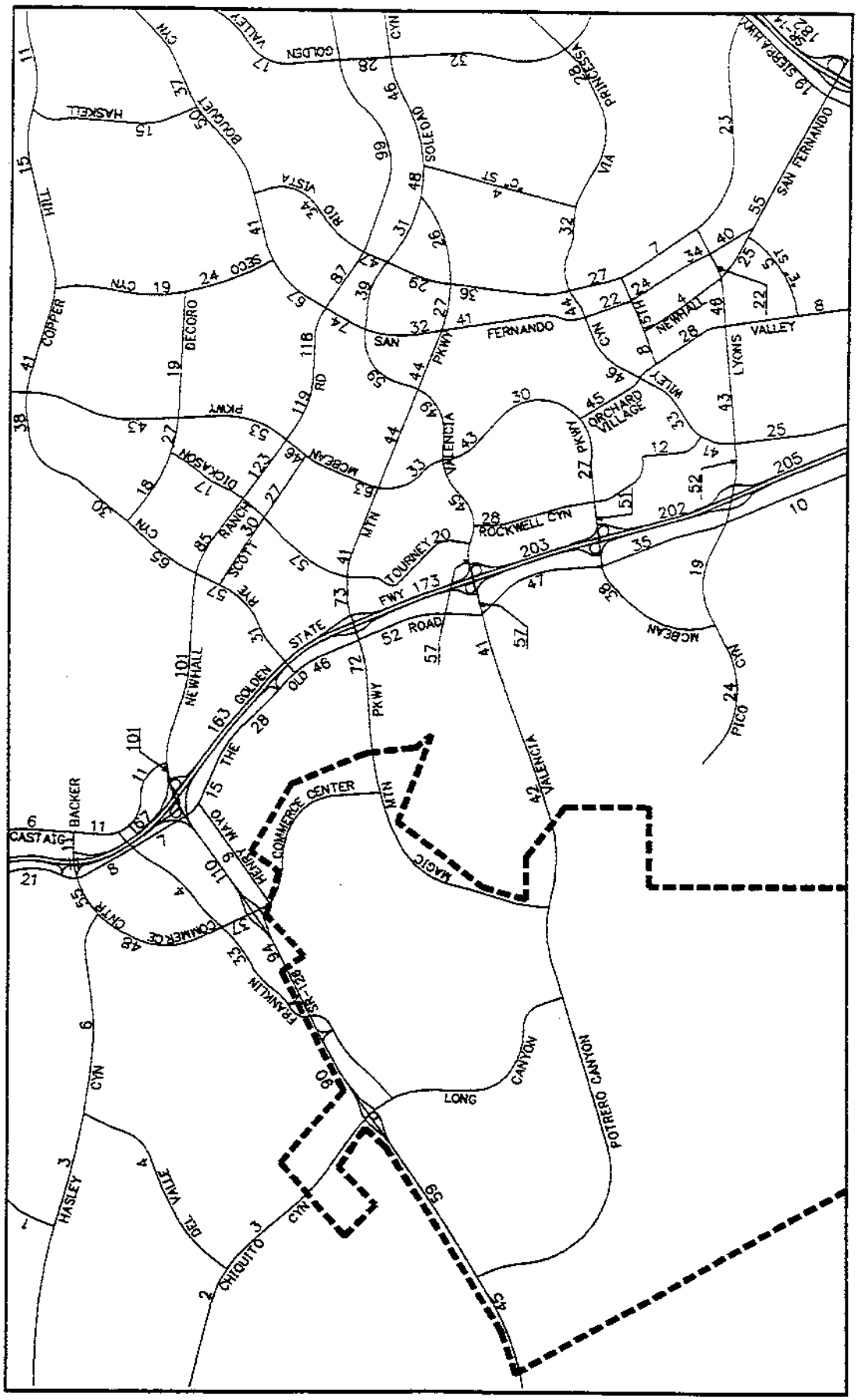


Figure VI-1
LONG RANGE ADT VOLUMES (000's)
COUNTY BASE NETWORK WITH NR
AND CUMULATIVE PROJECTS

Table VI-1

LONG-RANGE ADT VOLUME SUMMARY
COUNTY BASE NETWORK

Link #/Location	Lanes	Capacity	No-Project VOL	No-Project V/C	W/Newhall Ranch W/Cumulative Projects Combined VOL	W/Newhall Ranch W/Cumulative Projects Combined V/C	Combined Proj. Contr.	Newhall Ranch Contr.
1. Hasley Cyn w/o Del Valle	4	32000	3000	.09	3000	.09	.00	.00
2. Hasley Cyn e/o Del Valle	4	32000	6000	.19	6000	.19	.00	.00
3. Del Valle n/o Chiquito Cyn	4	32000	4000	.13	4000	.13	.00	.00
4. Chiquito Cyn w/o Del Valle	2	14000	2000	.14	2000	.14	.00	.00
5. Chiquito Cyn e/o Del Valle	4	32000	3000	.09	3000	.09	.00	.00
9. Commerce Ctr Dr e/o I-5	6	54000	10000	.19	11000	.20	.02	-.02
10. Commerce Ctr Dr w/o I-5	6	54000	47000	.87	55000	1.02	.15	.09
11. Commerce Ctr Dr s/o Hasley	6	54000	43000	.80	48000	.89	.09	.06
12. Commerce Ctr Dr n/o SR-126	6	54000	31000	.57	37000	.69	.11	.06
14. Valencia e/o MMP	4	54000	5000	.09	42000	.78	.69	.58
18. Valencia w/o The Old Rd	4	54000	23000	.43	41000	.76	.33	.31
19. Valencia e/o The Old Rd	6	54000	40000	.74	57000	1.06	.31	.26
22. Magic Mtn w/o The Old Rd	6	54000	40000	.74	72000	1.33	.59	.57
23. The Old Rd n/o Commerce Ctr	4	32000	18000	.56	21000	.66	.09	.06
24. The Old Rd n/o Franklin	6	54000	7000	.13	8000	.15	.02	.00
25. The Old Rd n/o SR-126	6	54000	6000	.11	7000	.13	.02	.00
26. The Old Rd s/o SR-126	6	54000	10000	.19	19000	.35	.16	.09
27. The Old Rd s/o Henry Mayo	6	54000	21000	.39	28000	.52	.13	.06
28. The Old Rd n/o Magic Mtn	6	54000	31000	.57	46000	.85	.28	.15
29. The Old Rd s/o Magic Mtn	6	54000	47000	.87	52000	.96	.09	.07
30. The Old Rd s/o Valencia	6	54000	26000	.48	47000	.87	.39	.31
31. The Old Rd s/o McBean	6	54000	30000	.56	35000	.65	.09	.09
32. The Old Rd s/o Lyons	4	32000	10000	.31	10000	.31	.00	.00
33. Pico w/o McBean	4	32000	23000	.72	24000	.75	.03	-.19
34. Pico e/o McBean	4	32000	19000	.59	19000	.59	.00	-.13
35. McBean w/o The Old Rd	6	54000	27000	.50	38000	.70	.20	.11
36. McBean e/o I-5	6	54000	53000	.98	51000	.94	-.04	.02
37. McBean e/o Tournament	6	54000	29000	.54	27000	.50	-.04	-.02
38. McBean s/o Valencia	6	54000	41000	.76	43000	.80	.04	.02
39. McBean n/o Valencia	6	54000	32000	.59	33000	.61	.02	.02
40. McBean n/o Magic Mtn	6	54000	57000	1.06	63000	1.17	.11	.06
41. McBean s/o Newhall Ranch Rd	6	54000	48000	.89	46000	.85	-.04	-.04
42. McBean n/o Newhall Ranch Rd	6	54000	51000	.94	53000	.98	.04	-.02
43. McBean n/o Decoro	6	54000	41000	.76	43000	.80	.04	.00
50. Newhall Ranch Rd e/o I-5	8	112000	65000	.58	101000	.90	.32	.23
51. Newhall Ranch Rd w/o Rye	8	112000	72000	.64	101000	.90	.26	.20
52. Newhall Ranch Rd e/o Rye	8	112000	78000	.70	85000	.76	.06	.06
53. Newhall Ranch e/o Dickason	8	112000	111000	.99	123000	1.10	.11	.07
54. Newhall Ranch Rd e/o McBean	8	112000	112000	1.00	119000	1.06	.06	.04
56. Castaic n/o Newhall Ranch Rd	4	32000	12000	.38	11000	.34	-.03	-.06
57. Castaic s/o Commerce Ctr Dr	4	32000	11000	.34	11000	.34	.00	-.03
58. Castaic n/o Commerce Ctr Dr	4	32000	5000	.16	6000	.19	.03	.03
60. Franklin w/o Commerce Ctr Dr	4	32000	0	.00	33000	1.03	1.03	.94
61. Franklin e/o Commerce Ctr Dr	4	32000	2000	.06	4000	.13	.06	.03
63. Rye e/o I-5	6	54000	24000	.44	31000	.57	.13	.09

(Continued)

Table VI-1 (cont)
LONG-RANGE ADT VOLUME SUMMARY
COUNTY BASE NETWORK

Link #/Location	Lanes	Capacity	No-Project VOL	No-Project V/C	W/Newhall Ranch W/Cumulative Projects Combined VOL	W/Newhall Ranch W/Cumulative Projects Combined V/C	Combined Proj. Contr.	Newhall Ranch Contr.
64. Rye e/o Scott	6	54000	44000	.81	57000	1.06	.24	.13
65. Copperhill e/o Newhall Ranch	6	54000	61000	1.13	65000	1.20	.07	.06
66. Copperhill n/o Decoro	6	54000	26000	.48	30000	.56	.07	.02
67. Copperhill e/o McBean	6	54000	41000	.76	41000	.76	.00	.00
68. Copperhill e/o Seco	4	32000	13000	.41	15000	.47	.06	.03
69. Copperhill e/o Haskell	6	54000	10000	.19	11000	.20	.02	.02
70. Decoro e/o Copperhill	4	32000	15000	.47	18000	.56	.09	.06
71. Decoro e/o Dickason	4	32000	26000	.81	27000	.84	.03	.00
72. Decoro e/o McBean	4	32000	19000	.59	19000	.59	.00	.00
73. Haskell n/o Bouquet	4	32000	14000	.44	15000	.47	.03	.03
74. Seco n/o Decoro	4	32000	17000	.53	19000	.59	.06	.03
75. Seco s/o Decoro	4	32000	23000	.72	24000	.75	.03	.00
76. Bouquet e/o Haskell	6	54000	37000	.69	37000	.69	.00	.00
77. Bouquet e/o Rio Vista	6	54000	49000	.91	50000	.93	.02	.02
78. Bouquet n/o Newhall Ranch	8	72000	65000	.90	67000	.93	.03	.03
79. Bouquet s/o Newhall Ranch	6	54000	71000	1.31	74000	1.37	.06	.06
80. Bouquet n/o Magic Mtn	6	54000	30000	.56	32000	.59	.04	.04
81. San Fernando s/o Magic Mtn	6	54000	39000	.72	41000	.76	.04	.02
82. San Fernando s/o Wiley	6	54000	21000	.39	22000	.41	.02	.00
83. San Fernando n/o Placerita	6	54000	23000	.43	24000	.44	.02	.02
84. San Fernando s/o Placerita	6	54000	33000	.61	34000	.63	.02	.02
85. San Fernando s/o Lyons	6	54000	38000	.70	40000	.74	.04	.02
86. Ave Scott e/o Rye	6	54000	18000	.33	30000	.56	.22	.11
87. Ave Scott e/o Dickason	6	54000	17000	.31	27000	.50	.19	.11
88. Magic Mtn e/o I-5	6	54000	65000	1.20	73000	1.35	.15	.11
89. Magic Mtn e/o Tourney	6	54000	38000	.70	41000	.76	.06	.04
90. Magic Mtn e/o McBean	6	54000	38000	.70	44000	.81	.11	.06
91. Magic Mtn e/o Valencia	6	54000	37000	.69	44000	.81	.13	.09
93. Tourney n/o Valencia	4	32000	18000	.56	20000	.63	.06	.00
94. Rockwell s/o Valencia	4	32000	25000	.78	28000	.88	.09	.09
95. Tournament s/o McBean	4	32000	12000	.38	12000	.38	.00	.00
96. Valencia e/o I-5	6	54000	46000	.85	57000	1.06	.20	.11
98. Valencia e/o Rockwell	6	54000	43000	.80	45000	.83	.04	.04
99. Valencia e/o McBean	6	54000	46000	.85	49000	.91	.06	.04
100. Valencia n/o Magic Mtn	6	54000	57000	1.06	59000	1.09	.04	.00
101. Soledad e/o Bouquet	6	54000	31000	.57	31000	.57	.00	.00
102. Wiley s/o Lyons	4	32000	22000	.69	25000	.78	.09	.06
103. Wiley n/o Lyons	6	54000	35000	.65	41000	.76	.11	.06
104. Wiley e/o Tournament	6	54000	28000	.52	33000	.61	.09	.04
105. Wiley e/o Orchard Village	6	54000	45000	.83	46000	.85	.02	.00
106. Via Princessa e/o San Fern	6	54000	43000	.80	44000	.81	.02	-.02
107. Via Princessa e/o Magic Mtn	6	54000	28000	.52	28000	.52	.00	-.04
108. 15th St e/o Orchard Village	4	32000	7000	.22	8000	.25	.03	.03
109. Newhall n/o Lyons	4	32000	5000	.16	4000	.13	-.03	-.03
110. Newhall s/o Lyons	4	32000	22000	.69	25000	.78	.09	.03
111. San Fernando e/o Newhall	6	54000	51000	.94	55000	1.02	.07	.02

(Continued)

Table VI-1 (cont)
LONG-RANGE ADT VOLUME SUMMARY
COUNTY BASE NETWORK

Link #/Location	Lanes	Capacity	No-Project VOL	No-Project V/C	W/Newhall Ranch W/Cumulative Projects Combined VOL	W/Newhall Ranch W/Cumulative Projects Combined V/C	Combined Proj. Contr.	Newhall Ranch Contr.
112. Orchard Village s/o McBean	6	54000	42000	.78	45000	.83	.06	.00
113. Orchard Village s/o Wiley	6	54000	27000	.50	28000	.52	.02	.00
114. Orchard Village s/o Lyons	4	32000	8000	.25	8000	.25	.00	.00
115. Lyons e/o I-5	6	54000	44000	.81	52000	.96	.15	.09
116. Lyons e/o Wiley	6	54000	39000	.72	43000	.80	.07	.04
117. Lyons e/o Orchard Village	6	54000	42000	.78	46000	.85	.07	.04
118. Lyons w/o San Fernando	6	54000	20000	.37	22000	.41	.04	.02
119. McBean e/o Orchard Village	6	54000	27000	.50	30000	.56	.06	.04
123. Dickason s/o Ave Scott	6	54000	51000	.94	57000	1.06	.11	.02
124. Dickason s/o Decoro	4	32000	12000	.38	17000	.53	.16	.00
126. Bouquet e/o Seco	6	54000	42000	.78	41000	.76	-.02	-.02
128. Newhall Ranch w/o Bouquet	8	112000	111000	.99	118000	1.05	.06	.04
138. Golden Valley s/o Plum	4	32000	16000	.50	17000	.53	.03	.00
143. Soledad w/o Golden Valley	6	54000	40000	.74	46000	.85	.11	.09
151. Via Princessa w/o MMP	6	54000	31000	.57	32000	.59	.02	.00
159. Sierra Hwy e/o San Fern	6	54000	16000	.30	19000	.35	.06	.00
164. Rio Vista n/o NRR	6	54000	32000	.59	34000	.63	.04	.00
165. NRR e/o San Fernando	8	112000	85000	.76	87000	.78	.02	.01
166. NRR e/o Rio Vista	8	112000	97000	.87	99000	.88	.02	.01
171. Rio Vista n/o Soledad	6	54000	43000	.80	47000	.87	.07	.02
172. Rio Vista s/o Soledad	6	54000	35000	.65	36000	.67	.02	.00
173. Golden Valley s/o NRR	6	54000	24000	.44	28000	.52	.07	.06
174. Golden Valley s/o Soledad	6	54000	29000	.54	32000	.59	.06	.04
176. Rio Vista s/o Via Princess	6	54000	26000	.48	27000	.50	.02	.02
177. Rio Vista n/o Lyons	6	54000	7000	.13	7000	.13	.00	.00
178. Rio Vista n/o Sierra Hwy	6	54000	21000	.39	23000	.43	.04	.02
186. Soledad e/o San Fernando	6	54000	36000	.67	39000	.72	.06	.04
187. Soledad e/o MMP	6	54000	45000	.83	48000	.89	.06	.04
188. MMP e/o San Fernando	4	32000	20000	.63	27000	.84	.22	.19
189. MMP e/o Rio Vista	4	32000	23000	.72	26000	.81	.09	.09
190. C Street s/o Soledad	4	32000	3000	.09	4000	.13	.03	.03
191. North of Hasley	4	32000	1000	.03	2000	.06	.03	.00
192. Henry Mayo w/o The Old Rd	2	14000	1000	.07	9000	.64	.57	.36
193. Rio Vista s/o Soledad	6	54000	25000	.46	29000	.54	.07	.06
194. Copperhill w/o McBean	6	54000	32000	.59	38000	.70	.11	.00
198. "E" St e/o Valley	2	16000	4000	.25	5000	.31	.06	.00

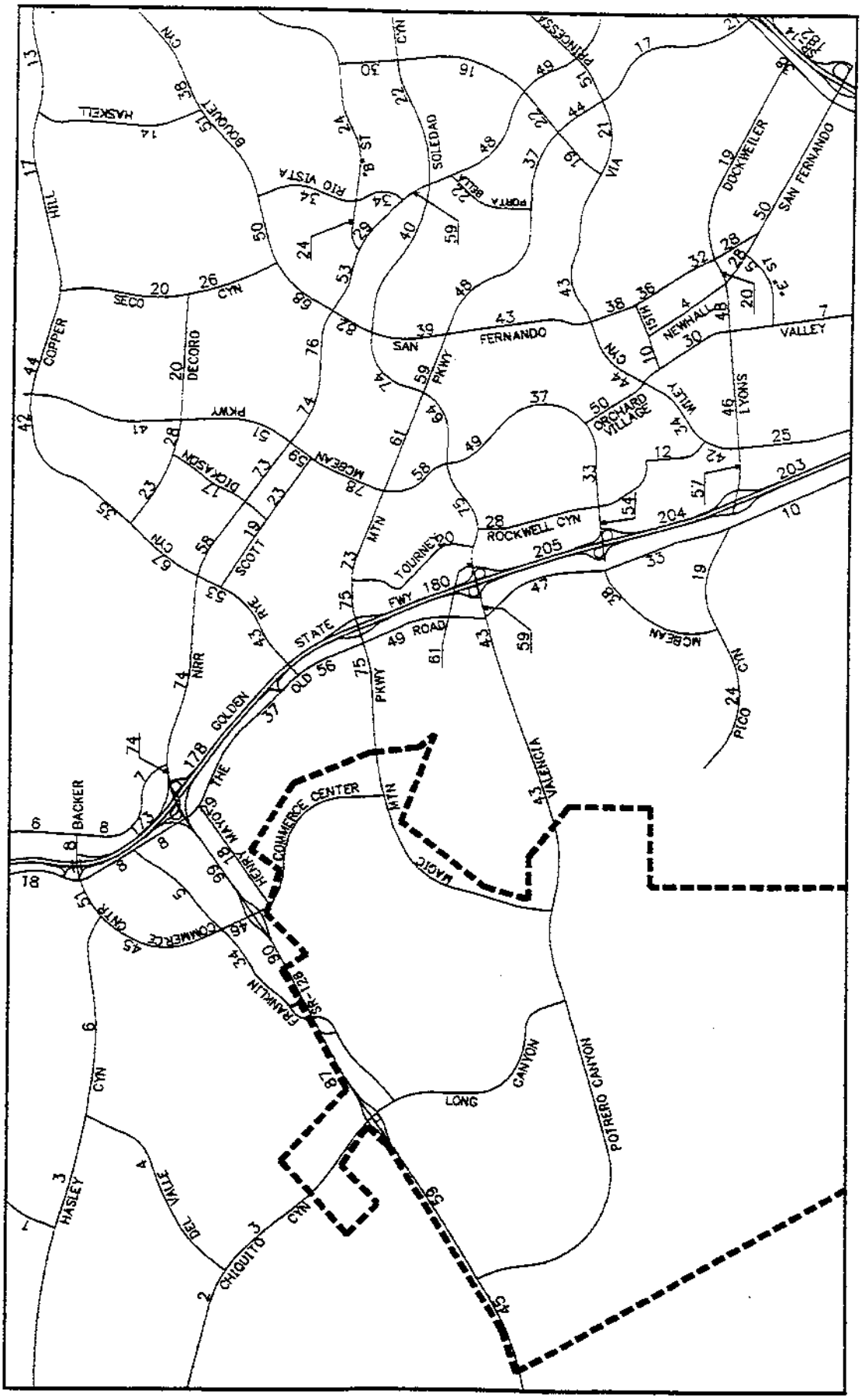


Figure VI-2
LONG RANGE ADT VOLUMES (000's)
ALTERNATIVE HIGHWAY PLAN WITH NR
AND CUMULATIVE PROJECTS

with the corresponding with-project volumes for the General Plan database (see Figure IV-6 on Page IV-16 in Chapter IV).

The resulting impact of the cumulative projects on the Alternative Highway Plan circulation system along with the Newhall Ranch project can be seen on Table VI-2. Like the previous table, this table also shows the combined project contribution for both the cumulative projects and the Newhall Ranch project as well as the project contribution for the Newhall Ranch project alone. The lane and capacity assumptions listed on table are the same as those used previously in Chapter IV for the Alternative Highway Network.

Several locations exceed the acceptable level of service (V/C > 1.00) with the addition of the cumulative projects, these impacted locations are as follows:

DEFICIENT LOCATIONS

19. Valencia w/o The Old Rd	60. Franklin w/o Commerce Ctr
22. Magic Mtn w/o The Old Rd	79. Bouquet s/o Newhall Ranch
28. The Old Rd n/o Magic Mtn	115. Lyons e/o I-5
40. McBean n/o Magic Mtn	192. Henry Mayo w/o The Old Rd

MITIGATION MEASURES

The combination of the Newhall Ranch project and the cumulative projects contribute to the deficiencies on the arterial segments noted above. The deficiencies need to be mitigated by providing additional capacity to each segment. This can be accomplished through a variety of strategies including intersection improvements, roadway improvements, and operational efficiency improvements (see detailed discussion on augmentation in Chapter V).

The proposed project mitigation is to participate in capacity augmentation on a fair share basis. Table VI-3 shows examples of how a fair share formula could be derived for individual sections of roadways that are deficient using the County Base Network. Table VI-4 shows the fair share formula applied to the deficient roadways under the Alternative Highway Plan Network. These tables

Table VI-2

LONG-RANGE ADT VOLUME SUMMARY
CUMULATIVE IMPACT ANALYSIS
(Alternative Highway Plan)

Link #/Location	Lanes	Capacity	No-Project VOL	No-Project V/C	W/Newhall Ranch & Cumulative Projects Combined VOL	W/Newhall Ranch & Cumulative Projects Combined V/C	Combined Proj. Contr.	Newhall Ranch Contr.
1. Hasley Cyn w/o Del Valle	4	32000	3000	.09	3000	.09	.00	-.00
2. Hasley Cyn e/o Del Valle	4	32000	6000	.19	6000	.19	.00	.00
3. Del Valle n/o Chiquito Cyn	4	32000	4000	.13	4000	.13	.00	.00
4. Chiquito Cyn w/o Del Valle	2	14000	2000	.14	2000	.14	.00	.00
5. Chiquito Cyn e/o Del Valle	4	32000	3000	.09	3000	.09	.00	.00
9. Commerce Ctr Dr e/o I-5	6	54000	5000	.09	8000	.15	.06	.04
10. Commerce Ctr Dr w/o I-5	6	54000	45000	.83	51000	.94	.11	.06
11. Commerce Ctr Dr s/o Hasley	6	54000	42000	.78	45000	.83	.06	.04
12. Commerce Ctr Dr n/o SR-126	6	54000	30000	.56	46000	.85	.30	.12
14. Valencia e/o MMP	6	54000	5000	.09	43000	.80	.71	.56
18. Valencia w/o The Old Rd	6	54000	23000	.43	43000	.80	.37	.31
19. Valencia e/o The Old Rd	6	54000	39000	.72	59000	1.09	.37	.28
22. Magic Mtn w/o The Old Rd	6	54000	45000	.83	75000	1.39	.56	.52
23. The Old Rd n/o Commerce Ctr	4	32000	17000	.53	18000	.56	.03	-.03
24. The Old Rd n/o Franklin	6	54000	8000	.15	8000	.15	.00	-.04
25. The Old Rd n/o SR-126	6	54000	7000	.13	8000	.15	.02	-.02
26. The Old Rd s/o SR-126	6	54000	10000	.19	29000	.54	.35	.13
27. The Old Rd s/o Henry Mayo	6	54000	21000	.39	37000	.69	.30	.07
28. The Old Rd n/o Magic Mtn	6	54000	41000	.76	56000	1.04	.28	.09
29. The Old Rd s/o Magic Mtn	6	54000	41000	.76	49000	.91	.15	.09
30. The Old Rd s/o Valencia	6	54000	24000	.44	47000	.87	.43	.33
31. The Old Rd s/o McBean	6	54000	29000	.54	33000	.61	.07	.07
32. The Old Rd s/o Lyons	4	32000	10000	.31	10000	.31	.00	.00
33. Pico w/o McBean	4	32000	23000	.72	24000	.75	.03	-.19
34. Pico e/o McBean	4	32000	19000	.59	19000	.59	.00	-.13
35. McBean w/o The Old Rd	6	54000	27000	.50	38000	.70	.20	.11
36. McBean e/o I-5	6	54000	51000	.94	54000	1.00	.06	.04
37. McBean e/o Tournament	6	54000	30000	.56	33000	.61	.06	.00
38. McBean s/o Valencia	6	54000	47000	.87	49000	.91	.04	.02
39. McBean n/o Valencia	6A	76000	55000	.72	58000	.76	.04	.00
40. McBean n/o Magic Mtn	6A	76000	71000	.93	78000	1.03	.09	.03
41. McBean s/o Newhall Ranch Rd	6A	76000	60000	.79	59000	.78	-.01	.00
42. McBean n/o Newhall Ranch Rd	6	54000	52000	.96	51000	.94	-.02	-.02
43. McBean n/o Decoro	6	54000	41000	.76	41000	.76	.00	-.02
50. Newhall Ranch Rd e/o I-5	6A	76000	54000	.71	74000	.97	.26	.22
51. Newhall Ranch Rd w/o Rye	6A	76000	55000	.72	74000	.97	.25	.21
52. Newhall Ranch Rd e/o Rye	6A	76000	56000	.74	58000	.76	.03	-.01
53. Newhall Ranch e/o Dickason	6A	76000	66000	.87	73000	.96	.09	.04
54. Newhall Ranch Rd e/o McBean	6A	76000	69000	.91	74000	.97	.07	.03
55. Newhall Ranch e/o Bouquet	6A	76000	51000	.67	53000	.70	.03	-.01
56. Castaic n/o Newhall Ranch Rd	4	32000	7000	.22	7000	.22	.00	-.03
57. Castaic s/o Commerce Ctr Dr	4	32000	5000	.16	8000	.25	.09	.03
58. Castaic n/o Commerce Ctr Dr	4	32000	5000	.16	6000	.19	.03	.00
60. Franklin w/o Commerce Ctr Dr	4	32000	0	.00	34000	1.06	1.06	.97
61. Franklin e/o Commerce Ctr Dr	4	32000	2000	.06	5000	.16	.09	.03
63. Rye e/o I-5	6	54000	36000	.67	43000	.80	.13	.06

(Continued)

Table VI-2 (cont)
LONG-RANGE ADT VOLUME SUMMARY
CUMULATIVE IMPACT ANALYSIS
(Alternative Highway Plan)

Link #/Location	Lanes	Capacity	No-Project VOL	No-Project V/C	W/Newhall Ranch & Cumulative Projects Combined VOL	W/Newhall Ranch & Cumulative Projects Combined V/C	Combined Proj. Contr.	Newhall Ranch Contr.
64. Rye e/o Scott	6	54000	50000	.93	53000	.98	.06	-.04
65. Copperhill e/o Newhall Ranch	6A	76000	66000	.87	67000	.88	.01	-.01
66. Copperhill n/o Decoro	6	54000	31000	.57	35000	.65	.07	.02
67. Copperhill e/o McBean	6	54000	44000	.81	44000	.81	.00	.00
68. Copperhill e/o Seco	4	32000	17000	.53	17000	.53	.00	.00
69. Copperhill e/o Haskell	4	32000	13000	.41	13000	.41	.00	.00
70. Decoro e/o Copperhill	4	32000	19000	.59	23000	.72	.13	.09
71. Decoro e/o Dickason	4	32000	26000	.81	28000	.88	.06	-.03
72. Decoro e/o McBean	4	32000	21000	.66	20000	.63	-.03	.00
73. Haskell n/o Bouquet	4	32000	14000	.44	14000	.44	.00	.00
74. Seco n/o Decoro	4	32000	18000	.56	20000	.63	.06	.03
75. Seco s/o Decoro	4	32000	25000	.78	26000	.81	.03	.00
76. Bouquet e/o Haskell	6	54000	38000	.70	38000	.70	.00	.00
77. Bouquet e/o Rio Vista	6	54000	51000	.94	51000	.94	.00	.00
78. Bouquet n/o Newhall Ranch	6A	76000	67000	.88	68000	.89	.01	.01
79. Bouquet s/o Newhall Ranch	8A	80000	79000	.99	82000	1.02	.04	.01
80. Bouquet n/o Magic Mtn	6	54000	36000	.67	39000	.72	.06	.06
81. San Fernando s/o Magic Mtn	6	54000	42000	.78	43000	.80	.02	.00
82. San Fernando s/o Wiley	6	54000	37000	.69	38000	.70	.02	.00
83. San Fernando n/o Placerita	6	54000	35000	.65	36000	.67	.02	.00
84. San Fernando s/o Placerita	6	54000	31000	.57	32000	.59	.02	.00
85. San Fernando s/o Lyons	6	54000	29000	.54	28000	.52	-.02	-.02
86. Ave Scott e/o Rye	4	32000	12000	.38	19000	.59	.22	.09
87. Ave Scott e/o Dickason	4	32000	15000	.47	23000	.72	.25	.03
88. Magic Mtn e/o I-5	6A	76000	65000	.86	75000	.99	.13	.09
89. Magic Mtn e/o Tourney	6A	76000	64000	.84	73000	.96	.12	.11
90. Magic Mtn e/o McBean	6A	76000	57000	.75	61000	.80	.05	.05
91. Magic Mtn e/o Valencia	6A	76000	56000	.74	59000	.78	.04	.04
92. Magic Mtn e/o San Fern	6	54000	48000	.63	48000	.89	.26	.24
93. Tourney n/o Valencia	4	32000	20000	.63	20000	.63	.00	-.03
94. Rockwell s/o Valencia	4	32000	24000	.75	28000	.88	.13	.09
95. Tournament s/o McBean	4	32000	12000	.38	12000	.38	.00	.00
96. Valencia e/o I-5	6A	76000	52000	.68	61000	.80	.12	.05
98. Valencia e/o Rockwell	6A	76000	72000	.95	75000	.99	.04	.04
99. Valencia e/o McBean	6A	76000	59000	.78	64000	.84	.07	.04
100. Valencia n/o Magic Mtn	6A	76000	71000	.93	74000	.97	.04	.01
101. Soledad e/o Bouquet	6	54000	37000	.69	40000	.74	.06	.06
102. Wiley s/o Lyons	4	32000	20000	.63	25000	.78	.16	.13
103. Wiley n/o Lyons	6	54000	36000	.67	42000	.78	.11	.07
104. Wiley e/o Tournament	6	54000	29000	.54	34000	.63	.09	.06
105. Wiley e/o Orchard Village	6	54000	42000	.78	44000	.81	.04	.00
106. Via Princessa e/o San Fern	6	54000	41000	.76	43000	.80	.04	.00
107. Via Princessa e/o Magic Mtn	6	54000	51000	.94	51000	.94	.00	-.02
108. 15th St e/o Orchard Village	4	32000	9000	.28	10000	.31	.03	.00
109. Newhall n/o Lyons	4	32000	4000	.13	4000	.13	.00	.00
110. Newhall s/o Lyons	4	32000	25000	.78	28000	.88	.09	.03
111. San Fernando e/o Newhall	6	54000	49000	.91	50000	.93	.02	-.02

(Continued)

Table VI-2 (cont)
LONG-RANGE ADT VOLUME SUMMARY
CUMULATIVE IMPACT ANALYSIS
(Alternative Highway Plan)

Link #/Location	Lanes	Capacity	No-Project VOL	No-Project V/C	W/Newhall Ranch & Cumulative Projects Combined VOL	W/Newhall Ranch & Cumulative Projects Combined V/C	Combined Proj. Contr.	Newhall Ranch Contr.
112. Orchard Village s/o McBean	6	54000	43000	.80	50000	.93	.13	-.11
113. Orchard Village s/o Wiley	6	54000	29000	.54	30000	.56	.02	.00
114. Orchard Village s/o Lyons	4	32000	7000	.22	7000	.22	.00	.00
115. Lyons e/o I-5	6	54000	49000	.91	57000	1.06	.15	.11
116. Lyons e/o Wiley	6	54000	43000	.80	46000	.85	.06	.04
117. Lyons e/o Orchard Village	6	54000	44000	.81	48000	.89	.07	.06
118. Lyons w/o San Fernando	6	54000	18000	.33	20000	.37	.04	.04
119. McBean e/o Orchard Village	6	54000	33000	.61	37000	.69	.07	.04
122. Dockweiler e/o San Fernando	4	32000	16000	.50	19000	.59	.09	.06
124. Dickason s/o Decoro	4	32000	7000	.22	17000	.53	.31	.09
126. Bouquet e/o Seco	6A	76000	49000	.64	50000	.66	.01	.01
128. Newhall Ranch w/o Bouquet	6A	76000	71000	.93	76000	1.00	.07	.01
129. Newhall Ranch e/o B St	6	54000	27000	.50	29000	.54	.04	-.01
130. NRR e/o Santa Clarita Pkwy	6A	76000	54000	.71	59000	.78	.07	.01
131. NRR e/o Porta Bella	6A	76000	46000	.61	48000	.63	.02	.01
132. NRR e/o Golden Valley	6A	76000	47000	.62	49000	.64	.02	.03
135. Golden Valley e/o MMP	4	32000	23000	.72	22000	.69	-.03	-.03
136. Golden Valley e/o NRR	4	32000	12000	.38	16000	.50	.13	.09
137. Golden Valley n/o Soledad	6	54000	29000	.54	30000	.56	.02	.00
139. B St w/o Rio Vista	4	32000	24000	.75	24000	.75	.00	.00
140. B St e/o Rio Vista	4	32000	24000	.75	24000	.75	.00	.00
141. Rio Vista s/o B St	6	54000	30000	.56	34000	.63	.07	.02
142. Santa Clarita n/o B St	6	54000	30000	.56	34000	.63	.07	.02
143. Soledad w/o Golden Valley	6	54000	25000	.46	22000	.41	-.06	-.07
151. Via Princessa w/o MMP	6	54000	20000	.37	21000	.39	.02	.00
155. MMP e/o Golden Valley	6	54000	44000	.81	44000	.81	.00	-.02
156. MMP s/o Via Princessa	4	32000	16000	.50	17000	.53	.03	.00
159. Sierra Hwy e/o San Fern	6	54000	32000	.59	38000	.70	.11	.06
191. North of Hasley	4	32000	1000	.03	2000	.06	.03	.00
192. Henry Mayo w/o The Old Rd	2	14000	1000	.07	18000	1.29	1.22	.57
194. Copperhill w/o McBean	6	54000	34000	.63	42000	.78	.15	.04
196. Porta Bella s/o NRR	4	32000	20000	.63	22000	.69	.06	.00
197. MMP e/o Porta Bella	6	54000	41000	.54	37000	.69	.15	.13
198. "E" St e/o Valley	2	16000	5000	.31	5000	.31	.00	.00
199. Golden Valley n/o Via Princessa	4	32000	18000	.56	19000	.59	.03	.00

Table VI-3

PROJECT PARTICIPATION IN AUGMENTED
ARTERIAL ROADWAY IMPROVEMENTS
CUMULATIVE PROJECT SETTING
(County Base Highway Network)

LOCATION	NON-AUG CAPACITY	ADT WITHOUT PROJECTS	ADT WITH CUM PROJ AND NR	CUM PROJ DIFF.[1]	AUG CAPACITY NEEDED[2]	CUM PROJ SHARE[3]	NR PROJ SHARE[4]
10. Commerce Ctr w/o I-5	54000	47000	55000	8000	1000	.40	.60
19. Valencia w/o The Old Road	54000	40000	57000	17000	3000	.16	.84
22. Magic Mtn w/o The Old Road	54000	40000	72000	32000	18000	.03	.97
40. McBean n/o Magic Mtn	54000	57000	63000	6000	9000	.45	.55
53. Newhall Ranch e/o Dickason	112000	111000	123000	12000	11000	.36	.64
54. Newhall Ranch e/o McBean	112000	112000	119000	7000	7000	.33	.67
60. Franklin w/o Commerce Ctr	32000	0	33000	33000	1000	.09	.91
64. Rye e/o Ave Scott	54000	44000	57000	13000	3000	.46	.54
65. Copperhill e/o Newhall Ranch	54000	61000	65000	4000	11000	.14	.86
79. Bouquet s/o Newhall Ranch	54000	71000	74000	3000	20000	.00	1.00
88. Magic Mtn e/o I-5	54000	65000	73000	8000	19000	.27	.73
96. Valencia e/o I-5	54000	46000	57000	11000	3000	.45	.55

(Continued)

Table VI-3 (cont)
PROJECT PARTICIPATION IN AUGMENTED
ARTERIAL ROADWAY IMPROVEMENTS
CUMULATIVE PROJECT SETTING
(County Base Highway Network)

LOCATION	NON-AUG CAPACITY	ADT WITHOUT PROJECTS	ADT WITH CUM PROJ AND NR	CUM PROJ DIFF.[1]	AUG CAPACITY NEEDED[2]	CUM PROJ SHARE[3]	NR PROJ SHARE[4]
100. Valencia n/o Magic Mtn	54000	57000	59000	2000	5000	1.00	.00
111. San Fernando e/o Newhall	54000	51000	55000	4000	1000	.71	.29
123. Dickason s/o Ave Scott	54000	51000	57000	6000	3000	.82	.18
128. Newhall Ranch w/o Bouquet	112000	111000	118000	7000	6000	.33	.67

AUG - augmented
CUM - cumulative
NR - Newhall Ranch

[1] ADT with projects minus ADT without projects
[2] ADT with projects minus non-augmented capacity
[3] Cumulative projects share of needed augmented capacity
[4] Newhall Ranch share of needed augmented capacity (Newhall Ranch contribution divided by the combined project contribution as shown in Table VI-1)

Table VI-4

PROJECT PARTICIPATION IN AUGMENTED
ARTERIAL ROADWAY IMPROVEMENTS
CUMULATIVE PROJECT SETTING
(Alternative Highway Plan)

LOCATION*	NON-AUG CAPACITY	ADT WITHOUT PROJECTS	ADT WITH CUM PROJ AND NR	CUM PROJ DIFF.[1]	AUG CAPACITY NEEDED[2]	CUM PROJ SHARE[3]	NR PROJ SHARE[4]
19. Valencia w/o The Old Road	54000	39000	59000	20000	5000	.24	.76
22. Magic Mtn w/o The Old Road	54000	45000	75000	30000	21000	.07	.93
28. The Old Road n/o Magic Mtn	54000	41000	56000	15000	2000	.68	.32
40. McBean n/o Magic Mtn	54000	71000	78000	7000	24000	.67	.33
60. Franklin w/o Commerce Ctr	32000	0	34000	34000	2000	.08	.92
79. Bouquet s/o Newhall Ranch	54000	79000	82000	3000	28000	.75	.25
115. Lyons e/o I-5	54000	49000	57000	8000	3000	.27	.73
192. Henry Mayo w/o The Old Road	14000	1000	18000	17000	4000	.53	.47

AUG - augmented
CUM - cumulative
NR - Newhall Ranch

* A link location map can be found in Appendix C

[1] ADT with projects minus ADT without projects
[2] ADT with projects minus non-augmented capacity
[3] Cumulative projects share of needed augmented capacity
[4] Newhall Ranch share of needed augmented capacity (Newhall Ranch contribution divided by the combined project contribution as shown in Table VI-2)

show the roadways which need augmentation beyond a standard Master Plan of Highways roadway capacity, the additional capacity needed, and how the project share of that capacity is divided between the cumulative projects and the Newhall Ranch project based on the proportion of project contribution percentages.

STATE HIGHWAYS AND FREEWAYS

The cumulative setting impact analysis results for State Highways and freeways is summarized in Table VI-6. This shows the combined cumulative and proposed project contribution to the V/C at each location, and also lists the project-only contribution. The results show that freeway volumes for the cumulative setting can be carried by the planned freeway system in this area within the LOS concept criteria (V/C , 1.25) except for I-5 south of SR-14.

Table VI-5

FREEWAY AND EXPRESSWAY LONG-RANGE VOLUME SUMMARY - CUMULATIVE PROJECTS

LINK #/LOCATION*	LANES	CAPACITY	NO-PROJECT VOL	NO-PROJECT V/C	WITH-PROJECT WITH CUMULATIVE VOL.	WITH-PROJECT WITH CUMULATIVE V/C	COMBINED PROJ. CONTR.	PROJ. CONTR.
I. COUNTY BASE NETWORK								
45. SR-126 w/o Potrero Cyn	6	54000	38000	.70	45000	.83	.13	.13
46. SR-126 w/o Chiquito Cyn	6	84000	36000	.43	59000	.70	.27	.22
47. SR-126 e/o Chiquito Cyn	6	84000	40000	.48	90000	1.07	.59	.50
48. SR-126 w/o Commerce Cnt Dr	6	84000	35000	.42	94000	1.11	.69	.59
49. SR-126 w/o I-5	8	112000	58000	.52	110000	.98	.46	.39
200. I-5 n/o SR-126	10	225000	164000	.73	167000	.74	.01	.00
201. I-5 s/o Newhall Ranch Rd	10	225000	148000	.66	163000	.72	.06	.05
202. I-5 s/o Magic Mountain Pkwy	10	225000	153000	.68	173000	.77	.09	.06
203. I-5 s/o Valencia	10	225000	181000	.80	203000	.90	.10	.08
204. I-5 s/o McBean	10	225000	184000	.82	202000	.90	.08	.08
205. I-5 s/o Lyons	10	225000	191000	.85	205000	.91	.06	.05
206. SR-14 e/o San Fernando	10	225000	174000	.77	182000	.81	.04	.02
210. SR-14 e/o I-5	10	225000	200000	.89	209000	.93	.04	.03
211. I-5 n/o SR-14	10	225000	203000	.90	218000	.97	.07	.06
212. I-5 s/o SR-14	14	315000	393000	1.25	416000	1.32	.07	.06

(Continued)

Table VI-5 (cont)
FREEWAY AND EXPRESSWAY LONG-RANGE VOLUME SUMMARY - CUMULATIVE PROJECTS

LINK #/LOCATION*	LANES	CAPACITY	NO-PROJECT VOL	NO-PROJECT V/C	WITH-PROJECT WITH CUMULATIVE VOL	WITH-PROJECT WITH CUMULATIVE V/C	COMBINED PROJ. CONTR.	PROJ. CONTR.
II. ALTERNATIVE HIGHWAY NETWORK								
45. SR-126 w/o Potrero Cyn	6	54000	38000	.70	45000	.83	.13	.13
46. SR-126 w/o Chiquito Cyn	6	84000	36000	.43	59000	.70	.27	.22
47. SR-126 e/o Chiquito Cyn	6	84000	40000	.48	87000	1.04	.56	.49
48. SR-126 w/o Commerce Cnt Dr	6	84000	36000	.43	90000	1.07	.64	.55
49. SR-126 w/o I-5	8	112000	53000	.47	99000	.88	.44	.39
200. I-5 n/o SR-126	10	225000	168000	.75	173000	.77	.02	.01
201. I-5 s/o Newhall Ranch Rd	10	225000	157000	.70	178000	.79	.09	.08
202. I-5 s/o Magic Mountain Pkwy	10	225000	160000	.71	180000	.80	.09	.07
203. I-5 s/o Valencia	10	225000	183000	.81	205000	.91	.10	.08
204. I-5 s/o McBean	10	225000	186000	.83	204000	.91	.08	.07
205. I-5 s/o Lyons	10	225000	188000	.84	203000	.90	.06	.05
206. SR-14 e/o San Fernando	10	225000	176000	.78	182000	.81	.03	.02
210. SR-14 e/o I-5	10	225000	202000	.90	210000	.93	.03	.03
211. I-5 n/o SR-14	10	225000	200000	.89	214000	.95	.06	.05
212. I-5 s/o SR-14	14	315000	393000	1.25	416000	1.32	.07	.06

Note: The 10-lanes shown for I-5 north of SR-14 include eight general purpose lanes and two HOV lanes. The 14 lanes shown for I-5 south of SR-14 include 12 general purpose lanes and two HOV lanes. The Caltrans route concept report also includes truck lanes, and those are included in the capacities listed above.

* A link location map can be found in Appendix C

VII

SPECIAL ISSUES

This chapter discusses several special issues related to the Newhall Ranch project. The proposed Pico Canyon Road deletion is addressed and the phasing of the Chiquito Canyon Landfill, Travel Village Access, and the I-5 High Occupancy Vehicle (HOV) Lanes are discussed.

PICO CANYON ROAD DELETION

As noted in earlier chapters, the proposed changes to the County Master Plan of Highways include deleting Pico Canyon Road south of the project. To show the effect of the proposed Pico Canyon Road deletion, traffic forecasts were made for a network that included this link so that comparisons could be made with the forecasts presented earlier in this report. This special alternative has the proposed Newhall Ranch circulation system, but also includes a connection of Pico Canyon Road to the Pico/Lyons interchange at I-5. The ADT results are illustrated in Figure VII-1.

The effects of this deletion can be seen from Table VII-1. Shown here are with-project volumes for arterials and freeway ramps where there is a deficiency (V/C > 1.00). On an ADT basis, the section of Valencia east of The Old Road would be relieved by the addition of Pico Canyon Road. However, Lyons Avenue east of I-5 and Magic Mountain Parkway west of The Old Road would need some form of augmentation.

For the freeway ramps, Pico Canyon Road would relieve the deficiency at the northbound I-5/Valencia off-ramp. However, the proposed improvements at Magic Mountain Parkway are able to mitigate that deficiency without the need for Pico Canyon Road.

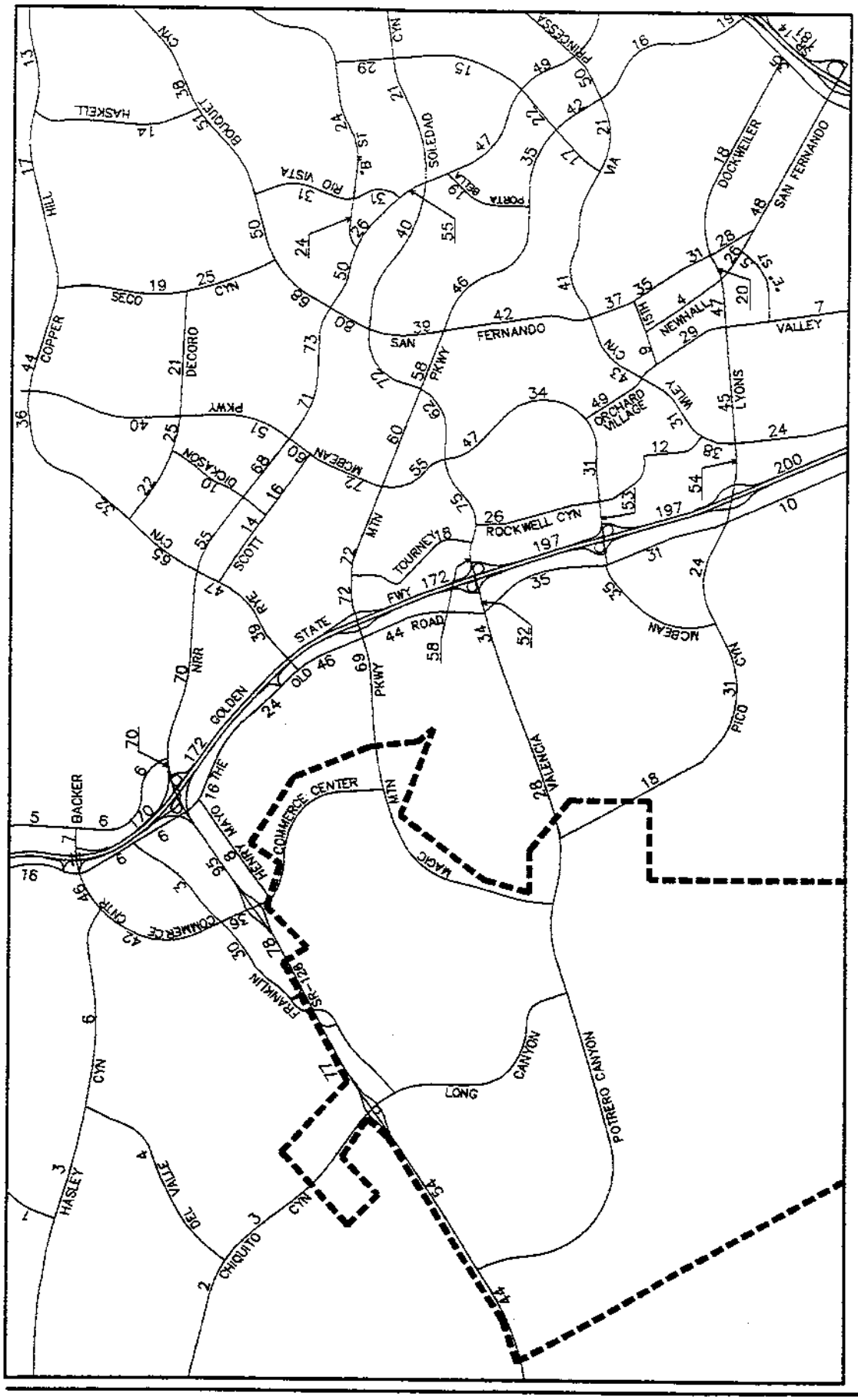


Figure VII–1
LONG RANGE ADT VOLUMES (000's)
ALTERNATIVE HIGHWAY PLAN
WITH PICO CANYON EXTENSION

Table VII-1

PICO EXTENSION CAPACITY SUMMARY
ALTERNATIVE HIGHWAY PLAN

LONG-RANGE ADT VOLUMES

LOCATION	LANES	CAPACITY	W/O PICO CONNECTION VOL	W/O PICO CONNECTION V/C	WITH PICO CONNECTION VOL	WITH PICO CONNECTION V/C
22. Magic Mtn w/o The Old Rd	6	54000	73000	1.35	69000	1.28
115. Lyons e/o I-5	6	54000	55000	1.02	54000	1.00

PEAK HOUR FREEWAY RAMP VOLUMES

LOCATION	LANES	CAPACITY	AM PEAK HOUR W/O PICO VOL	AM PEAK HOUR W/O PICO V/C	AM PEAK HOUR WITH PICO VOL	AM PEAK HOUR WITH PICO V/C	PM PEAK HOUR W/O PICO VOL	PM PEAK HOUR W/O PICO V/C	PM PEAK HOUR WITH PICO VOL	PM PEAK HOUR WITH PICO V/C
115. I-5 NB Off at Valencia	1	1600	1726	1.08	1575	.98	1580	.99	1522	.95
123. I-5 SB Off at MMP	1	1600	1549	.97	1554	.97	1869	1.17	1642	1.03
127. I-5 NB Off at NRR	1	1600	1824	1.14	1763	1.10	1632	1.02	1677	1.05
130. I-5 NB Off-West at NRR	1	1600	1422	.89	1460	.91	1529	.96	1755	1.10
131. I-5 SB On at NRR	1	1600	1872	1.17	1737	1.09	1674	1.05	1544	.96
134. SR-126 WB Off at Comm Center	1	1600	1744	1.09	1978	1.24	905	.57	900	.56
137. SR-126 EB On at Comm Center	1	1600	553	.35	687	.43	1620	1.01	1749	1.09
142. SR-126 WB Off at Chiquito	1	1600	790	.49	721	.45	1604	1.00	1430	.89
145. SR-126 EB On at Chiquito	1	1600	1858	1.16	1369	.86	190	.12	177	.11

With the Pico Canyon extension in place, the project contributes around 14,000 ADT to this facility. By deleting this roadway and emphasizing other east-west arterials (Valencia Boulevard, Magic Mountain Parkway, and SR-126), the potential project impacts on Pico Canyon are eliminated, yet adequate access capacity is provided for the project.

CHIQUITA CANYON LANDFILL

The Chiquita Canyon Landfill is located east of Chiquito Canyon Road and north of SR-126. It is currently operational, taking access from SR-126. The Landfill has prepared an EIR for an expansion of the landfill operation, which could significantly extend the operational life of the landfill (to perhaps 20 years). Without the expansion, the landfill is due to close in 1997.

The Newhall Ranch project is a long-range plan with an estimated 25-30 year absorption. If the landfill is still operational at the time the project would need to complete the SR-126 expressway section, then the landfill can continue to obtain access via an at-grade intersection with SR-126. Such an intersection would be consistent with expressway status, which seeks to minimize access, but does allow for a limited number of at-grade intersections provided they can operate at an acceptable level of service.

To verify the level of service adequacy, a long-range analysis was made for the landfill access point as an at-grade intersection. The results are illustrated in Figure VII-2. Landfill volumes shown here are based on the maximum development scenario of 10,000 tons per day, which has a project trip generation of 3,936 vehicles per day (passenger car equivalents). Using a peak hour factor of 10 percent and representative directionality, peak hour volumes were derived and applied into the thru-traffic volumes on SR-126.

As can be seen from the long-range ICU values, the landfill access can operate as an at-grade intersection if four thru-lanes in each direction are provided on SR-126. Since the long-range plan is for this section of roadway to be a six-lane expressway, some local flaring at the intersection would be necessary to accomplish this.

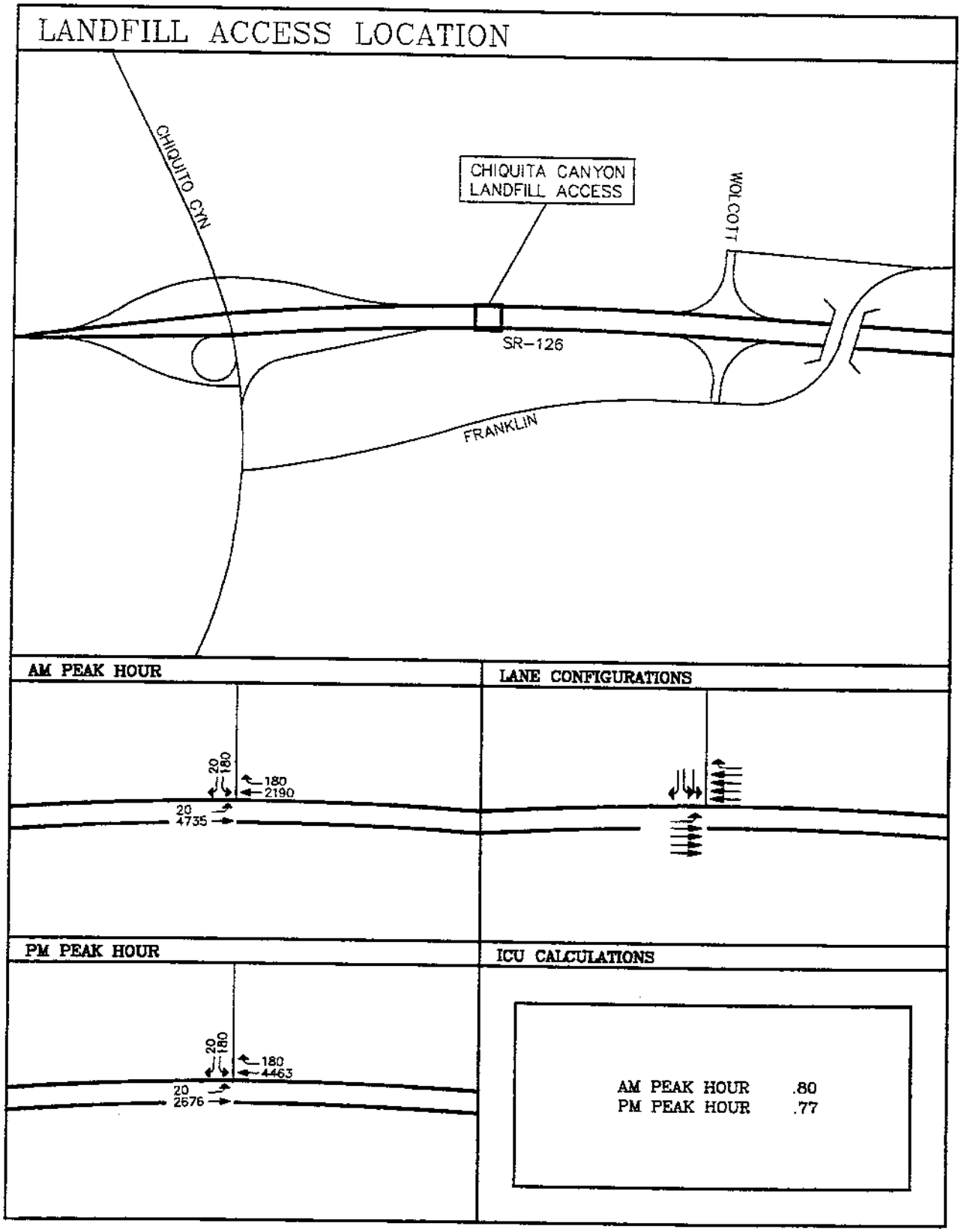


Figure VII-2

SR-126/CHIQUITA CANYON LANDFILL INTERSECTION

TRAVEL VILLAGE

The Travel Village recreational accommodation facility currently takes access from the SR-126. In Chapter V in the discussion on SR-126/Commerce Center Drive, potential schemes were presented which would provide future access off Commerce Center Drive when the SR-126 is expanded to an expressway. Alternatively, a signalized at-grade intersection could be provided.

An analysis of the signalized intersection option gives the following long-range ICU values:

AM	.76
PM	.75

To achieve these ICU values, SR-126 would require local flaring to four lanes in each direction, similar to that shown for the Chiquita Canyon Landfill intersection.

I-5 HOV LANES

The freeway capacity analysis in Chapter IV assumed that the I-5 would be expanded from an eight-lane facility to a 10-lane facility with the provision of HOV lanes. Truck lanes would also be added as noted in the Interstate 5 Widening Status discussion in Chapter IV, the Route Concept Report for I-5 indicates the need for the HOV lanes, but the widening project is not currently listed in the Los Angeles County Metropolitan Transportation Authority's (MTA) 20-year long-range transportation plan.

The Route Concept Report describes an operating deficiency as when the projected LOS falls below the concept LOS. The concept LOS for the I-5 is F0 (V/C between 1.01 - 1.25). Table VII-2 shows the results of the capacity analysis without the HOV lanes. As shown, only one location, I-5 south of SR-14, exceeds the concept LOS (V/C greater than 1.25) and is considered a significant impact under this methodology. The CMP uses a V/C greater than 1.00 criteria to evaluate impacts, and under that criteria, the project would have a significant impact on I-5 from just south of SR-14 north to Valencia Boulevard.

Table VII-2

I-5 FREEWAY CAPACITY ANALYSIS
WITHOUT HOV LANES

LOCATION	LANES	CAPACITY	– NO-PROJECT – VOLUME	V/C	– WITH PROJECT – VOLUME	V/C
I. COUNTY BASE NETWORK						
200. I-5 n/o SR-126	8	180,000	164,000	.91	165,000	.92
201. I-5 s/o Newhall Ranch Rd	8	180,000	148,000	.82	160,000	.89
202. I-5 s/o Magic Mountain Pkwy	8	180,000	153,000	.85	167,000	.93
203. I-5 s/o Valencia	8	180,000	181,000	1.01	199,000	1.11
204. I-5 s/o McBean	8	180,000	184,000	1.02	201,000	1.12
205. I-5 s/o Lyons	8	180,000	191,000	1.06	203,000	1.13
211. I-5 n/o SR-14	8	180,000	203,000	1.13	216,000	1.20
212. I-5 s/o SR-14	12	270,000	393,000	1.46	412,000	1.53
II. ALTERNATIVE HIGHWAY NETWORK						
200. I-5 n/o SR-126	8	180,000	168,000	.93	171,000	.95
201. I-5 s/o Newhall Ranch Rd	8	180,000	157,000	.87	174,000	.97
202. I-5 s/o Magic Mountain Pkwy	8	180,000	160,000	.89	175,000	.97
203. I-5 s/o Valencia	8	180,000	183,000	1.02	202,000	1.12
204. I-5 s/o McBean	8	180,000	186,000	1.03	202,000	1.12
205. I-5 s/o Lyons	8	180,000	188,000	1.04	200,000	1.11
211. I-5 n/o SR-14	8	180,000	200,000	1.11	212,000	1.18
212. I-5 s/o SR-14	12	270,000	393,000	1.46	412,000	1.53

APPENDIX A

INTERSECTION CAPACITY UTILIZATION

Peak hour intersection volume/capacity ratios are calculated by means of intersection capacity utilization (ICU) values. ICU calculations were performed for the intersections shown in Figure A-1. For simplicity, signalization is assumed at each intersection. Precise ICU calculations of existing non-signalized intersections would require a more detailed analysis.

The procedure is based on the critical movement methodology, and shows the amount of capacity utilized by each critical move. A capacity of 1600 vehicles per hour (VPH) per lane is assumed (using 2,800 VPH for double lefts) together with a .10 clearance interval.

The methodology also incorporates a check for right-turn capacity utilization. Both right-turn-on-green (RTOG) and right-turn-on-red (RTOR) capacity availability are calculated and checked against the total right-turn capacity need. If insufficient capacity is available, then an adjustment is made to the total capacity utilization value. The following example shows how this adjustment is made.

Example For Northbound Right

1. Right-Turn-On-Green (RTOG)

If NBT is critical move, then:

RTOG = V/C (NBT)

Otherwise,

RTOG = V/C (NBL) + V/C (SBT) - V/C (SBL)

2. Right-Turn-On-Red (RTOR)

If WBL is critical move, then:

RTOR = V/C (WBL)

Otherwise,

RTOR = V/C (EBL) + V/C (WBT) - V/C (EBT)

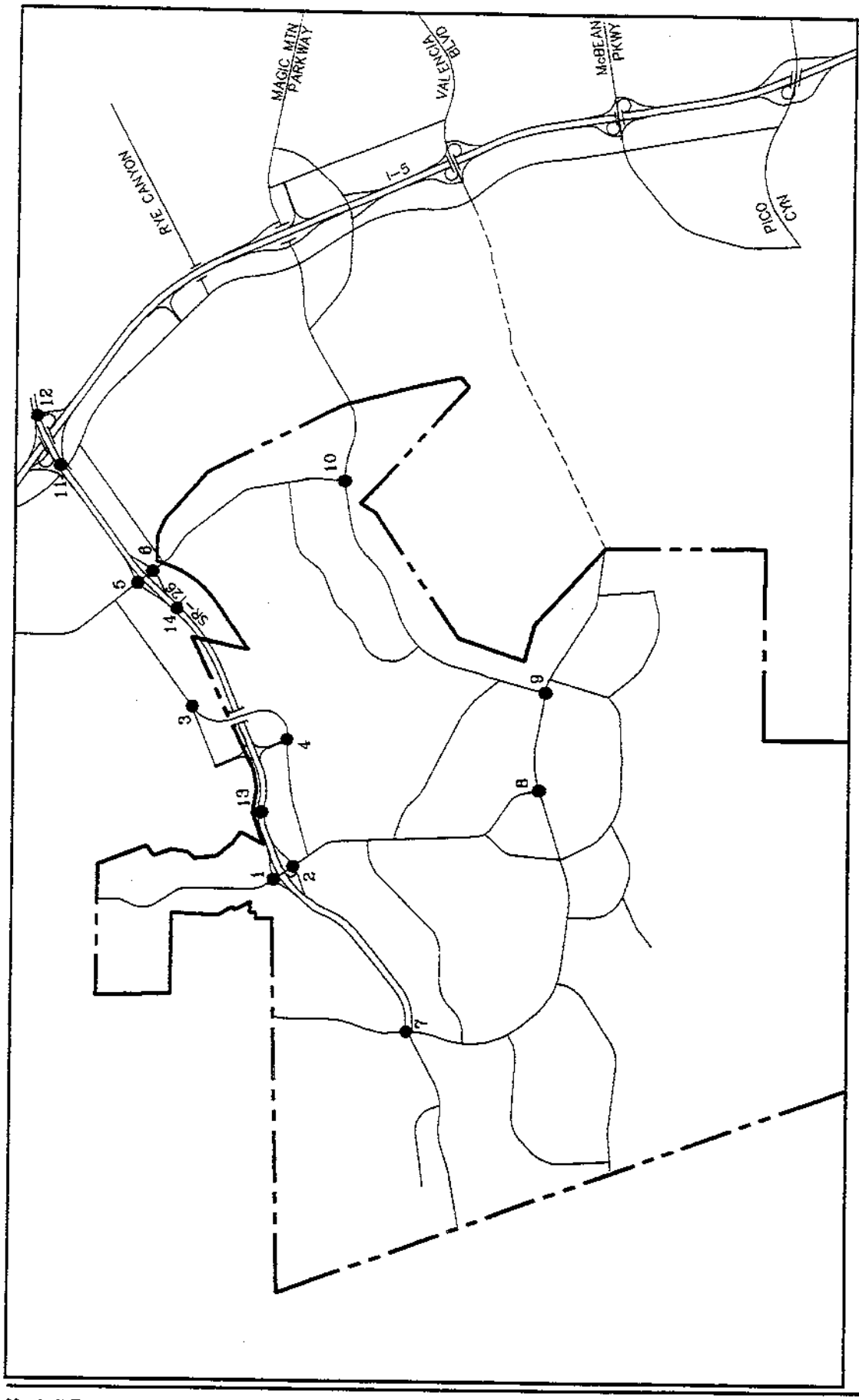


Figure A-1

MAJOR INTERSECTION LOCATIONS

3. Right-Turn Overlap Adjustment

If the northbound right is assumed to overlap with the adjacent westbound left, adjustments to the RTOG and RTOR values are made as follows:

RTOG = RTOG + V/C (WBL)
RTOR = RTOR - V/C (WBL)

4. Total Right-Turn Capacity (RTC) Availability For NBR

RTC = RTOG + factor x RTOR
Where factor = RTOR saturation flow factor (75%)

Right-turn adjustment is then as follows: Additional ICU = V/C (NBR) - RTC

A zero or negative value indicates that adequate capacity is available and no adjustment is necessary. A positive value indicates that the available RTOR and RTOG capacity does not adequately accommodate the right-turn V/C, therefore the right-turn is essentially considered to be a critical movement. In such cases, the right-turn adjustment is noted on the ICU worksheet and it is included in the total capacity utilization value. When it is determined that a right-turn adjustment is required for more than one right-turn movement, the word "multi" is printed on the worksheet instead of an actual right-turn movement reference, and the right-turn adjustments are cumulatively added to the total capacity utilization value. In such cases, further operational evaluation is typically carried out to determine if under actual operational conditions, the critical right-turns would operate simultaneously, and therefore a right-turn adjustment credit should be applied.

APPLICATION OF ICU VALUES

The ICU calculations summarized in this appendix use raw model numbers based on existing travel behavior and transportation system management. Considerable efforts are currently being made by all levels of Government to increase system efficiency by a variety of means. At the Federal level the Intermodal Surface Transportation Efficiency Act (ISTEA) provides funding for a broad based program of transportation system improvements. Regional and local jurisdictions are in turn responding to this Federal mandate, and are adding there own strategies for achieving efficiency objectives.

Two readily identifiable categories for change are in the area of demand management and system efficiency. The first seeks to reduce peak hour demand, and many programs to achieve this objective are in operation or in the early stages of implementation. The second involves the use of various types of technology to improve traffic flow, particularly on a systemwide basis. Advanced Transportation Management Systems (ATMS) and Intelligent Vehicle Highway System (IVHS) are just two examples of the strategies currently being researched and implemented.

In accordance with the objectives of these directions and actions, it is reasonable to assume that both demand reduction and system effectiveness changes will be achieved. While proven quantitative results are not yet forthcoming, ranges of 10 to 20 percent are frequently referred to as realistic goals for peak hour improvements. For example, actual "before and after" evaluation of implementation of signal coordination have demonstrated that a 10-20 percent improvement in capacity is attainable. Likewise the Highway Capacity Manual (HCM) in its 1995 revision has recognized that roadway capacity can and has been improved through its own increase in lane capacities from a previous 1800 vplph to the 1900 vplph currently recommended.

For this analysis, a conservative 10 percent achievement has been assumed, and has been applied by reducing the ICUs by that amount. At the time when more information becomes available, a greater reduction may be appropriate, but in the meantime, this assumption acknowledges the considerable efforts currently underway to achieve these important objectives of demand reduction and system efficiency.

1. Chiquito Cyn & SR-126 WB Ramp

Long-Range County Base - With Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	125	.08*	164	.10*
NBT	2	3200	543	.17	440	.14
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	4800	447	.11*	1236	.26*
SBR	0	0	77		13	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	2880	26	.01*	1289	.45*
WBT	0	0	0		0	
WBR	1	1600	729	.46	368	.23
Right Turn Adjustment			WBR	.44*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.74		.91

Long-Range Alternative Plan - With Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	136	.09*	154	.10*
NBT	2	3200	538	.17	462	.14
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	4800	448	.11*	1231	.26*
SBR	0	0	81		13	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	2880	80	.03*	1278	.44*
WBT	0	0	0		0	
WBR	1	1600	710	.44	326	.20
Right Turn Adjustment			WBR	.39*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.72		.90

2. Chiquito Cyn & SR-126 EB Ramp

Long-Range County Base - With Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	2	3200	629	.20*	501	.16
NBR	f		1285		30	
SBL	0	0	0		0	
SBT	3	4800	207	.06	1826	.53*
SBR	0	0	266	.17	699	
EBL	1	1600	12	.01*	103	.06*
EBT	0	0	0		0	
EBR	1	1600	93	.06	172	.11
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment					EBR	.05*
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.31**		**.74**

Long-Range Alternative Plan - With Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	2	3200	662	.21*	514	.16
NBR	f		1858		190	
SBL	0	0	0		0	
SBT	3	4800	282	.09	1826	.52*
SBR	0	0	246	.15	683	
EBL	1	1600	12	.01*	102	.06*
EBT	0	0	0		0	
EBR	1	1600	145	.09	178	.11
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment					EBR	.05*
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.32**		**.73**

1/2. Chiquito Cyn & SR-126

Long-Range Alt. Plan - SR-126 at Grade

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	136	.09	154	.10
NBT	2	3200	550	.17*	550	.17*
NBR	f		1834		20	
SBL	2	2880	246	.09*	683	.24*
SBT	2	3200	202	.06	548	.17
SBR	1	1600	81	.05	13	.01
EBL	2	2880	12	.00	102	.04
EBT	3	4800	2675	.56*	2013	.42*
EBR	1	1600	145	.09	178	.11
WBL	2	2880	80	.03*	1278	.44*
WBT	3	4800	1579	.33	3039	.63
WBR	1	1600	710	.44	326	.20
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.95**		**1.37**

3. Franklin & SR-126 WB Ramp

Long-Range County Base - With Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	2	3200	1806	.56*	856	.27
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3200	284	.09	991	.31*
SBR	1	1600	359	.22	848	.53
EBL	1	1600	214	.13*	3	.00
EBT	0	0	0		0	
EBR	f		443		759	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment					SBR	.22*
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.79**		**.63**

Long-Range Alternative Plan - With Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	2	3200	1866	.58*	866	.27
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3200	262	.08	1180	.37*
SBR	1	1600	276	.17	806	.50
EBL	1	1600	40	.03*	4	.00
EBT	0	0	0		0	
EBR	f		350		522	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment					SBR	.13*
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.71**		**.60**

4. Franklin & SR-126 EB Ramp

Long-Range County Base - With Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	2880	893	.31*	368	.13*
SBT	0	0	0		0	
SBR	1	1600	0	.00	0	.00
EBL	2	2880	1132	.39*	567	.20*
EBT	2	3200	913	.29	488	.15
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	727	.23*	1750	.55*
WBR	0	0	0		0	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**1.03**		**.98**

Long-Range Alternative Plan - With Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	2880	1023	.36*	364	.13*
SBT	0	0	0		0	
SBR	1	1600	0	.00	0	.00
EBL	2	2880	725	.25*	378	.13*
EBT	2	3200	843	.26	502	.16
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	612	.19*	1702	.53*
WBR	0	0	0		0	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.90**		**.89**

3/4. Franklin & SR-126

Long-Range Alt. Plan - SR-126 at Grade

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	20	.01	20	.01*
NBT	2	3200	843	.26*	502	.16
NBR	1	1600	725	.45	378	.24
SBL	1	1600	20	.01*	20	.01
SBT	2	3200	262	.08	1180	.37*
SBR	1	1600	276	.17	806	.50
EBL	2	2880	1023	.36	364	.13*
EBT	3	4800	3732	.78*	2332	.49
EBR	0	0	20		20	
WBL	2	2880	350	.12*	522	.18
WBT	3	4800	2093	.44	3837	.80*
WBR	0	0	40		4	
Right Turn Adjustment			NBR	.19*	SBR	.13*
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**1.46**		**1.54**

5. Commerce Ctr & SR-126 WB Ramp

Long-Range County Base

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	2880	29	.01	250	.09*
NBT	3	4800	1736	.36*	397	.08
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	4800	398	.08	2820	.59*
SBR	1	1600	11	.01	368	.23
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	2880	0	.00	1	.00
WBT	0	0	0		0	
WBR	f		1524		568	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.46**		**.78**

Long-Range County Base - With Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	2880	172	.06	423	.15*
NBT	3	4800	1795	.37*	588	.12
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	4800	663	.14	2506	.52*
SBR	1	1600	18	.01	551	.34
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	2880	33	.01*	166	.06*
WBT	0	0	0		0	
WBR	f		1826		588	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.48**		**.83**

5. Commerce Ctr & SR-126 WB Ramp

Long-Range Alternative Plan

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	2880	57	.02	346	.12*
NBT	3	4800	1716	.36*	456	.10
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	4800	338	.07	2905	.61*
SBR	I	1600	10	.01	180	.11
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	2880	0	.00	0	.00
WBT	0	0	0		0	
WBR	f		1545		421	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.46**		**.83**

Long-Range Alternative Plan - With Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	2880	208	.07	474	.16*
NBT	3	4800	2022	.42*	577	.12
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	4800	705	.15	2421	.50*
SBR	1	1600	1	.00	495	.31
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	2880	69	.02*	250	.09*
WBT	0	0	0		0	
WBR	f		1675		655	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.54**		**.85**

6. Commerce Ctr & SR-126 EB Ramp

Long-Range County Base

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	3	4800	1708	.36*	609	.13*
NBR	0	0	6		0	
SBL	2	2880	172	.06*	1597	.55*
SBT	3	4800	226	.05	1224	.26
SBR	0	0	0		0	
EBL	1	1600	57	.04*	38	.02*
EBT	0	0	0		0	
EBR	1	1600	548	.34	163	.10
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.02*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.58**		**.80**

Long-Range County Base - With Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	3	4800	1590	.33*	964	.20*
NBR	1	1600	259	.16	106	.07
SBL	2	2880	272	.09*	1615	.56*
SBT	3	4800	424	.09	1057	.22
SBR	0	0	0		0	
EBL	1	1600	377	.24*	47	.03*
EBT	0	0	0		0	
EBR	1	1600	349	.22	226	.14
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.76**		**.89**

6. Commerce Ctr & SR-126 EB Ramp

Long-Range Alternative Plan

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	3	4800	1720	.36*	767	.16*
NBR	0	0	6		0	
SBL	2	2880	88	.03*	1515	.53*
SBT	3	4800	250	.05	1390	.29
SBR	0	0	0		0	
EBL	1	1600	53	.03*	35	.02*
EBT	0	0	0		0	
EBR	1	1600	637	.40	201	.13
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.12*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.64**		**.81**

Long-Range Alternative Plan - With Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	3	4800	1904	.40*	1051	.22*
NBR	1	1600	298	.19	183	.11
SBL	2	2880	255	.09*	1437	.50*
SBT	3	4800	519	.11	1234	.26
SBR	0	0	0		0	
EBL	1	1600	326	.20*	0	.00
EBT	0	0	0		0	
EBR	1	1600	392	.25	341	.21
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.79**		**.82**

5/6. Commerce Ctr & SR-126

Long-Range Alt. Plan - SR-126 at Grade

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	2880	208	.07	474	.16
NBT	3	4800	1696	.35*	577	.12*
NBR	1	1600	298	.19	183	.11
SBL	2	2880	255	.09*	1437	.50*
SBT	3	4800	519	.11	984	.31
SBR	0	0	20		495	.31
EBL	2	2880	326	.11	20	.01*
EBT	3	4800	3739	.78*	2369	.49
EBR	1	1600	392	.25	341	.21
WBL	2	2880	69	.02*	250	.09
WBT	3	4800	2275	.47	3394	.71*
WBR	f		1675		655	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**1.34**		**1.44**

7. San Martinez Grande & SR-126

Long-Range County Base

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	2880	506	.18*	226	.08*
NBT	1	1600	3	.00	16	.01
NBR	f		209		74	
SBL	2	2880	68	.02	33	.01
SBT	2	3200	18	.01*	13	.01*
SBR	0	0	2		3	
EBL	1	1600	0	.00	3	.00
EBT	3	4800	1461	.30*	1158	.24
EBR	1	1600	304	.19	550	.34
WBL	2	2880	17	.01*	182	.06
WBT	3	4800	1060	.22	1595	.33*
WBR	1	1600	15	.01	66	.04
Right Turn Adjustment					EBR	.01*
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.60**		**.53**

Long-Range County Base - With Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	2880	327	.11	155	.05
NBT	1	1600	174	.11*	211	.13*
NBR	f		624		333	
SBL	2	2880	554	.19*	222	.08*
SBT	2	3200	166	.06	263	.13
SBR	0	0	35		166	
EBL	1	1600	154	.10*	36	.02
EBT	3	4800	1588	.33	1755	.37*
EBR	1	1600	150	.09	299	.19
WBL	2	2880	205	.07	561	.19*
WBT	3	4800	1591	.33*	1725	.36
WBR	1	1600	70	.04	542	.34
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.83**		**.87**

7. San Martinez Grande & SR-126

Long-Range Alternative Plan

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	2880	581	.20*	216	.08*
NBT	1	1600	4	.00	14	.01
NBR	f		203		74	
SBL	2	2880	68	.02	33	.01
SBT	2	3200	17	.01*	13	.00*
SBR	0	0	2		2	
EBL	1	1600	0	.00	4	.00
EBT	3	4800	1415	.29*	1089	.23
EBR	1	1600	351	.22	618	.39
WBL	2	2880	10	.00	169	.06
WBT	3	4800	989	.21	1602	.33*
WBR	1	1600	14	.01	77	.05
Right Turn Adjustment					EBR	.06*
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.60**		**.57**

Long-Range Alternative Plan - With Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	2880	405	.14	156	.05
NBT	1	1600	178	.11*	207	.13*
NBR	f		659		317	
SBL	2	2880	562	.20*	234	.08*
SBT	2	3200	159	.06	264	.14
SBR	0	0	35		189	
EBL	1	1600	171	.11*	38	.02
EBT	3	4800	1611	.34	1742	.36*
EBR	1	1600	109	.07	309	.19
WBL	2	2880	196	.07	570	.20*
WBT	3	4800	1518	.32*	1692	.35
WBR	1	1600	83	.05	546	.34
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.84**		**.87**

8. Long Canyon & Potrero Cyn

Long-Range - With Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	2880	795	.28*	662	.23*
SBT	0	0	0		0	
SBR	1	1600	50	.03	50	.03
EBL	1	1600	50	.03	50	.03*
EBT	2	3200	1344	.42*	1101	.34
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	674	.21	1124	.35*
WBR	f		718		1185	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.80**		**.71**

9. Magic Mountain & Potrero

Long-Range - With Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	2880	495	.17*	468	.16*
SBT	0	0	0		0	
SBR	2	3200	499	.16	987	.31
EBL	2	2880	842	.29	728	.25*
EBT	2	3200	1641	.51*	1234	.39
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	900	.19	1660	.35*
WBR	f		499		327	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.78**		**.86**

10. Commerce Center & Magic Mtn

Long-Range - With Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	3	4800	1619	.34*	1371	.29*
SBT	0	0	0		0	
SBR	1	1600	470	.29	906	.57
EBL	2	2880	859	.30*	494	.17*
EBT	3	4800	1162	.24	874	.18
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	660	.14*	1574	.33*
WBR	f		901		1584	
Right Turn Adjustment					SBR	.11*
Clearance Interval				.10*		.10*

Note: Assumes Right-Turn Overlap for SBR

TOTAL CAPACITY UTILIZATION .88 1.00

II. I-5 and SR-126 SB Ramps

Long-Range County Base

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2.5		1492	.31*	2021	.42*
SBT	0	6400	0		0	
SBR	1.5		231	.14	44	
EBL	0	0	0		0	
EBT	4	6400	1095	.17	2513	.39*
EBR	f		7		407	
WBL	0	0	0		0	
WBT	4	6400	3030	.48*	1586	.25
WBR	0	0	16		2	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.89**		**.91**

Long-Range County Base - With Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2.5		1371	.29*	1372	.29*
SBT	0	6400	0		0	
SBR	1.5		303	.19	239	.15
EBL	0	0	0		0	
EBT	4	6400	2589	.40	3008	.47
EBR	f		1640		1560	
WBL	0	0	0		0	
WBT	4	6400	4083	.64*	3920	.61*
WBR	0	0	5		2	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**1.03**		**1.00**

11. I-5 and SR-126 SB Ramps

Long-Range Alternative Plan

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2.5		1172	.24*	1602	.33*
SBT	0	6400	0		0	
SBR	1.5		309	.19	46	
EBL	0	0	0		0	
EBT	4	6400	841	.13	1910	.30*
EBR	f		33		622	
WBL	0	0	0		0	
WBT	4	6400	2743	.43*	1323	.21
WBR	0	0	36		4	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.77**		**.73**

Long-Range Alternative Plan - With Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2.5		1007		1042	
SBT	0	6400	0	.22*	0	.24*
SBR	1.5		415		487	
EBL	0	0	0		0	
EBT	4	6400	2444	.38	2625	.41
EBR	f		1872		1674	
WBL	0	0	0		0	
WBT	4	6400	3578	.56*	3621	.57*
WBR	0	0	0		0	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.88**		**.91**

12. I-5 and SR-126 NB Ramps

Long-Range County Base

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	3	4800	1414	.29*	543	.11*
NBT	0	0	0		0	
NBR	1	1600	93	.06	7	.00
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	4	6400	2190	.34*	4126	.64*
EBR	f		397		408	
WBL	0	0	0		0	
WBT	4	6400	1632	.26	1045	.16
WBR	f		1615		1947	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.73**		**.85**

Long-Range County Base - With Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	3	4800	1599	.33*	1631	.34*
NBT	0	0	0		0	
NBR	1	1600	0	.00	6	.00
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	4	6400	3416	.53*	3927	.61*
EBR	f		544		453	
WBL	0	0	0		0	
WBT	4	6400	2489	.39	2291	.36
WBR	f		1451		1844	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.96**		**1.05**

12. I-5 and SR-126 NB Ramps

Long-Range Alternative Plan

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	3	4800	1333	.28*	566	.12*
NBT	0	0	0		0	
NBR	I	1600	222	.14	8	.01
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	4	6400	1617	.25*	3101	.48*
EBR	f		396		411	
WBL	0	0	0		0	
WBT	4	6400	1446	.23	761	.12
WBR	f		1346		1610	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.63**		**.70**

Long-Range Alternative Plan - With Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	3	4800	1823	.38*	1626	.34*
NBT	0	0	0		0	
NBR	I	1600	I	.00	6	.00
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	4	6400	2765	.43*	3218	.50*
EBR	f		660		536	
WBL	0	0	0		0	
WBT	4	6400	1763	.28	1998	.31
WBR	f		976		1419	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.91**		**.94**

13. Chiquita Landfill & SR-126

Long-Range Alt. Plan - SR-126 at Grade

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	2880	180	.06*	180	.06*
SBT	0	0	0		0	
SBR	1	1600	20	.01	20	.01
EBL	1	1600	20	.01	20	.01*
EBT	4	6400	4735	.74*	2676	.42
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	4	6400	2190	.34	4463	.70*
WBR	1	1600	180	.11	180	.11
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.90**		**.87**

14. Travel Village & SR-126

Long-Range Alt. Plan - SR-126 at Grade

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	2880	210	.07*	210	.07*
SBT	0	0	0		0	
SBR	1	1600	50	.03	50	.03
EBL	1	1600	50	.03	50	.03*
EBT	4	6400	4407	.69*	2660	.42
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	4	6400	2273	.36	4153	.65*
WBR	1	1600	210	.13	210	.13
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.86**		**.85**

APPENDIX B
NEWHALL RANCH TRAFFIC MODEL

The Newhall Ranch Traffic Model (NRTM) is a detailed local area forecasting procedure used for estimating traffic volumes on the Newhall Ranch project circulation system. This appendix describes the methodology embodied in this traffic model, and summarizes traffic forecast data derived by the model for this proposed Newhall Ranch project.

TRAFFIC MODEL OVERVIEW

The NRTM is based on incremental traffic modeling techniques used for site-specific traffic forecasting requirements. The highway network is represented by a graphical link-node network, which defines the analysis area circulation system. Travel patterns are determined on a zone-to-zone basis, and when applied to the network, produce forecasts of traffic volumes on individual links of the highway system.

The NRTM is essentially a sub-area extraction of the Santa Clarita Valley Consolidated Traffic Model (SCVCTM) developed and maintained jointly by the City of Santa Clarita and the County of Los Angeles. Regional travel patterns from the SCVCTM are incorporated into the incremental model in a manner that provides compatibility with countywide traffic forecasting procedures and with the overall regional data base maintained by the county. Hence, the SCVCTM is essentially the "parent model" for NRTM. Using a special "windowing" technique, trips into and out of the NRTM analysis area are extracted from the SCVCTM, thereby providing the basic trip pattern data needed for the detailed modeling carried out in the NRTM.

The NRTM model area includes the Newhall Ranch project area, and also extends to just east of I-5 so that the traffic model network can incorporate connections to the I-5 freeway (see model area in Figure B-1). For the purposes of traffic modeling work, the analysis area is subdivided into traffic zones. The NRTM utilizes 69 traffic zones, these being defined by subdividing larger zones used in regional traffic forecasting work (see discussion later in this chapter). This system of traffic zones forms the geographic base for quantifying the land use data used by the model for producing traffic forecasts.

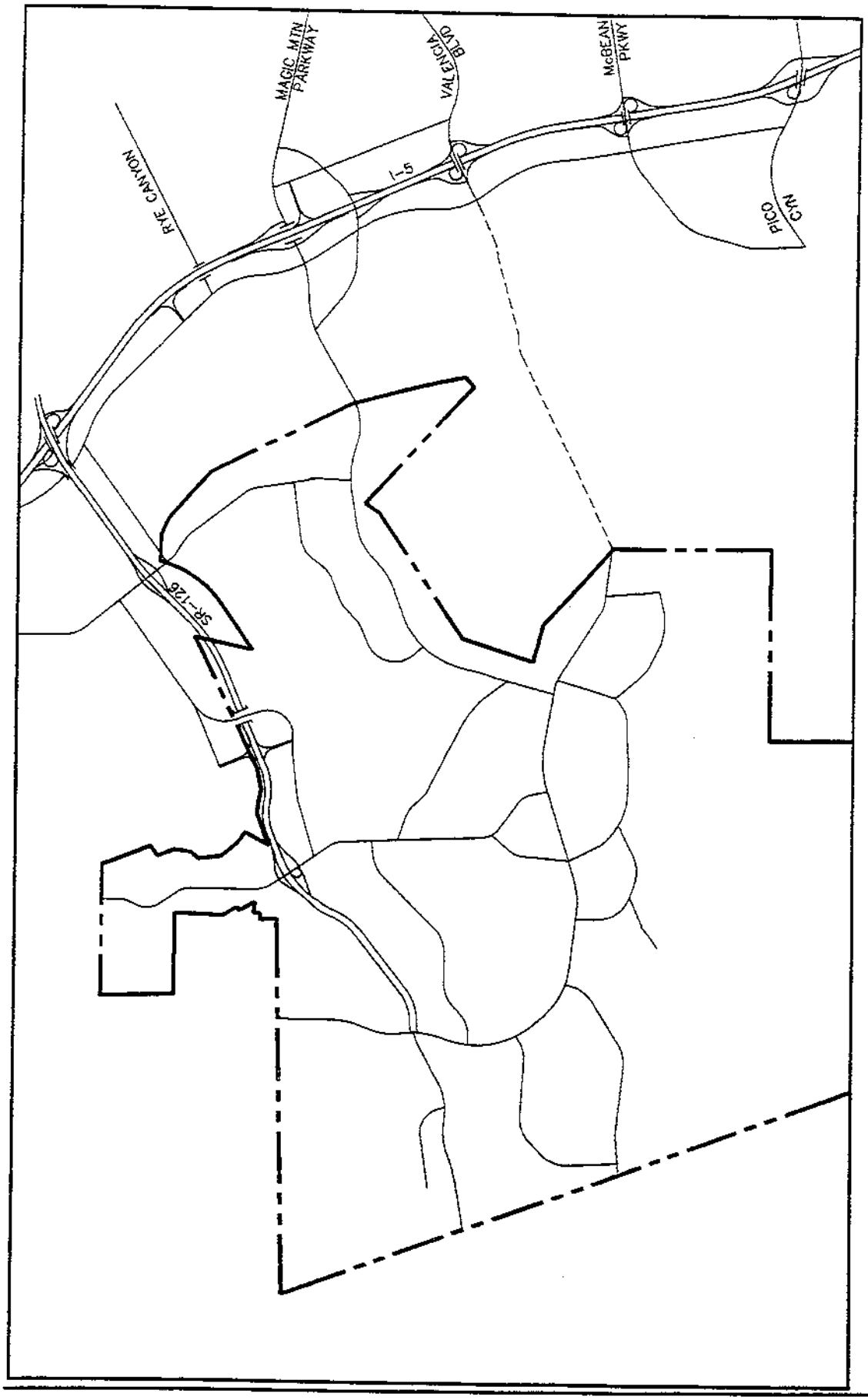


Figure B-1

NRTM ANALYSIS AREA

Locations on the circulation system that are crossed by the analysis area boundary are defined as cordon zones. These are used for incorporating external trips into the modeling process, such trips being extracted from regional traffic forecasts produced by the County of Los Angeles.

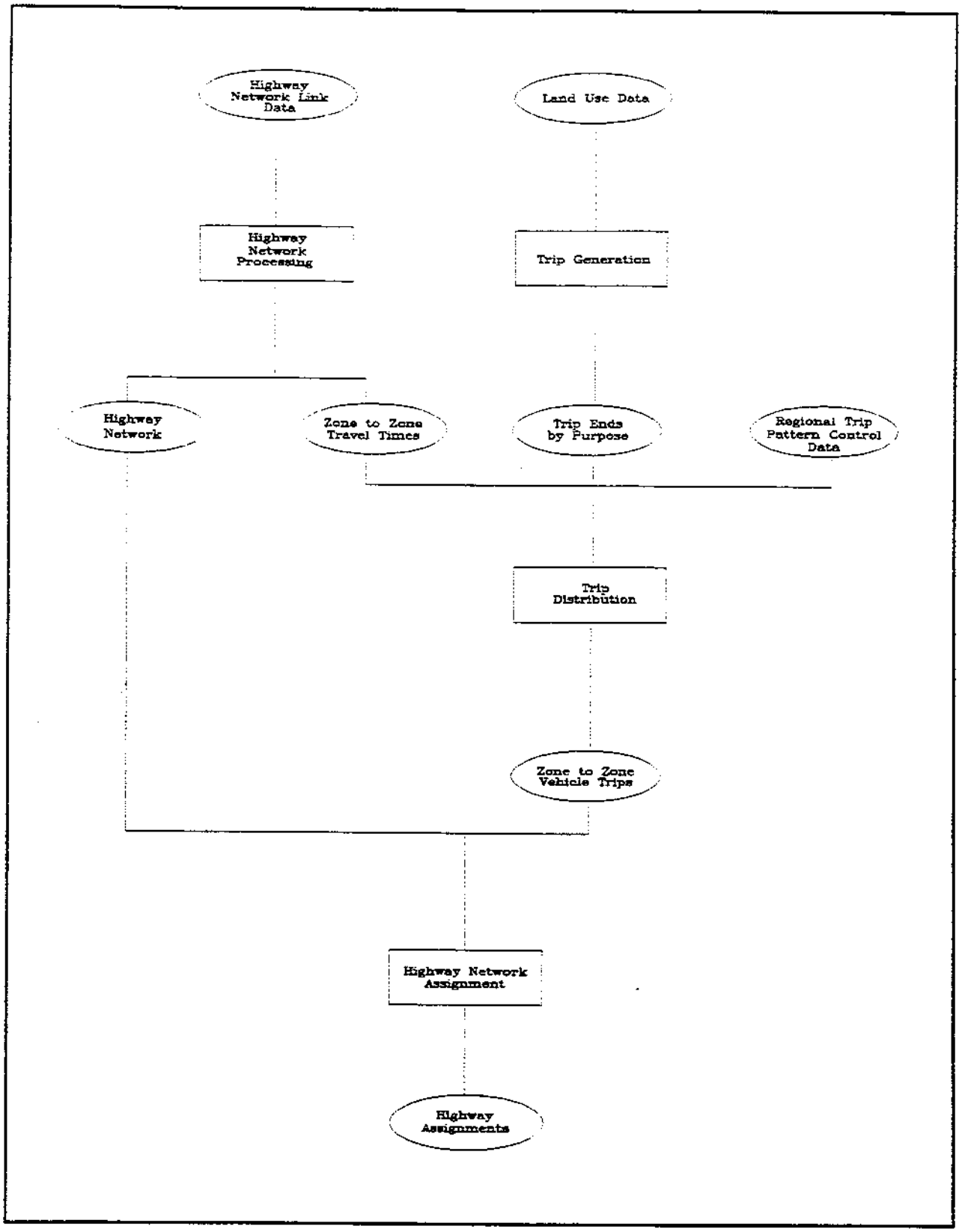
TRAFFIC MODEL DESCRIPTION

The NRTM utilizes detailed network analysis techniques to produce traffic forecasts on the analysis area circulation system. The flow chart in Figure B-2 shows the overall model structure. The trip generation procedure uses land use data specified in terms of floor area by various uses, and numbers of dwelling units by density classification. The trip distribution process involves the preparation of geographically defined travel patterns from the zonal trip generation estimates. The result is a set of zone-to-zone trips for the analysis area. Trip distribution patterns for the NRTM are taken from the SCVCTM parent model, incorporating them into the NRTM by means of cordon-to-internal zone trip patterns. The final part of the forecasting process consists of trip assignment, in which the geographically defined travel patterns are assigned to the highway network. Thus, the assignment component converts the trip tables to traffic volumes on the highway network. Various summary features of the model enable that data to be reviewed and used in peripheral applications such as intersection capacity utilization (ICU) calculations.

The Link-node Network System

Specially coded networks provide descriptions of the highway network in the traffic forecasting area. Coding of geographic link-node networks follows the general methodology used in traffic modeling work, and use the same network definition procedures as the SCVCTM parent model.

The NRTM assignment procedure uses a separate network for each of three time periods; AM peak hour, PM peak hour and off-peak period. Capacity values hence represent the equivalent time represented by the particular time period. For any given application, a speed and capacity table is used as input to the network processing component of the model. This then establishes the individual speeds and capacities that will be used for the particular analysis application.



LEGEND

Input and Output

Processing Step

Figure B–2

NRTM MODEL STRUCTURE

Trip Generation and Distribution

Trip generation involves estimating the number of trips generated in each zone in the analysis area. Suitable trip rates are applied to the zonal land use estimates and the resulting trips are used as input to the trip distribution process. The process differs slightly from the SCVCTM in that more land use categories are used, and land use generated trips are directly input to model rather than land use being first converted to socioeconomic data variables and trips generated from the socioeconomic data. The trip generation rates currently being used in the NRTM are listed in Table B-1, and the sources of these rates can be found at the end of this appendix. The NRTM trip distribution is derived from the SCVCTM parent model with internal and external trips being derived in the trip table preparation process. They are in the form of origin-destination trips for the AM peak hour, the PM peak hour, and the off-peak period.

Traffic Assignment

The traffic assignment component of the NRTM assigns the trip tables to the highway network to give link and intersection volumes. The methodology used in the NRTM involves several special procedures that respond to the detailed traffic analysis needs of the sub-area model. These include:

1. The ability to impose differential penalties on intersection turn movements.
2. Adjustment of link speeds in response to volume-to-capacity (V/C) ratios.
3. A multipath incremental capacity restraint loading technique that produces volumes that are responsive to the capacity of the network.

The speed assumptions used in assignment directly influence the volumes on individual links. In the NRTM, the speed assumptions reflect the V/C ratios on individual links. During the assignment procedure, speeds are adjusted according to V/C ratios. Of importance is the fact that the final set of speeds have a predetermined relationship to the assigned link volumes and capacities at the completion of the assignment process.

Table B-1

NRTM TRIP RATE SUMMARY

Land Use Type	Units	-- AM Peak Hour -- In	Out	Total	-- PM Peak Hour -- In	Out	Total	ADT
1. Res - Estate	DU	0.20	0.70	0.90	0.70	0.40	1.10	15.75
2. Res - Low	DU	0.20	0.70	0.90	0.70	0.40	1.10	10.00
3. Res - Low-Medium	DU	0.20	0.65	0.85	0.65	0.40	1.05	9.00
4. Res - Medium	DU	0.20	0.60	0.80	0.60	0.40	1.00	8.60
5. Res - High	DU	0.09	0.42	0.51	0.43	0.20	0.63	6.47
6. Business Park	TSF	1.38	0.24	1.62	0.33	1.15	1.48	10.20
7. Commercial	TSF	0.43	0.18	0.61	1.27	1.44	2.71	68.00
8. Golf Course	ACRE	0.22	0.05	0.27	0.08	0.31	0.39	8.33
9. Lake	ACRE	0.00	0.00	0.00	0.00	0.00	0.00	0.81
10. Elementary School	STU	0.18	0.12	0.30	0.00	0.01	0.01	1.09
11. Intermediate School	STU	0.14	0.09	0.23	0.01	0.01	0.02	1.03
12. High School	STU	0.26	0.14	0.40	0.02	0.02	0.04	1.39
13. Park	ACRE	0.00	0.00	0.00	0.00	0.00	0.00	2.23
14. Office	TSF	1.14	0.15	1.29	0.20	0.97	1.17	11.56

Figure B-3 shows examples of the speed versus volume-to-capacity ratio relationships used within the assignment procedure. These curves were derived from observed relationships as published in traffic engineering literature such as the "Highway Capacity Manual" and the AASHO urban design manual. While individual free flow speeds vary, the general shape of the volume-to-capacity relationship embodied in these curves is used consistently for all links.

The procedure used to derive the equilibrium speeds is to start the assignment process with the free flow speeds, assuming V/C ratios are zero. The speeds are then adjusted to these curves during successive iterations of the assignment algorithm as described below. The final speeds hence correspond to the final assigned volumes and capacities.

The assignment procedure involves loading the trips during several iterations and then adjusting the speeds after each increment is loaded. New speeds are calculated after each iteration, these being based on the loaded volumes. In calculating the new speeds, the loaded volumes are artificially expanded for the purpose of calculating the applicable V/C ratios. The process is similar to that used in the SCVCTM parent model.

TRAFFIC FORECASTS

A long-range land use and trip generation summary for the NRTM analysis area is given in Table B-2. The corresponding cordon volumes are summarized in Table B-3. Combined with the travel patterns derived from the SCVCTM, this data is used to derive the project area trip distribution.

The long-range circulation system for the Newhall Ranch project is illustrated in Figure B-4 together with the NRTM long-range buildout ADT forecasts. Intersections that are currently defined in the long-range version of the NRTM are depicted in Figure B-5.

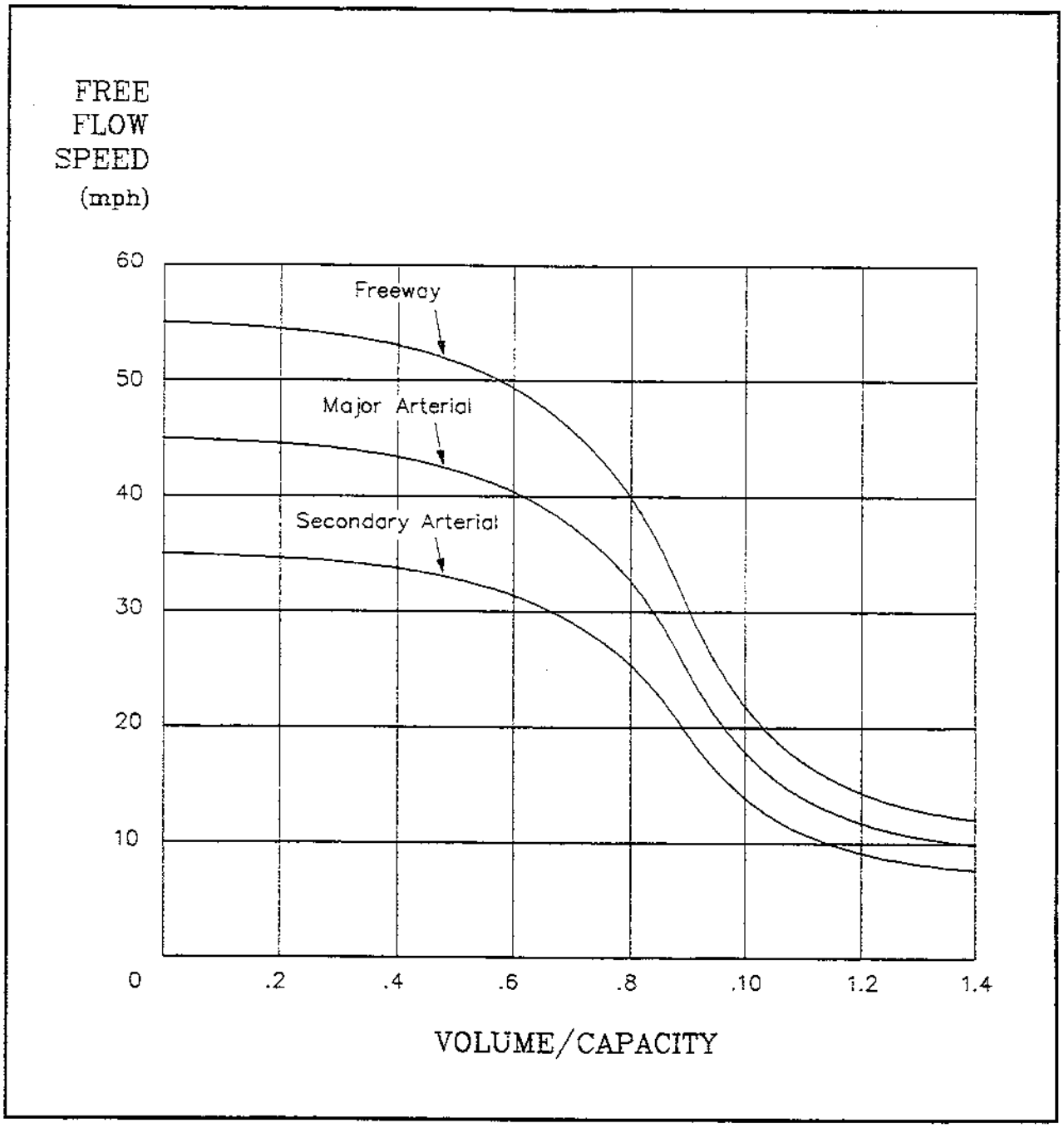


Figure B-3

SPEED – VOLUME/CAPACITY RELATIONSHIPS

Table B-2

NEWHALL RANCH PROJECT LAND USE AND TRIP GENERATION SUMMARY

Land Use Type	Units	-- AM Peak Hour -- In	Out	Total	-- PM Peak Hour -- In	Out	Total	ADT
1. Res - Estate	538.00 DU	107	378	485	378	216	594	9000
2. Res - Low	1917.00 DU	383	1342	1725	1342	767	2109	19000
3. Res - Low-Medium	6951.00 DU	1391	4520	5911	4520	2784	7304	63000
4. Res - Medium	10009.00 DU	2001	6006	8007	6006	4003	10009	86000
5. Res - High	5265.00 DU	473	2212	2685	2263	1053	3316	34000
6. Business Park	1513.00 TSF	2088	363	2451	499	1740	2239	16000
7. Commercial	1718.00 TSF	741	308	1049	2182	2474	4656	117000
8. Golf Course	180.00 ACRE	40	9	49	14	56	70	2000
9. Lake	15.00 ACRE	0	0	0	0	0	0	500
10. Elementary School	3250.00 STU	585	390	975	0	35	35	4000
11. Intermediate School	1500.00 STU	210	135	345	15	15	30	2000
12. High School	2000.00 STU	520	280	800	40	40	80	3000
13. Park	118.00 ACRE	0	0	0	0	0	0	400
14. Office	2489.00 TSF	2838	374	3212	498	2415	2913	29000
15. Other*								2000
15. Other**								100
TOTAL		11377	16317	27694	17757	15598	33355	387000

* Fire Stations and Library
** Water Reclamation Plant

Table B-3

PROJECT CORDON SUMMARY

CORDON	NRTM
74. Chiquito Canyon n/o Project Boundary	7,000
75. SR-126 at Los Angeles County Line	13,000
76. Commerce Center Drive n/o Project Boundary	19,000
77. The Old Road n/o SR-126	6,000
78. I-5 n/o SR-126	12,000
79. Newhall Ranch Road e/o I-5	42,000
80. Rye Canyon Road e/o I-5	10,000
81. Magic Mountain Parkway e/o I-5	29,000
82. Valencia Boulevard e/o I-5	21,000
83. McBean Parkway e/o I-5	5,000
84. Lyons Avenue e/o I-5	5,000
85. I-5 s/o Lyons	32,000
86. Franklin e/o I-5	7,000
TOTAL	208,000

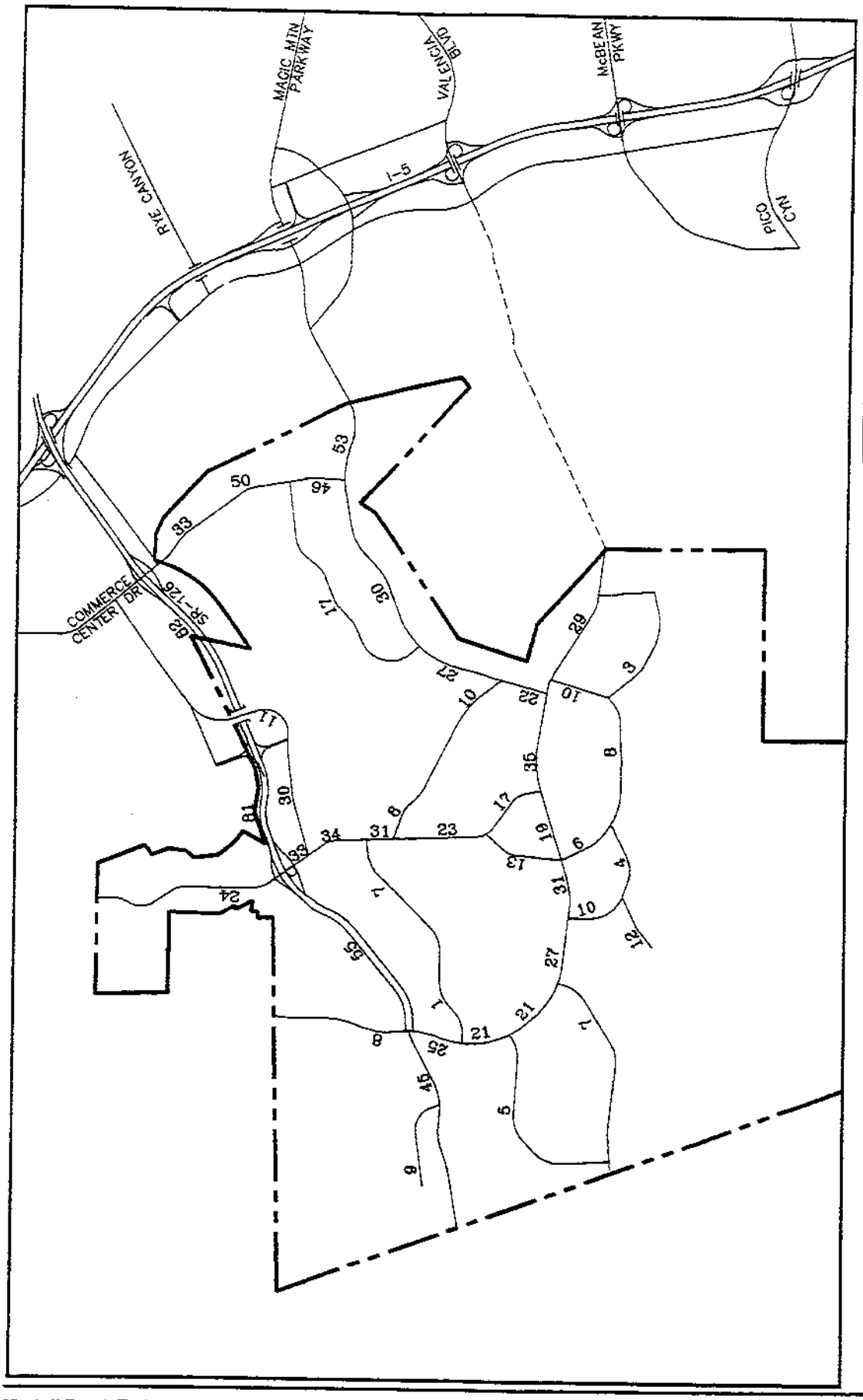


Figure B-4
LONG-RANGE ADT VOLUMES (000's)
– PROJECT AREA

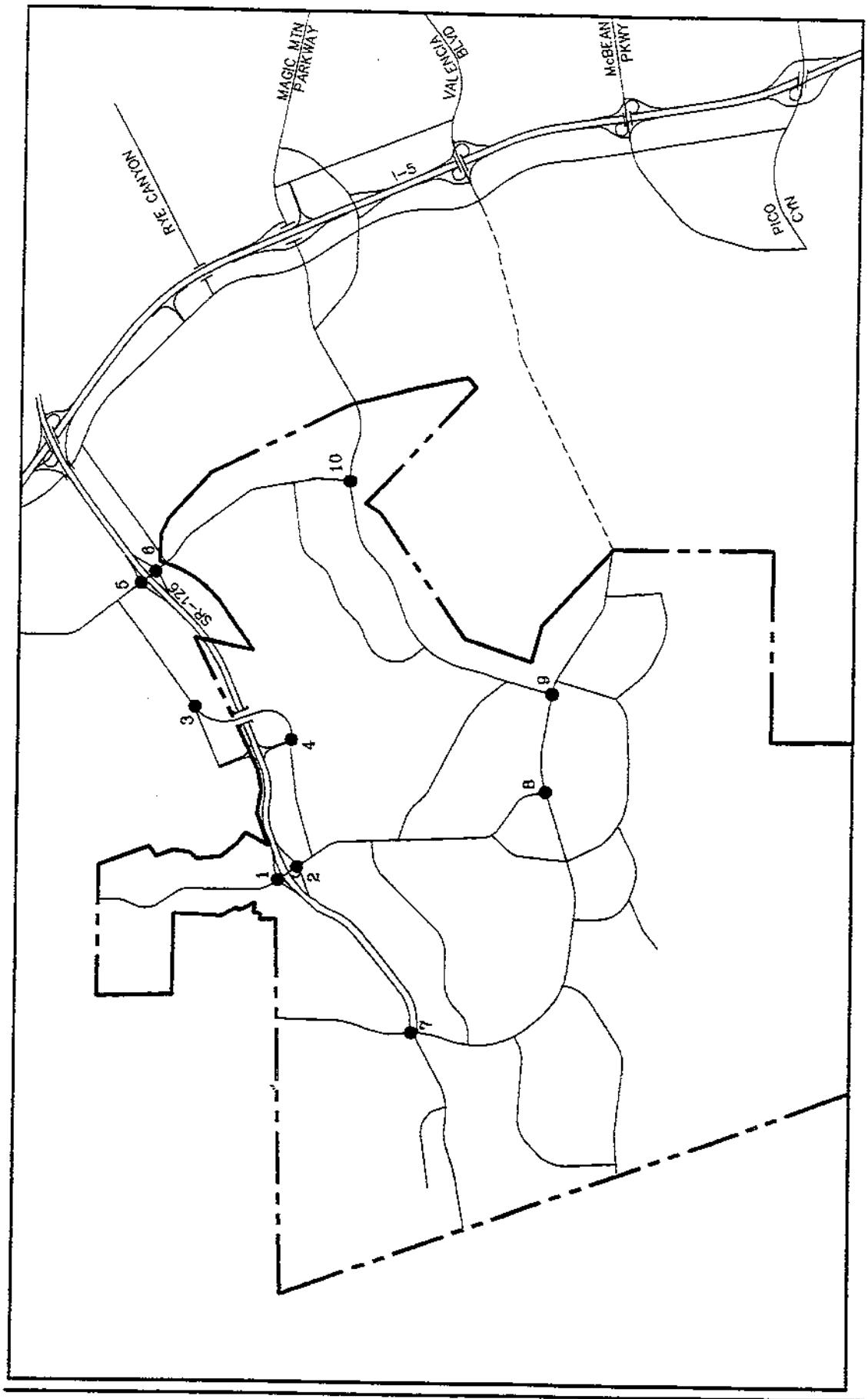


Figure B-5

MAJOR INTERSECTION LOCATIONS

TRIP GENERATION RATE DERIVATION

Trip generation rates used for analyzing development for the NRTM compiled primarily from the Institute of Transportation Engineer's (ITE) "Trip Generation" manual (4th and 5th Edition). The following describes the actual source for each land use category.

1. Residential - Estate

Average daily traffic (ADT) trip generation rate of 15.75 trips per dwelling unit (DU) was derived by increasing the Institute of Transportation Engineers (ITE) ADT rate for single-family detached housing (10.06) by 10 percent and adding the average of the ITE rate for Accessory Units (AU) for Apartment and Senior Housing (4.75 trips per DU). Peak hour trip generation rates were likewise derived from ITE's peak hour rates for single-family detached housing. ITE's AM peak hour inbound (IB) and outbound (OB) rates of .20 and .55 were changed to .20 and .70, respectively, while ITE's PM peak hour IB and OB rates of .63 and .37 were changed to .70 and .40, respectively. These trip rates were previously used in the Valencia Area Traffic Model (VATM).

2. Residential - Low Density

ADT trip generation rate of 10.00 trips per DU was taken from the ITE ADT rate for single-family detached housing. Peak hour trip generation rates were derived from ITE's peak hour rates for single-family detached housing. On the basis of selected studies, ITE's AM peak hour IB and OB rates of .20 and .55 were changed to .20 and .70, respectively, while ITE's PM peak hour IB and OB rates of .63 and .37 were changed to .70 and .40, respectively. These trip rates were previously used in the VATM.

3. Residential - Low/Medium Density

ADT and peak hour trip generation were averaged from the Low Density Residential (land use category #2) and Medium Density Residential (land use category #4). These trip rates were previously used in the Valencia Area Traffic Model (VATM).

4. Residential - Medium Density

ADT trip generation rate of 8.60 trips per DU was derived from selected studies for single-family detached housing. Peak hour trip generation rates were derived from ITE's peak hour rates

for single-family detached housing. ITE's AM peak hour IB and OB rates of .20 and .55 for single-family detached housing were rounded to .20 and .60, respectively, while ITE's PM peak hour IB and OB rates of .63 and .37 were rounded to .60 and .40, respectively.

5. Residential - High Density

ADT trip generation rate of 6.47 trips per DU and the corresponding peak hour rates were derived from ITE's rates for apartments. AM peak hour IB and OB rates are .09 and .42, respectively, and PM peak hour IB and OB rates are .43 and .20, respectively.

6. Business Park

The ADT rate of 10.20 per thousand square feet (TSF) was factored down from the ITE rate for Business Parks to assimilate the ADT rate in the Santa Clarita Valley Consolidated Traffic Model (SCVCTM). The corresponding peak hour rates were taken from the ITE rate for business parks. AM peak hour IB and OB rates are 1.38 and .24, respectively, and PM peak hour IB and OB rates are .33 and 1.15, respectively.

7. Commercial

ADT trip generation rate of 68.00 trips per 1,000 square feet was factored from the ITE ADT for shopping centers (1,000,000 square feet to assimilate the ADT rate in the SCVCTM). Peak hour trip generation rates were likewise taken from ITE peak hour rates for shopping centers (1,000,000 square feet). AM peak hour IB and OB rates are .43 and .18, respectively, and PM peak hour IB and OB rates are 1.27 and 1.44, respectively.

8. Golf Course

ADT trip generation rate of 8.33 trips per acre and the corresponding peak hour rates were derived from the ITE rates for golf courses. AM peak hour IB and OB rates are .22 and .05, respectively, and PM peak hour IB and OB rates are .08 and .31, respectively.

9. Lake

ADT trip generation rate of .81 trips per acre was taken from the ITE ADT rate for state parks. Peak hour trip generation was assumed to be negligible. This rate was previously used in the VATM.

10. Elementary School

ADT trip generation rate of 1.09 trips per student and the corresponding peak hour rates were derived from the ITE rates for elementary schools. AM peak hour IB and OB rates are .18 and .12, respectively, and PM peak hour IB and OB rates are .00 and .01, respectively.

11. Intermediate School

ADT trip generation rate of 1.03 trips per student was taken from the ITE ADT rate for elementary schools. Peak hour trip generation rates were likewise taken from the ITE peak hour rates for elementary schools. AM peak hour IB and OB rates are .15 and .09, respectively, and PM peak hour IB and OB rates are both .01. These rates were previously used in the VATM.

12. High School

ADT trip generation rate of 1.39 trips per student was taken from the ITE ADT rate for high schools. Peak hour trip generation rates were likewise taken from the ITE peak hour rates for high schools. AM peak hour IB and OB rates are .26 and .14, respectively, and PM peak hour IB and OB rates are both .02.

13. Park

ADT trip generation rate of 2.23 trips per acre was derived from the ITE rates for City parks. Peak hour trip generation was assumed to be negligible.

14. Office

ADT trip generation rate of 11.56 trips per TSF was taken from the ITE rates for General Office Buildings. The corresponding peak hour rates were taken from ITE general office buildings. The AM peak hour IB and OB rates are 1.14 and .15, respectively, and the PM peak hour IB and OB rates are .20 and .97, respectively.

LAND USE AND TRIP GENERATION SUMMARIES

For traffic forecasting purposes, land use data is specified according to the 69 traffic zones designated in the analysis area and illustrated in Figure B-6. The following pages summarize the land use by traffic analysis zone, including the corresponding trip generation used in the NRTM.

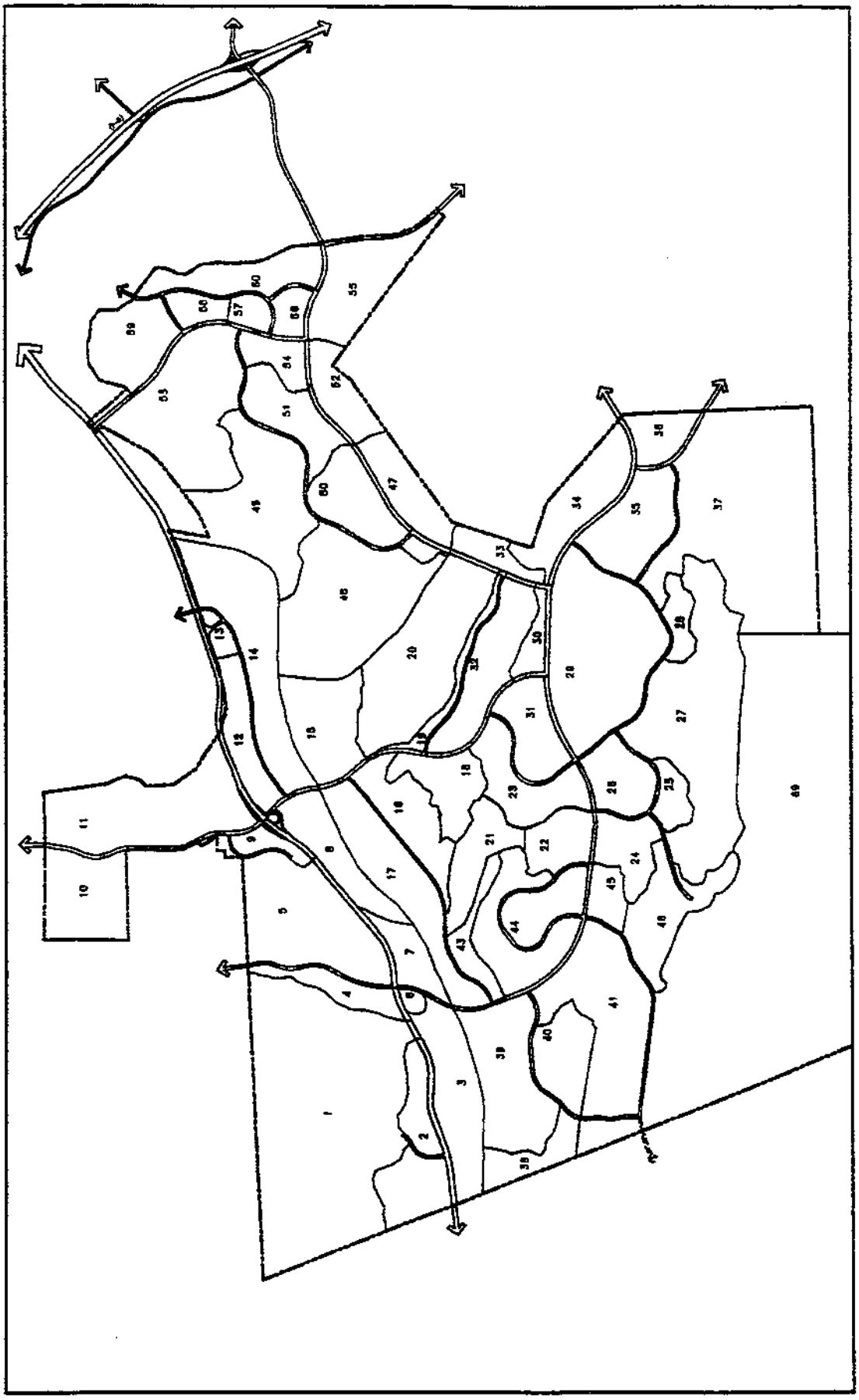


Figure B-6
NRTM ZONE SYSTEM

NEWHALL RANCH TRAFFIC MODEL ZONAL LAND USE AND TRIP GENERATION

Zone		Land Use Type	Units		-- AM Peak Hour -- In	Out	Total	-- PM Peak Hour -- In	Out	Total	ADT
1	1.	Res - Estate	227.00	DU	45	159	204	159	91	250	3575
		SUB-TOTAL			45	159	204	159	91	250	3575
2	3.	Res - Low-Medium	747.00	DU	149	486	635	486	299	785	6723
		SUB-TOTAL			149	486	635	486	299	785	6723
3	4.	Res - Medium	190.00	DU	38	114	152	114	76	190	1634
	6.	Business Park	200.00	TSF	276	48	324	66	230	296	2040
	15.	Other (Water Reclaimation)	1.00	--	0	0	0	0	0	0	100
		SUB-TOTAL			314	162	476	180	306	486	3774
4	2.	Res - Low	53.00	DU	11	37	48	37	21	58	530
		SUB-TOTAL			11	37	48	37	21	58	530
5	2.	Res - Low	256.00	DU	51	179	230	179	102	281	2560
	3.	Res - Low-Medium	377.00	DU	75	245	320	245	151	396	3393
	4.	Res - Medium	267.00	DU	53	160	213	160	107	267	2296
	10.	Elementary School	650.00	STU	117	78	195	0	7	7	709
	13.	Park	12.00	ACRE	0	0	0	0	0	0	27
		SUB-TOTAL			296	662	958	584	367	951	8985
6	7.	Commercial	91.00	TSF	39	16	55	116	131	247	6188
		SUB-TOTAL			39	16	55	116	131	247	6188
7	7.	Commercial	71.00	TSF	31	13	44	90	102	192	4828
		SUB-TOTAL			31	13	44	90	102	192	4828
8	7.	Commercial	99.00	TSF	43	18	61	126	143	269	6732
	14.	Office	297.00	TSF	339	45	384	59	288	347	3433
		SUB-TOTAL			382	63	445	185	431	616	10165
9	5.	Res - High	263.00	DU	24	110	134	113	53	166	1702
	7.	Commercial	48.00	TSF	21	9	30	61	69	130	3264
	13.	Park	3.00	ACRE	0	0	0	0	0	0	7
	14.	Office	143.00	TSF	163	21	184	29	139	168	1653
		SUB-TOTAL			208	140	348	203	261	464	6626
10	1.	Res - Estate	19.00	DU	4	13	17	13	8	21	299
	2.	Res - Low	95.00	DU	19	67	86	67	38	105	950
		SUB-TOTAL			23	80	103	80	46	126	1249
11	3.	Res - Low-Medium	30.00	DU	6	20	26	20	12	32	270
	6.	Business Park	1095.00	TSF	1511	263	1774	361	1259	1620	11169
	7.	Commercial	71.00	TSF	31	13	44	90	102	192	4828
	14.	Office	214.00	TSF	244	32	276	43	208	251	2474
		SUB-TOTAL			1792	328	2120	514	1581	2095	18741
12	4.	Res - Medium	264.00	DU	53	158	211	158	106	264	2270

NEWHALL RANCH TRAFFIC MODEL ZONAL LAND USE AND TRIP GENERATION (cont.)

Zone	Land Use Type	Units		-- AM Peak Hour -- In	Out	Total	-- PM Peak Hour -- In	Out	Total	ADT
12	5. Res - High	610.00	DU	55	256	311	262	122	384	3947
	7. Commercial	79.00	TSF	34	14	48	100	114	214	5372
	13. Park	5.00	ACRE	0	0	0	0	0	0	11
	14. Office	238.00	TSF	271	36	307	48	231	279	2751
	SUB-TOTAL			413	464	877	568	573	1141	14351
13	7. Commercial	170.00	TSF	73	31	104	216	245	461	11560
	SUB-TOTAL			73	31	104	216	245	461	11560
14	3. Res - Low-Medium	629.00	DU	126	409	535	409	252	661	5661
	4. Res - Medium	245.00	DU	49	147	196	147	98	245	2107
	7. Commercial	47.00	TSF	20	8	28	60	68	128	3196
	13. Park	5.00	ACRE	0	0	0	0	0	0	11
	14. Office	142.00	TSF	162	21	183	28	138	166	1642
	SUB-TOTAL			357	585	942	644	556	1200	12617
15	4. Res - Medium	242.00	DU	48	145	193	145	97	242	2081
	SUB-TOTAL			48	145	193	145	97	242	2081
16	3. Res - Low-Medium	437.00	DU	87	284	371	284	175	459	3933
	SUB-TOTAL			87	284	371	284	175	459	3933
17	3. Res - Low-Medium	267.00	DU	53	174	227	174	107	281	2403
	SUB-TOTAL			53	174	227	174	107	281	2403
18	2. Res - Low	167.00	DU	33	117	150	117	67	184	1670
	SUB-TOTAL			33	117	150	117	67	184	1670
20	2. Res - Low	673.00	DU	135	471	606	471	269	740	6730
	10. Elementary School	650.00	STU	117	78	195	0	7	7	709
	13. Park	5.00	ACRE	0	0	0	0	0	0	11
	SUB-TOTAL			252	549	801	471	276	747	7450
21	1. Res - Estate	65.00	DU	13	46	59	46	26	72	1024
	SUB-TOTAL			13	46	59	46	26	72	1024
22	3. Res - Low-Medium	139.00	DU	28	90	118	90	56	146	1251
	5. Res - High	281.00	DU	25	118	143	121	56	177	1818
	SUB-TOTAL			53	208	261	211	112	323	3069
23	3. Res - Low-Medium	27.00	DU	5	18	23	18	11	29	243
	4. Res - Medium	758.00	DU	152	455	607	455	303	758	6519
	9. Lake	3.00	ACRE	0	0	0	0	0	0	2
	13. Park	5.00	ACRE	0	0	0	0	0	0	11
	SUB-TOTAL			157	473	630	473	314	787	6775
24	3. Res - Low-Medium	124.00	DU	25	81	106	81	50	131	1116
	13. Park	6.00	ACRE	0	0	0	0	0	0	13
	SUB-TOTAL			25	81	106	81	50	131	1129

NEWHALL RANCH TRAFFIC MODEL ZONAL LAND USE AND TRIP GENERATION (cont.)

Zone	Land Use Type	Units		-- AM Peak Hour -- In	Out	Total	-- PM Peak Hour -- In	Out	Total	ADT
25	2. Res - Low	104.00	DU	21	73	94	73	42	115	1040
	SUB-TOTAL			21	73	94	73	42	115	1040
26	3. Res - Low-Medium	309.00	DU	62	201	263	201	124	325	2781
	SUB-TOTAL			62	201	263	201	124	325	2781
27	1. Res - Estate	165.00	DU	33	116	149	116	66	182	2599
	4. Res - Medium	212.00	DU	42	127	169	127	85	212	1823
	13. Park	5.00	ACRE	0	0	0	0	0	0	11
	SUB-TOTAL			75	243	318	243	151	394	4433
28	2. Res - Low	72.00	DU	14	50	64	50	29	79	720
	SUB-TOTAL			14	50	64	50	29	79	720
29	3. Res - Low-Medium	469.00	DU	94	305	399	305	188	493	4221
	4. Res - Medium	516.00	DU	103	310	413	310	206	516	4438
	8. Golf Course	180.00	ACRE	40	9	49	14	56	70	1499
	SUB-TOTAL			237	624	861	629	450	1079	10158
30	4. Res - Medium	115.00	DU	23	69	92	69	46	115	989
	5. Res - High	692.00	DU	62	291	353	298	138	436	4477
	SUB-TOTAL			85	360	445	367	184	551	5466
31	4. Res - Medium	972.00	DU	194	583	777	583	389	972	8359
	7. Commercial	135.00	TSF	58	24	82	171	194	365	9180
	9. Lake	12.00	ACRE	0	0	0	0	0	0	10
	14. Office	405.00	TSF	462	61	523	81	393	474	4682
	15. Other (Library)	1.00	--	0	0	0	0	0	0	1000
	SUB-TOTAL			714	668	1382	835	976	1811	23231
32	3. Res - Low-Medium	377.00	DU	75	245	320	245	151	396	3393
	SUB-TOTAL			75	245	320	245	151	396	3393
33	3. Res - Low-Medium	70.00	DU	14	46	60	46	28	74	630
	SUB-TOTAL			14	46	60	46	28	74	630
34	1. Res - Estate	7.00	DU	1	5	6	5	3	8	110
	4. Res - Medium	307.00	DU	61	184	245	184	123	307	2640
	12. High School	2000.00	STU	520	280	800	40	40	80	2780
	SUB-TOTAL			582	469	1051	229	166	395	5530
35	3. Res - Low-Medium	279.00	DU	56	181	237	181	112	293	2511
	4. Res - Medium	203.00	DU	41	122	163	122	81	203	1746
	SUB-TOTAL			97	303	400	303	193	496	4257
36	3. Res - Low-Medium	229.00	DU	46	149	195	149	92	241	2061
	SUB-TOTAL			46	149	195	149	92	241	2061

NEWHALL RANCH TRAFFIC MODEL ZONAL LAND USE AND TRIP GENERATION (cont.)

Zone	Land Use Type	Units		-- AM Peak Hour -- In	Out	Total	-- PM Peak Hour -- In	Out	Total	ADT
37	3. Res - Low-Medium	276.00	DU	55	179	234	179	110	289	2484
	10. Elementary School	650.00	STU	117	78	195	0	7	7	709
	13. Park	5.00	ACRE	0	0	0	0	0	0	11
	SUB-TOTAL			172	257	429	179	117	296	3204
38	3. Res - Low-Medium	83.00	DU	17	54	71	54	33	87	747
	13. Park	5.00	ACRE	0	0	0	0	0	0	11
	SUB-TOTAL			17	54	71	54	33	87	758
39	3. Res - Low-Medium	288.00	DU	58	187	245	187	115	302	2592
	SUB-TOTAL			58	187	245	187	115	302	2592
40	2. Res - Low	122.00	DU	24	85	109	85	49	134	1220
	3. Res - Low-Medium	99.00	DU	20	64	84	64	40	104	891
	SUB-TOTAL			44	149	193	149	89	238	2111
41	2. Res - Low	161.00	DU	32	113	145	113	64	177	1610
	4. Res - Medium	656.00	DU	131	394	525	394	262	656	5642
	13. Park	14.00	ACRE	0	0	0	0	0	0	31
	SUB-TOTAL			163	507	670	507	326	833	7283
44	4. Res - Medium	1553.00	DU	311	932	1243	932	621	1553	13356
	7. Commercial	95.00	TSF	41	17	58	121	137	258	6460
	10. Elementary School	650.00	STU	117	78	195	0	7	7	709
	11. Intermediate School	1500.00	STU	210	135	345	15	15	30	1545
	13. Park	5.00	ACRE	0	0	0	0	0	0	11
	14. Office	286.00	TSF	326	43	369	57	277	334	3306
	15. Other (Fire Station)	1.00	--	0	0	0	0	0	0	500
	SUB-TOTAL			1005	1205	2210	1125	1057	2182	25887
45	4. Res - Medium	258.00	DU	52	155	207	155	103	258	2219
	13. Park	3.00	ACRE	0	0	0	0	0	0	7
	SUB-TOTAL			52	155	207	155	103	258	2226
46	1. Res - Estate	40.00	DU	8	28	36	28	16	44	630
	7. Commercial	174.00	TSF	75	31	106	221	251	472	11832
	SUB-TOTAL			83	59	142	249	267	516	12462
47	3. Res - Low-Medium	63.00	DU	13	41	54	41	25	66	567
	5. Res - High	625.00	DU	56	263	319	269	125	394	4044
	7. Commercial	119.00	TSF	51	21	72	151	171	322	8092
	15. Other (Fire Station)	1.00	--	0	0	0	0	0	0	500
	SUB-TOTAL			120	325	445	461	321	782	13203
48	3. Res - Low-Medium	313.00	DU	63	203	266	203	125	328	2817
	4. Res - Medium	1299.00	DU	260	779	1039	779	520	1299	11171
	10. Elementary School	650.00	STU	117	78	195	0	7	7	709
	13. Park	5.00	ACRE	0	0	0	0	0	0	11
	SUB-TOTAL			440	1060	1500	982	652	1634	14708

NEWHALL RANCH TRAFFIC MODEL ZONAL LAND USE AND TRIP GENERATION (cont.)

Zone	Land Use Type	Units		-- AM Peak Hour -- In	Out	Total	-- PM Peak Hour -- In	Out	Total	ADT
49	2. Res - Low	214.00	DU	43	150	193	150	86	236	2140
	SUB-TOTAL			43	150	193	150	86	236	2140
50	3. Res - Low-Medium	148.00	DU	30	96	126	96	59	155	1332
	4. Res - Medium	141.00	DU	28	85	113	85	56	141	1213
	7. Commercial	134.00	TSF	58	24	82	170	193	363	9112
	SUB-TOTAL			116	205	321	351	308	659	11657
51	3. Res - Low-Medium	364.00	DU	73	237	310	237	146	383	3276
	13. Park	5.00	ACRE	0	0	0	0	0	0	11
	SUB-TOTAL			73	237	310	237	146	383	3287
52	3. Res - Low-Medium	181.00	DU	36	118	154	118	72	190	1629
	SUB-TOTAL			36	118	154	118	72	190	1629
53	3. Res - Low-Medium	294.00	DU	59	191	250	191	118	309	2646
	5. Res - High	515.00	DU	46	216	262	221	103	324	3332
	13. Park	30.00	ACRE	0	0	0	0	0	0	67
	SUB-TOTAL			105	407	512	412	221	633	6045
54	4. Res - Medium	586.00	DU	117	352	469	352	234	586	5040
	SUB-TOTAL			117	352	469	352	234	586	5040
55	3. Res - Low-Medium	332.00	DU	66	216	282	216	133	349	2988
	4. Res - Medium	320.00	DU	64	192	256	192	128	320	2752
	SUB-TOTAL			130	408	538	408	261	669	5740
56	4. Res - Medium	314.00	DU	63	188	251	188	126	314	2700
	7. Commercial	130.00	TSF	56	23	79	165	187	352	8840
	SUB-TOTAL			119	211	330	353	313	666	11540
57	4. Res - Medium	591.00	DU	118	355	473	355	236	591	5083
	SUB-TOTAL			118	355	473	355	236	591	5083
58	5. Res - High	380.00	DU	34	160	194	163	76	239	2459
	6. Business Park	133.00	TSF	184	32	216	44	153	197	1357
	SUB-TOTAL			218	192	410	207	229	436	3816
59	5. Res - High	443.00	DU	40	186	226	190	89	279	2866
	7. Commercial	255.00	TSF	110	46	156	324	367	691	17340
	14. Office	764.00	TSF	871	115	986	153	741	894	8832
	SUB-TOTAL			1021	347	1368	667	1197	1864	29038
60	5. Res - High	1456.00	DU	131	612	743	626	291	917	9420
	6. Business Park	85.00	TSF	117	20	137	28	98	126	867
	SUB-TOTAL			248	632	880	654	389	1043	10287
69	1. Res - Estate	15.00	DU	3	11	14	11	6	17	236
	SUB-TOTAL			3	11	14	11	6	17	236

APPENDIX C
LINK NUMBERING SYSTEM

The link numbering system used for tabular information in this report was prepared for use with the SCVCTM and allows the direct extraction of forecasts data from that model. Figure C-1 provides a reference map for the numbered links used here.

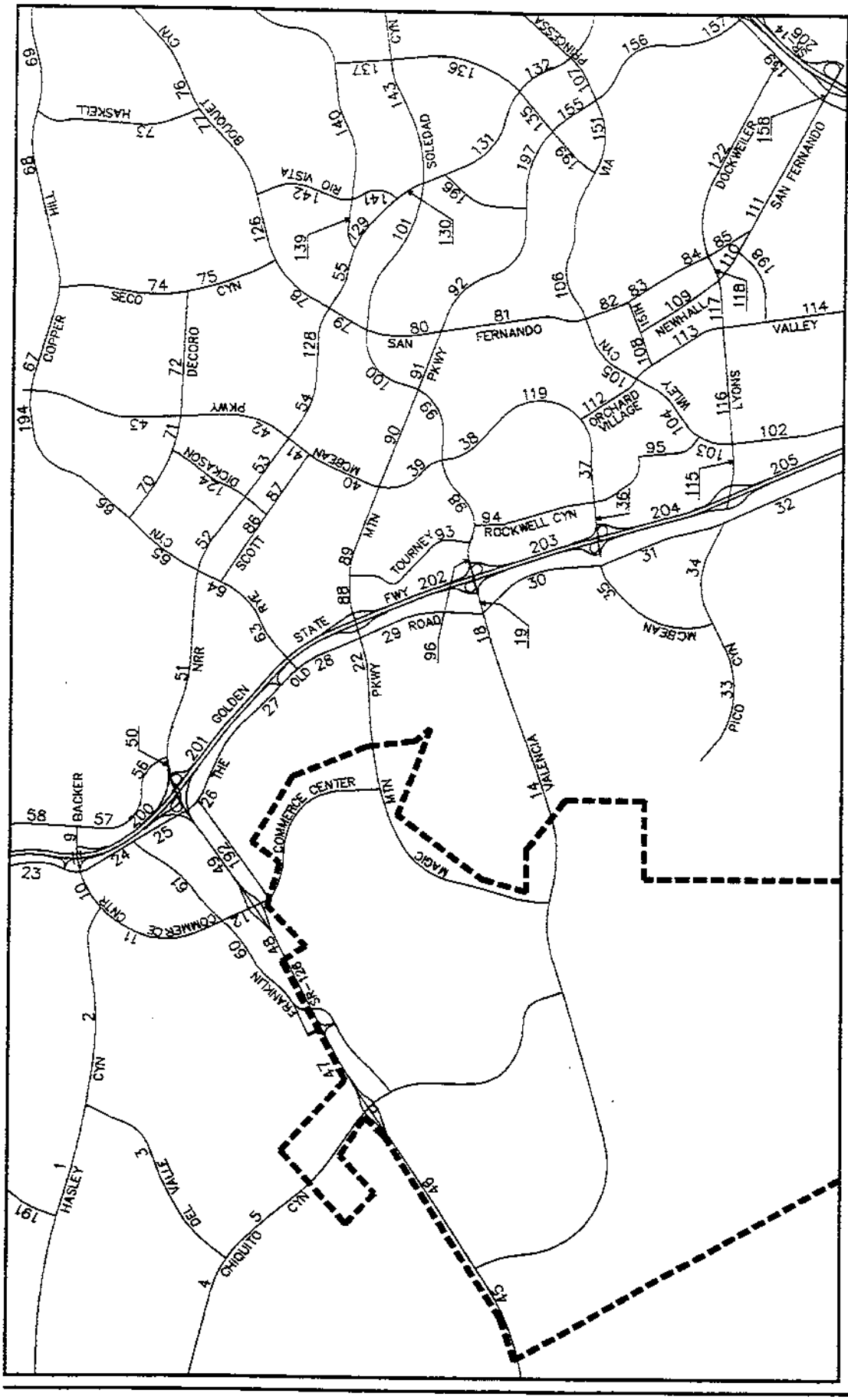


Figure C-1
LINK LOCATION MAP
ALTERNATIVE HIGHWAY PLAN
(WITH PROJECT)

APPENDIX D

TRANSIT OPERATOR NOTIFICATION

P 759 800 362

Certified Mail Receipt
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

Peter Jacobsen
Metropolitan Water District
Planning Division
P.O. Box 54153

Los Angeles, CA 90054

Postage	$
Certified Fee	1.00
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	1.00
Return Receipt Showing to Whom, Date, & Address of Delivery	
TOTAL Postage & Fees	$ 3.92
Postmark or Date	

PS Form 3800, March 1993

Is your RETURN ADDRESS completed on the reverse side?

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Peter Jacobsen
Metropolitan Water District
Planning Division
P.O. Box 54153

Los Angeles, CA 90054

4a. Article Number: P759 800 362

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery: DEC 30 [illegible]

5. Signature (Addressee)

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 *U.S. GPO: 1993—352-714 **DOMESTIC RETURN RECEIPT**

P 759 800 364

Certified Mail Receipt
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

Sent to: MTA/Keith Killough

Street & No.

P.O., State & ZIP Code: MU LA 90053

Postage	$
Certified Fee	1.00
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	1.00
Return Receipt Showing to Whom, Date, & Address of Delivery	
TOTAL Postage & Fees	$ 3.92
Postmark or Date	

PS Form 3800, March 1993

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Metropolitan Transit Authority
County Wide Planning
P.O. Box 194
Los Angeles, CA 90053
Attn: Mr. Keith Killough

4a. Article Number: P759 800 364

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery: 1-3-94

5. Signature (Addressee)

6. Signature (Agent): RE

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 *U.S. GPO: 1993—352-714 **DOMESTIC RETURN RECEIPT**

Certified Mail Receipt
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

Metropolitan Transportation Authority
818 West 7th Street

Los Angeles, CA 90017

Postage	$
Certified Fee	1.00
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	1.50
Return Receipt Showing to Whom, Date, & Address of Delivery	
TOTAL Postage & Fees	$ 3.93
Postmark or Date	

PS Form 3800, June 1988

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Metropolitan Transportation Authority
818 West 7th Street

Los Angeles, CA 90017

4a. Article Number: P759800357

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery: 1-3-94

5. Signature (Addressee)

6. Signature (Agent): RE

8. Addressee's Address (Only if requested and fee is paid)

Is your RETURN ADDRESS completed on the reverse side?

PS Form 3811, December 1991 ★U.S. GPO: 1993—352-714 DOMESTIC RETURN RECEIPT

Thank you for using Return Receipt Service.

P 759 800 335

Certified Mail Receipt
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

Southern California Association of Governments
818 W. 7th Street, 12th Floor

Los Angeles, CA 90017

Attn: Eric Roth

Postage	$
Certified Fee	1.00
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	1.50
Return Receipt Showing to Whom, Date, & Address of Delivery	
TOTAL Postage & Fees	$ 3.93
Postmark or Date	

PS Form 3800, June 1990

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Southern California Association of Governments
818 W. 7th Street, 12th Floor

Los Angeles, CA 90017

Attn: Eric Roth

4a. Article Number: P759800335

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery: 1/6/95

5. Signature (Addressee)

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)

Is your RETURN ADDRESS completed on the reverse side?

PS Form 3811, December 1991 ★U.S. GPO: 1993—352-714 DOMESTIC RETURN RECEIPT

Thank you for using Return Receipt Service.

P 759 800 363

Certified Mail Receipt

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

Sent to	Santa Clarita Transit
Street & No.	25243 W. Ave. Stanford
P.O., State & ZIP Code	Santa Clarita 91355
Postage	$
Certified Fee	1.00
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	—
Return Receipt Showing to Whom, Date, & Address of Delivery	
TOTAL Postage & Fees	$ 3.43
Postmark or Date	

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Santa Clarita Transit
25243 West Avenue Stanford
Santa Clarita, CA 91355
Attn: Ron Kilcoyne

4a. Article Number
P 759 800 363

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery
1-3-94 AM

5. Signature (Addressee)

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 ☆U.S. GPO: 1993—352-714 **DOMESTIC RETURN RECEIPT**

APPENDIX E
CUMULATIVE PROJECT LIST

SANTA CLARITA VALLEY
GENERAL PLAN/AREA PLAN AMENDMENTS
To Be Included in the Santa Clarita Valley Traffic Model

Consider for Traf. Model?	Case No.	Proj. No.	Notes	Residential Single Family	Residential Multi-Family	Mobile Homes	Comm'l Acres	Comm'l Sq.Ft.	Hotel Rms	Indus'l Acres	Indus'l Sq.Ft.	Instit'l Acres	Rec'l Acres	School	Associated Tract Map(s)	Changes Needed to Buildout Data Base	Land Use in Model	TAZ
no	81	SP07282	denied	-	-	-	-	-	-	-	-	-	-	-	30562/35445			
no	110	LP00883	approved/on map	-	-	-	-	-	-	-	-	-	-	-	36655			
no	116	SP00983	adopted/on map	-	-	-	-	-	-	-	-	-	-	-	36668			
no	153	SP02283	approved/on map	-	-	-	-	-	-	-	-	-	-	-	34968			
no	160	SP02483	denied	-	-	-	-	-	-	-	-	-	-	-	32930			
no	173	SP02783	withdrew	-	-	-	-	-	-	-	-	-	-	-	33698			
no	174	SP00883	part of North River	-	-	-	-	-	-	-	-	-	-	-				
no	177	SP02983	approved/on map	-	-	-	-	-	-	-	-	-	-	-	37539			
no	214	LP00184	withdrew	-	-	-	-	-	-	-	-	-	-	-	43115			
no	287	LP00982	approved/on map	-	-	-	-	-	-	-	-	-	-	-	43510			
no	312	LP02084	adopted/on map	-	-	-	-	-	-	-	-	-	-	-	42508			
no	321	SP84021	approved/on map	-	-	-	-	-	-	-	-	-	-	-				
no	364	SP84028	approved/on map	-	-	-	-	-	-	-	-	-	-	-	35157			
no	367	SP84025	approved/on map	-	-	-	-	-	-	-	-	-	-	-	36943			
no	85005	LP85001	denied	-	-	-	-	-	-	-	-	-	-	-				
no	85007	SP85007	withdrew	-	-	-	-	-	-	-	-	-	-	-	43696			
no	85107	LP85008	adopted/on map	-	-	-	-	-	-	-	-	-	-	-	43729			
no	85191	SP85004	Canyon Park, adopted/on map	-	-	-	-	-	-	-	-	-	-	-	PM17271			
no	85207	SP85006	in '90 SCVAP update/no activi	-	-	-	-	-	-	-	-	-	-	-	43743			
no	85340	SP85015	adopted/on map	-	-	-	-	-	-	-	-	-	-	-	43750/44373			
no	85367	LP85016	adopted/on map	-	-	-	-	-	-	-	-	-	-	-				
no	85369	SP02983	adopted/on map	-	-	-	-	-	-	-	-	-	-	-	43591			
no	85368	SP00883	withdrawn	-	-	-	-	-	-	-	-	-	-	-				
no	85388	LP85388	adopted/on map	-	-	-	-	-	-	-	-	-	-	-	PM17646			
no	85573	LP85573	approved/on map	-	-	-	-	-	-	-	-	-	-	-				
no	85595	LP85595	adopted/on map	-	-	-	-	-	-	-	-	-	-	-	PM17317			
no	86106	LP86435	approved/on map	-	-	-	-	-	-	-	-	-	-	-	PM20665			
no	86189	LP86189	adopted/on map	-	-	-	-	-	-	-	-	-	-	-	31156			
no	86237	SP86237	in '90 SCVAP update/no activi	-	-	-	-	-	-	-	-	-	-	-	31603			
no	86258	SP86258	adopted/on map	-	-	-	-	-	-	-	-	-	-	-	44471			
no	86294	LP86294	adopted/on map	-	-	-	-	-	-	-	-	-	-	-	PM16001			

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Prepared by: Lee Stark, AICP
R. Mamaghani, AICP
1/3/96

SANTA CLARITA VALLEY
GENERAL PLAN/AREA PLAN AMENDMENTS
To Be Included in the Santa Clarita Valley Traffic Model

Consider for Traf. Model?	Case No.	Proj. No.	Notes	Residential Single Family	Residential Multi-Family	Mobile Homes	Comm'l Acres	Comm'l Sq.Ft.	Hotel Rms	Indus'l Acres	Indus'l Sq.Ft.	Instit'l Acres	Rec'l Acres	School	Associated Traat. Map(s)	Changes Needed to Buildout Data Base	Land Use in Model	TAZ
no	86343	SP/PL86343	Santa Fe Ranch	-	-	-	-	-	-	-	-	-	-	-				
			Inactivated by Impact Analysis; no activity since 1987															
no	86365	SP86365	withdrew	-	-	-	-	-	-	-	-	-	-	-	44800			
yes	86384	LP86384	approved/not on map							-4.8	47,000					add 47 tsf industrial space	see Footnote (1)	346
			(4.8 ac. from M to HM; balance of project shown on map)															
no	86442	LP86442	adopted/on map	-	-	-	-	-	-	-	-	-	-	-	PM17949			
no	86464	LP86464	withdrew	-	-	-	-	-	-	-	-	-	-	-	PM18229			
yes	86491	SP86491	Creekside	918	624			173,000							44831	918 sf du's, 624 mf du's,		25,51,243
																173 tsf commercial space		
yes	86522	LP86522	adopted/not on map		500										45023	repl. 65 sf du's w/500 mf	55 sf du's	196
no	86524	SP86524	In '90 SCVAP update/no activi	-	-	-	-	-	-	-	-	-	-	-	32224			
yes	86539	LP8539								21.3	209,000				PM18161	add 209 tsf industrial space	see Footnote (1)	198
no	87016	LP87016	withdrew	-	-	-	-	-	-	-	-	-	-	-	45121			
no	87108	SP87108	In '90 SCVAP update/no activi	-	-	-	-	-	-	-	-	-	-	-	45308			
no	87150	LP87150	inactive/part of Newhall Ranch	-	-	-	-	-	-	-	-	-	-	-	PM18108			
no	87172	SP87172	adopted/on map (Northlake)	-	-	-	-	-	-	-	-	-	-	-				
no	87176	LP87176	LP withdrawn	-	-	-	-	-	-	-	-	-	-	-	44830			
			(tract found consistent w/Plan															
no	87222	SP87222	on LU Policy Map (Westridge)	-	-	-	-	-	-	-	-	-	-	-	46433			
no	87224	LP87224	adopted/on map	-	-	-	-	-	-	-	-	-	-	-	PM18500			
no	87262	LP87262	withdrew	-	-	-	-	-	-	-	-	-	-	-	44832			
no	87287	SP87287	inactive environt file	-	-	-	-	-	-	-	-	-	-	-	44945			
no	87290	LP87290	withdrew	-	-	-	-	-	-	-	-	-	-	-	PM18904			
no	87402	SP87402	changed to project #93147	-	-	-	-	-	-	-	-	-	-	-	PM20167			
no	87405	LP87405	withdrew	-	-	-	-	-	-	-	-	-	-	-	44823			
no	87470	SP87470	withdrew	-	-	-	-	-	-	-	-	-	-	-	43520			
no	87476	LP87476	withdrew	-	-	-	-	-	-	-	-	-	-	-				
no	87939	SP87939	withdrew	-	-	-	-	-	-	-	-	-	-	-	45956			
no	88027	SP88027	withdrew	-	-	-	-	-	-	-	-	-	-	-	45084			
no	88044	SP88044	withdrew	-	-	-	-	-	-	-	-	-	-	-	46169			
no	88073	SP88073	withdrew	-	-	-	-	-	-	-	-	-	-	-	PM20033			
no	88082	SP88082	withdrew	-	-	-	-	-	-	-	-	-	-	-	47057			
yes	88139	SP88139		219	266		40	327,000							45863	add 219 sf du's, 266 mf	see Footnote (1)	152
																du's, 327 tsf comm'l space		
no	88151	SP88151	withdrew	-	-	-	-	-	-	-	-	-	-	-	45440			

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1/3/96

SANTA CLARITA VALLEY
GENERAL PLAN/AREA PLAN AMENDMENTS
To Be Included in the Santa Clarita Valley Traffic Model

Consider for Traf. Model?	Case No.	Proj. No.	Notes	Residential Single Family	Residential Multi-Family	Residential Mobile Homes	Comm'l Acres	Comm'l Sq.Ft.	Hotel Rms	Indus'l Acres	Indus'l Sq.Ft.	Instit'l Acres	Rec'l Acres	School	Associated Tract Map(s)	Changes Needed to Buildout Data Base	Land Use in Model	TAZ
no	88173	SP88173	adopted/on map	-	-	-	-	-	-	-	-	-	-	-				
no	88221	SP88221	withdrew	-	-	-	-	-	-	-	-	-	-	-				
no	88280	SP88280	withdrew	-	-	-	-	-	-	-	-	-	-	-	PM19764			
no	88288	SP88288	to be consistent w/Plan	-	-	-	-	-	-	-	-	-	-	-	46564			
no	88312	LP88312	withdrew	-	-	-	-	-	-	-	-	-	-	-	46646			
no	88320	SP88320	adopted/on map	-	-	-	-	-	-	-	-	-	-	-				
no	88321	SP88321	withdrew	-	-	-	-	-	-	-	-	-	-	-	PM20175			
no	88382	SP88382	no activity since 1988	-	-	-	-	-	-	-	-	-	-	-	46389			
no	88422	SP88422	withdrew	-	-	-	-	-	-	-	-	-	-	-	37539			
no	88533	SP88533	withdrew	-	-	-	-	-	-	-	-	-	-	-	35783			
yes	88587	LP88587	adopted/not on map															
			(from U-2 to C)				20.1	164,000							44805	add 164 tsf comm'l space	see Footnote (1)	16
no	88596	SP88596	withdrew	-	-	-	-	-	-	-	-	-	-	-				
no	88597	LP88597	withdrew	-	-	-	-	-	-	-	-	-	-	-	48908			
no	89017	SP89017	no activity since 1989	-	-	-	-	-	-	-	-	-	-	-	44821			
yes	89033	SP/PL89033	Stevenson Ranch Phase 5	1,828	1,572			323,000	350		1,600,000		242.0	3		see attached		75,76,77,78,98
			128 tsf retail,197 tsf office,150-ac golf crse,1 elem.school, 1 junior high, and 1 high school															
no	89094	SP89094	amendmt to SP-1 (Canyon Pk)	-	-	-	-	-	-	-	-	-	-	-				
			found consistent with Plan												47200			
no	89100	SP89100	included in '90 SCVAP update	-	-	-	-	-	-	-	-	-	-	-				
no	89126	SP89126	included in '90 SCVAP update	-	-	-	-	-	-	-	-	-	-	-				
no	89128	SP89128	included in '90 SCVAP update	-	-	-	-	-	-	-	-	-	-	-				
no	89130	SP89130	tract withdrawn	-	-	-	-	-	-	-	-	-	-	-				
no	89140	SP89140	in '90 SCVAP update	-	-	-	-	-	-	-	-	-	-	-	47447			
no	89149	SP89149	in '90 SCVAP update	-	-	-	-	-	-	-	-	-	-	-				
no	89151	LP/SP89151	withdrew	-	-	-	-	-	-	-	-	-	-	-				
no	89152	SP89152	withdrew	-	-	-	-	-	-	-	-	-	-	-				
no	89153	SP89153	withdrew	-	-	-	-	-	-	-	-	-	-	-				
no	89155	LP89155	in '90 SCVAP update/no activi	-	-	-	-	-	-	-	-	-	-	-	47646			
no	89156	LP89156	in '90 SCVAP update/no activi	-	-	-	-	-	-	-	-	-	-	-				
no	89158	SP89158	in '90 SCVAP update/no activi	-	-	-	-	-	-	-	-	-	-	-	47574			
no	89159	SP89159	withdrew	-	-	-	-	-	-	-	-	-	-	-	50566			

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SANTA CLARITA VALLEY
GENERAL PLAN/AREA PLAN AMENDMENTS
To Be Included in the Santa Clarita Valley Traffic Model

Consider for Traf. Model?	Case No.	Proj. No.	Notes	Residential Single Family	Residential Multi-Family	Residential Mobile Homes	Comm'l Acres	Comm'l Sq.Ft.	Hotel Rms	Indus'l Acres	Indus'l Sq.Ft.	Instit'l Acres	Rec'l Acres	School	Associated Tract. Map(s)	Changes Needed to Buildout Data Base	Land Use in Model	TAZ
no	89174	LP89174	withdrew	-	-	-	-	-	-	-	-	-	-	-	PM20839			
no	89182	SP89182	revised; consistent w/Plan	-	-	-	-	-	-	-	-	-	-	-	47760			
no	89247	SP89247	withdrew	-	-	-	-	-	-	-	-	-	-	-				
no	89293	SP89293	in '90 SCVAP update/no activi	-	-	-	-	-	-	-	-	-	-	-				
no	89393	LP89393	withdrew	-	-	-	-	-	-	-	-	-	-	-				
yes	89418	LP89418	approved/not on map			101									48208			
yes	89430	SP89430	Stevenson Ranch Phase 4	704	242			60,000								add 101 mobile homes	see Footnote (1)	314
			1 elementary school											1	43898	see attached		97
no	89625	SP89625	withdrew	-	-	-	-	-	-	-	-	-	-	-				
yes	90071	LP90071								24.5	240,000					add 240 tsf industrial space	see Footnote (1)	107
no	90115	SP90115	City Plan; no SCV Plan, amend	-	-	-	-	-	-	-	-	-	-	-	48086			
yes	90514	LP90514	adopted/not on map				2.5	20,600								add 20.5 tsf convnl space	see Footnote (1)	56
no	90528	SP90528	withdrew	-	-	-	-	-	-	-	-	-	-	-				
yes	91110	SP91110								14	137,000				50592	add 137 tsf industial space	see Footnote (1)	323
no	91140	SP91140	included in Poe Phase 4	-	-	-	-	-	-	-	-	-	-	-				
yes	91317	LP91317		16											50070	add 16 sf du's	see Footnote (1)	11
yes	92074	SP92074	Clougherty Ranch	2,036	992		5.6	40,000							51644	see attached		6
no	92075	SP92075	on LU Policy Map	-	-	-	-	-	-	-	-	-	-	-	PM3576			
yes	92158	LP92158					2	16,000								add 16 tsf commt space	see Footnote (1)	350
yes	93147	PL93147	Bee Canyon Mobile Home Park	2		953										add 2 sf du's, 953 mobile homes		336
PROJ.	94087	SP/PL94087	Newhall Ranch															
yes	94161	LP94161	Valencia del Lago	-	-	-	-	-	-	-	-	-	-	-	51931	no action required	see Footnote (2)	241
no	94156	LP94156	U-1 & C to I							4.5	44,000					add 44 tsf industrial space	see Footnote (1)	314
yes	95084	LP95084	I to U-3 & C, HB II	339	464		25.3	160,000			589,000	44.6			52043	see attached		47
yes	95085	LP95085	detached condos	114											51995	add 114 sf du's	see Footnote (1)	18
yes	95119	-95119	North Village										200	1	54900	see attached		21,22,23,24,28
			includes additional 9-acre park, 200-acre golf course, and 1 elementary school															
yes	Reasonable and foreseeable development not associated			200														
	with existing development proposals.																	326
			Totals	6,575	4,932	1,054	96	1,287,500	350	80	2,866,000	45	450	6				1

See criteria for project consideration for inclusion in traffic model.

Footnotes

(1) Existing land use in traffic model could not be specifically identified.
(2) Land use in traffic model matches project statistics.

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R. Mamaghani, AICP
1/3/96

Newhall Ranch
Cumulative List of GPA's
High School (TM52043)
As of Dec. 7, 1995

Taz	Land Use in Buildout Model									Replace with... for Cumulative Model			
	1. SF	3. Multi Fam	10. Com'l	11. Com'l	30. Industrial	Elem School	High School	50. Golf Course	Taz	2. SF (8-10)	3. Multi Fam	10. Com'l	30. Industrial
47	213 DU		166.00 TSF		1,400.00 TSF				47	336 DU	466 DU	150.00 TSF	589.00 TSF
Subtotal	213 DU	0 DU	166.00 TSF	0.00 TSF	1,400.00 TSF				Subtotal	336 DU	466 DU	150.00 TSF	589.00 TSF

Newhall Ranch
Cumulative List of GPA's
Stephenson Ranch Worksheet
As of Dec. 14, 1995

Stephenson Ranch

		Land Use Currently In Traffic Model						FOR CUMULATIVE DATA BASE Replace with...													
Phase	Taz	1. SF	3 Mult Fam	10. Com1	11. Com1	14 Hotel	21. High School	1. SF	3 Mult Fam	10. Com1	11. Com1	40 Com1 Office	Industrial	Resort Recreation	Lake	Com. Park	Golf Course	14 Hotel	20. Elem/Jr High	21. High School	
1,2,3	78	875 DU			81 TSF	35 TSF		875 DU			81 TSF							35 TSF			Note: Phase 1,2,3 stay the same
	80	437 DU					100 STA	437 DU												100 STA	
	81				70 TSF						70 TSF										
	82	437 DU				35 TSF	100 STA	437 DU										35 TSF		100 STA	
	93	1,076 DU	225 DU	277 TSF				1,076 DU	225 DU	277 TSF											
	94	861 DU						861 DU													
	95	874 DU						874 DU													
	Subtotal	4,580 DU	225 DU	277 TSF	151 TSF	70 TSF	200 STA	4,580 DU	225 DU	277 TSF	151 TSF	0 TSF	0 TSF								
4	97	234 DU	35 DU															70 TSF		200 STA	
	Subtotal	234 DU	35 DU	0 TSF	0 TSF	0 TSF	0 STA	704 DU	242 DU	66 TSF											
								704 DU	242 DU	66 TSF	0 TSF	0 TSF	0 TSF						1 elem school		
5	75	110 DU																			
	76	166 DU						1,758 DU	1,022 DU	126 TSF		197 TSF	1,600 TSF	10 AC	37 AC	45 AC					
	77	32 DU						40 DU	250 DU										1 Elem school & 1 Jr High		
	79	0 DU						0 DU	0 DU											1 High School	
	96	175 DU	36 DU					20 DU	100 DU												
	Subtotal	483 DU	36 DU	0 TSF	0 TSF	0 TSF	0 STA		200 DU								150 AC	350 Rooms			
TOTAL		5,297 DU	296 DU	277 TSF	151 TSF	70 TSF	200 STA	1,828 DU	1,572 DU	126 TSF	0 TSF	197 TSF	1,600 TSF	10 AC	37 AC	45 AC	150 AC				
								7,112 DU	2,039 DU	471 TSF	151 TSF	197 TSF	1,600 TSF	10 AC	37 AC	45 AC	150 AC				
								3,400 DU													

Newhall Ranch
Cumulative List of GPA's
Clougherty Ranch
As of Dec. 8, 1995

Taz	Land Use Currently in Traffic Model			
	1. SF	2. SF	3. Multi Fam	10. Com'l
6	606 DU	649 DU	232.00 TSF	
Subtotal	606 DU	649 DU	232.00 TSF	0.00 TSF

Taz	Replace with... for Cumulative Model			
	1. SF	2. SF	3. Multi Fam	10. Com'l
6	2,038 DU		962.00 TSF	46.00 TSF
Subtotal	2,038 DU	0 DU	962.00 TSF	46.00 TSF

Creekside

Newhall Ranch			
Cumulative List of GPA's			
Creekside (TM44831)			
As of Dec. 8, 1995			
	Add to the Cumulative Traffic Model		
Taz	1. SF	10. Com1	
25	360 DU		
51		57.00 TSF	
243		57.00 TSF	
Subtotal	360 DU	114.00 TSF	

North Village

Newhall Ranch				
Cumulative List of GPA's				
North Village (TM34900)				
As of Dec. 8, 1995				
	Add to Cumulative Model			
Taz		Park	Elem School	50. Golf Course
26			1 elem school	
22				200 AC
23		8 AC		
Subtotal	0 DU	8 AC		

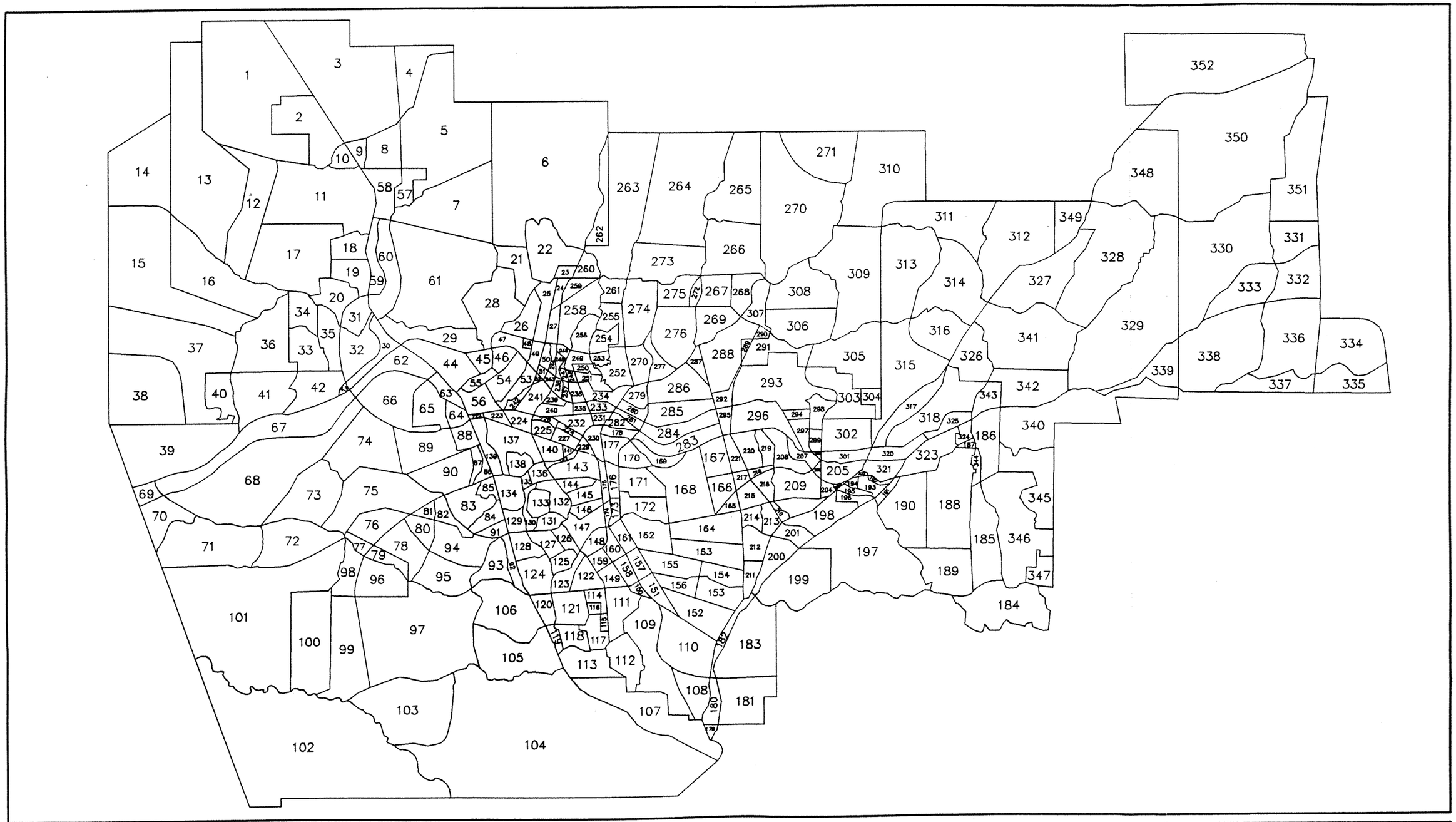

Figure E-1

SCVCTM TRAFFIC ANALYSIS ZONE MAP

CHIQUITO CANYON BUSINESS PARK
ALTERNATIVE ROADWAY ANALYSIS

Prepared for:

Newhall Ranch Company

Prepared by:

Austin-Foust Associates, Inc.
2020 North Tustin Avenue
Santa Ana, California 92705-7827
(714) 667-0496

March 29, 1996

CHIQUITO CANYON BUSINESS PARK
ALTERNATIVE ROADWAY ANALYSIS

The purpose of this analysis is to determine the traffic implications of an alternative roadway alignment of Chiquito Canyon Road that would provide separate access into the Chiquito Canyon Business Park, retaining the existing rural-type character of Chiquito Canyon Road into the Val Verde community.

ALIGNMENT ALTERNATIVE

Figure 1 shows the roadway alignment alternative. Chiquito Canyon Road would connect with Business Park Road approximately 1600 feet north of the SR-126 westbound on/off ramps. Business Park Road would continue past the intersection with Chiquito Canyon Road, exclusively serving the Business Park.

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BACKGROUND ASSUMPTIONS

The existing peak hour volumes along Chiquito Canyon Road were taken from a February 1995 traffic count. Growth in the Val Verde community was then analyzed using the Santa Clarita Valley Consolidated Traffic Model forecasts for the buildout time frame. The model assumes that there will be 185 new dwelling units in the Val Verde community. In terms of average daily traffic (ADT), single family homes generate 10 trips per dwelling unit, which equates to 1850 additional

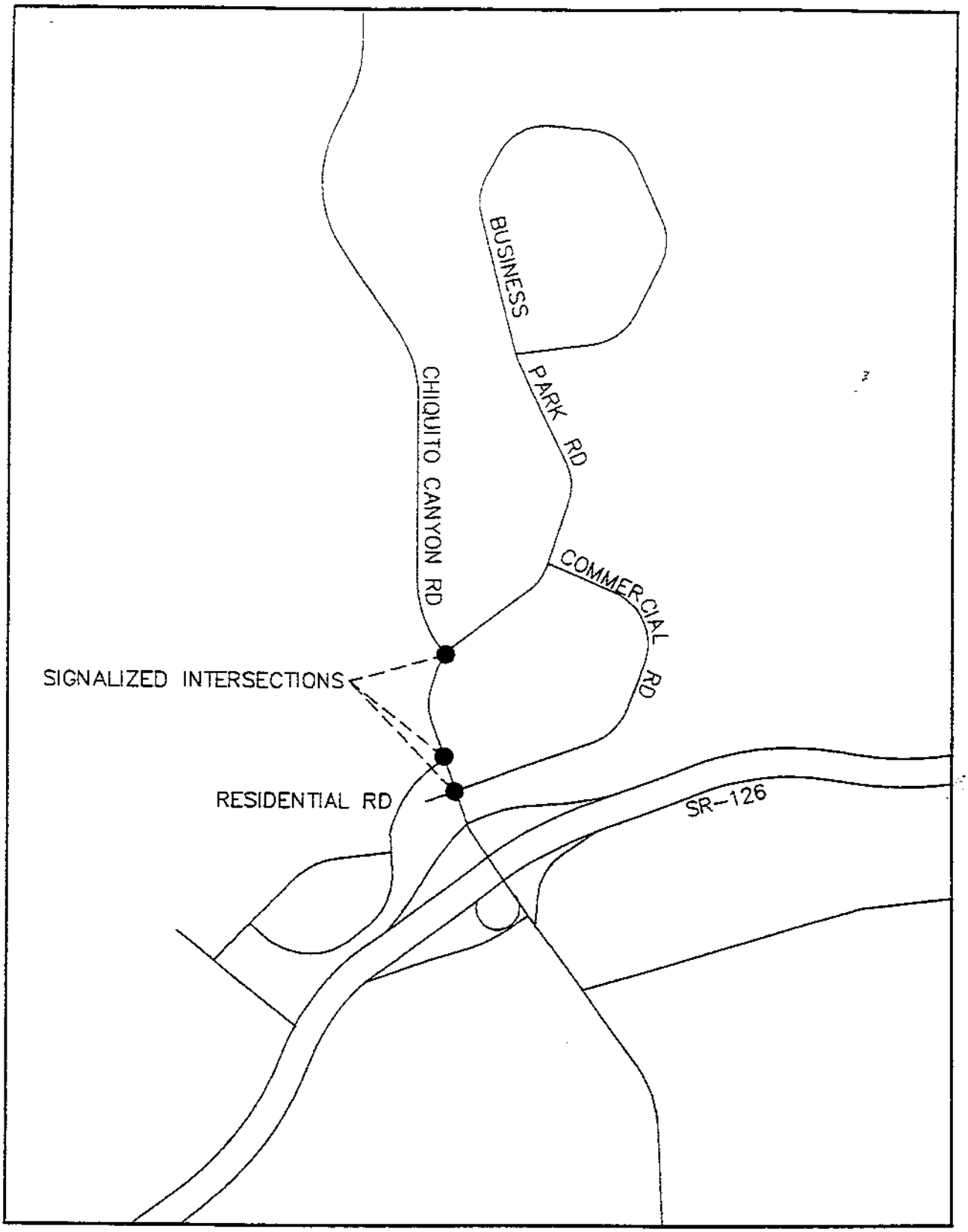


Figure 1

CHIQUITO CANYON ROAD
ALTERNATIVE ROADWAY ALIGNMENT

trips. Both the AM and PM peak hour trips equate to 10 percent of the ADT, which equates to 185 additional AM and PM peak hour trips. These additional residential trips were added to the existing count volumes using the same directionality as the existing volumes. This established the base case volumes (i.e., without Chiquito Canyon Business Park) for Chiquito Canyon Road. These base case volumes can be summarized as follows:

PEAK HOUR VOLUMES
(No-Project)

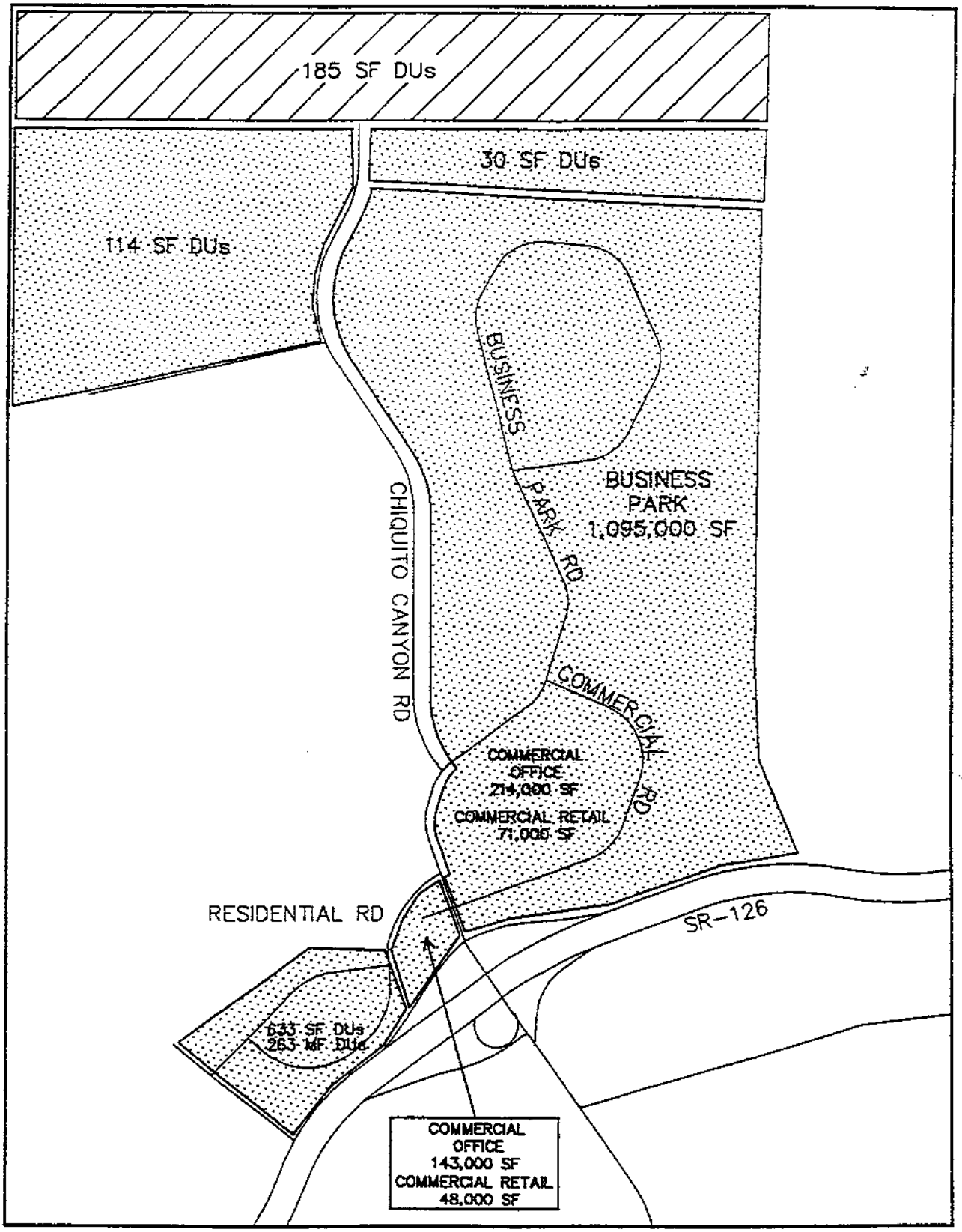
Chiquito Cyn Rd	AM	PM
northbound	43	279
southbound	333	115

Traffic from the proposed Newhall Ranch land uses was then added to these volumes as discussed below.

NEWHALL RANCH PROJECT LAND USE

Figure 2 shows the amount and location of the projected land use for the Newhall Ranch project in the Chiquito Canyon area. The proposed land uses comprise 1,040 dwelling units, 1,095,000 square feet of business park, 357,000 square feet of office uses and 119,000 square feet of retail uses. East of Chiquito Canyon Road, land uses are comprised of 30 single family dwelling units and 1,380,000 square feet of business park, retail and office uses. The 30 dwelling units account for 300 ADT, with 30 AM and PM peak hour trips. The non-residential trips account for 19,682 ADT with 1968 AM and PM peak hour trips.

Near the north end of the business park on the west side of Chiquito Canyon Road, 114 single family homes are planned, which will generate 114 AM and PM peak hour trips. The remainder of the non-residential uses are located west of Business Park Road and north of SR-126. Non-residential uses are comprised of 191,000 square feet of office and retail uses, which account for 5,736 ADT (574 AM and PM peak hour trips). Residential uses west of Business Park Road consist of 896 dwelling units (633 single family and 263 multi-family homes), which account for 896 AM and PM peak hour trips.



LEGEND

NEWHALL RANCH PROJECT

VAL VERDE GROWTH

Figure 2

CHIQUITO CANYON FUTURE LAND USE

All of the residential trips from the northern residential areas were assigned to Chiquito Canyon Road. From the southern residential areas, all the multi-family dwelling unit trips and half of the single family trips were assigned to Residential Road/Business Park Road. The remaining half of single family dwelling unit trips were assigned to San Martinez Grande Road west of the area depicted here.

All of the trips from the business park were assigned to Business Park Road. Based on the overall site layout, two-thirds of the commercial office and retail trips east of Business Park Road were assigned to the southern intersection of Business Park Road/Commercial Road while the remaining one-third was assigned to the northern intersection of Business Park Road/Commercial Road. All of the office and retail trips west of Business Park Road were assigned to the southern intersection of Business Park Road/Commercial Road. The following table shows the trip generation for each type of land use:

TRIP GENERATION SUMMARY

			—AM PEAK HOUR—			—PM PEAK HOUR—			
LAND USE	UNITS		IN	OUT	TOTAL	IN	OUT	TOTAL	ADT
East of Chiquito Canyon Road									
Single Family Res	30	DU	7	23	30	20	10	30	300
Business Park	1,095,000	SF	950	167	1117	223	894	1117	11170
Office	214,000	SF							
1/3 to BP Rd/N Comm Rd			75	9	84	17	67	84	840
2/3 to BP Rd/S Comm Rd			147	16	163	33	130	163	1630
Retail	71,000	SF							
1/3 to BP Rd/N Comm Rd			144	62	206	103	103	206	2060
2/3 to BP Rd/S Comm Rd			279	119	398	199	199	398	3980
West of Chiquito Canyon Road									
Single Family Res	114	DU	26	88	114	75	39	114	1140
Office	143,000	SF	149	16	165	33	132	165	1650
Retail	48,000	SF	286	122	408	204	204	408	4080
Multi-Family Res	263	DU	60	203	263	174	89	263	2630
Single Family Res	633	DU							
1/2 to BP Rd			73	244	317	209	108	317	3170
1/2 to San Martinez Grande			73	243	316	209	107	316	3160
GRAND TOTAL			2269	1312	3581	1499	2082	3581	35810

BUSINESS PARK ROAD INTERSECTIONS

Peak hour intersection capacity utilization (ICU) calculations were performed for each of the intersections for the background plus project volumes. Figure 3 shows the lane configurations and peak hour volumes for the three intersections located along the southern portion of Business Park Road. As shown, Business Park Road would have two lanes in each direction, while Chiquito Canyon Road could remain at the existing one lane in each direction. The following table shows that each intersection operates at LOS "D" or better (i.e., ICU less than .91).

PEAK HOUR ICU SUMMARY
(With Project)

LOCATION	AM	PM
Business Park Rd/Chiquito Canyon Rd	.45	.62
Business Park Rd/Residential Rd	.54	.66
Business Park Rd/Commercial Rd	.68	.78

Individual calculations for each intersection can be found in the Appendix.

CONCLUSION

The roadway alternative plan is a viable alternative in terms of traffic impact and operational effectiveness. It can adequately serve the projected traffic demand created by the Newhall Ranch project. The section of Chiquito Canyon Road north of Business Park Road would remain at its current two-lane section, retaining its existing rural character and serving only a small increase in traffic compared to present day volumes.

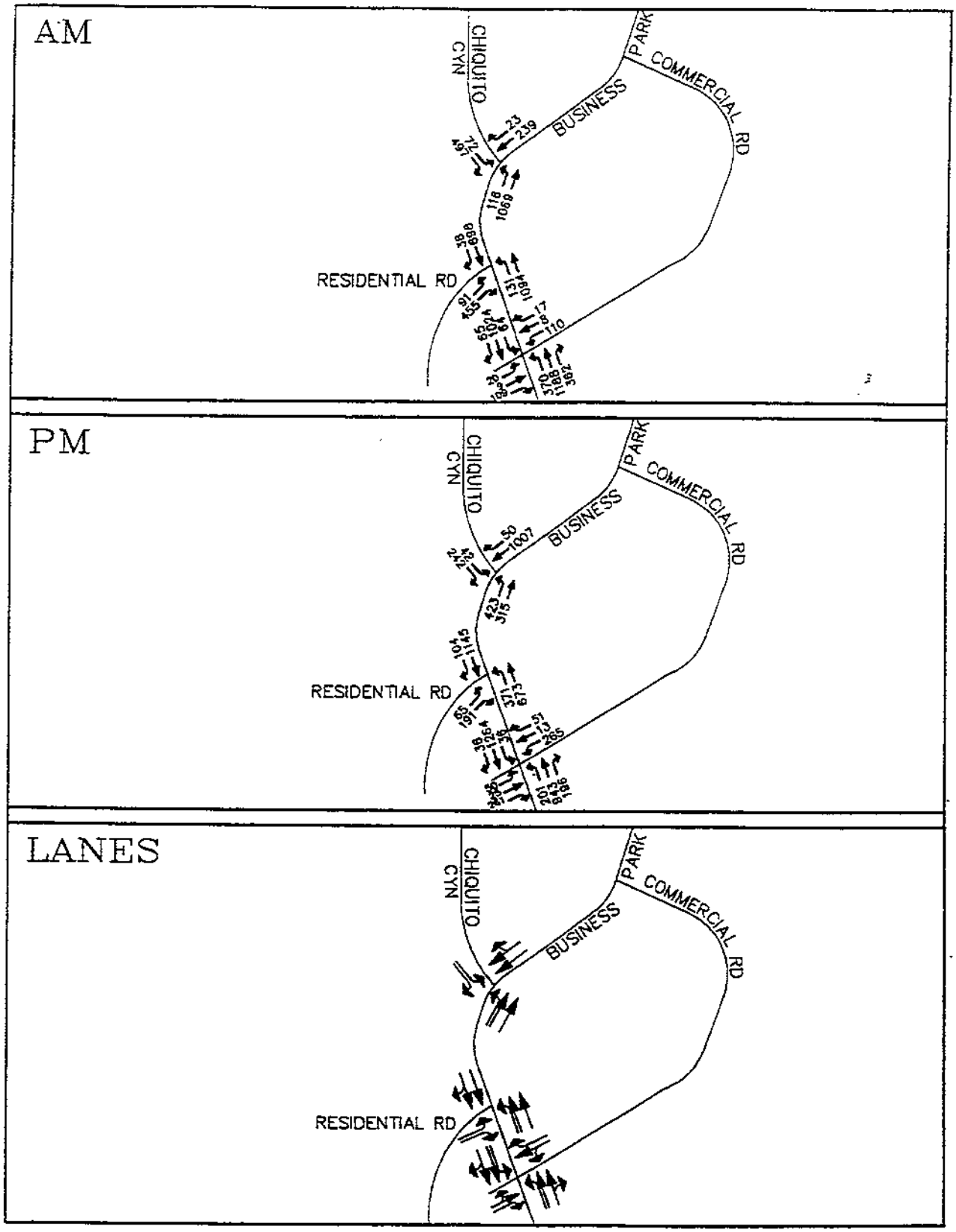


Figure 3
VOLUMES AND LANE CONFIGURATIONS BUSINESS PARK ROAD AT CHIQUITO CANYON AND COMMERCIAL ROAD

APPENDIX

The following sheets show the intersection capacity utilization (ICU) calculations for each intersection. Note that the ICUs given in the report feature a .10 reduction from these calculated values to account for long-range effects of Transportation Demand Management and signal system efficiency.

1. Business Park Rd & Chiquito

CHIQUITO CANYON BUSINESS PARK - WITH PROJECT

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	116	.07	423	.26*
NBT	2	3200	1069	.33*	315	.10
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3200	239	.08	1007	.33*
SBR	0	0	23		50	
EBL	1	1600	72	.05*	42	.03*
EBT	0	0	0		0	
EBR	1	1600	497	.31	242	.15
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.07*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.55		.72

2. BP Rd & Residential Rd

CHIQUITO CANYON BUSINESS PARK - WITH PROJECT

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	131	.08	371	.23*
NBT	2	3200	1094	.34*	673	.21
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3200	698	.23	1145	.39*
SBR	0	0	38		104	
EBL	1	1600	91	.06*	65	.04*
EBT	0	0	0		0	
EBR	1	1600	455	.28	191	.12
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.14*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.64		.76

3. BP Rd & Commercial Rd

CHIQUITO CANYON BUSINESS PARK - WITH PROJECT

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	370	.23*	201	.13*
NBT	2	3200	1188	.48	943	.36
NBR	0	0	362		196	
SBL	1	1600	64	.04	36	.02
SBT	2	3200	1024	.34*	1264	.41*
SBR	0	0	65		36	
EBL	0	0	20		50	
EBT	1	1600	9	.02*	25	.05*
EBR	1	1600	109	.07	261	.16
WBL	0	0	110	{.07}*	265	{.17}*
WBT	1	1600	8	.07	13	.17
WBR	1	1600	17	.01	51	.03
Right Turn Adjustment					EBR	.01*
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.76		.87

CHIQUITO CANYON BUSINESS PARK
ALTERNATIVE ROADWAY ANALYSIS

Technical Notes

Prepared for:

Newhall Land and Farming

Prepared by:

Austin-Foust Associates, Inc.
2020 North Tustin Avenue
Santa Ana, California 92705-7827
(714) 667-0496

April 16, 1996

CHIQUITO CANYON BUSINESS PARK
ALTERNATIVE ROADWAY ANALYSIS
Technical Notes

The purpose of these technical notes is to determine the need for signalization at each of the three intersections located along Business Park Road and to identify the percentage and corresponding trip generation of multi-axle trucks for industrial park, office, and retail land uses.

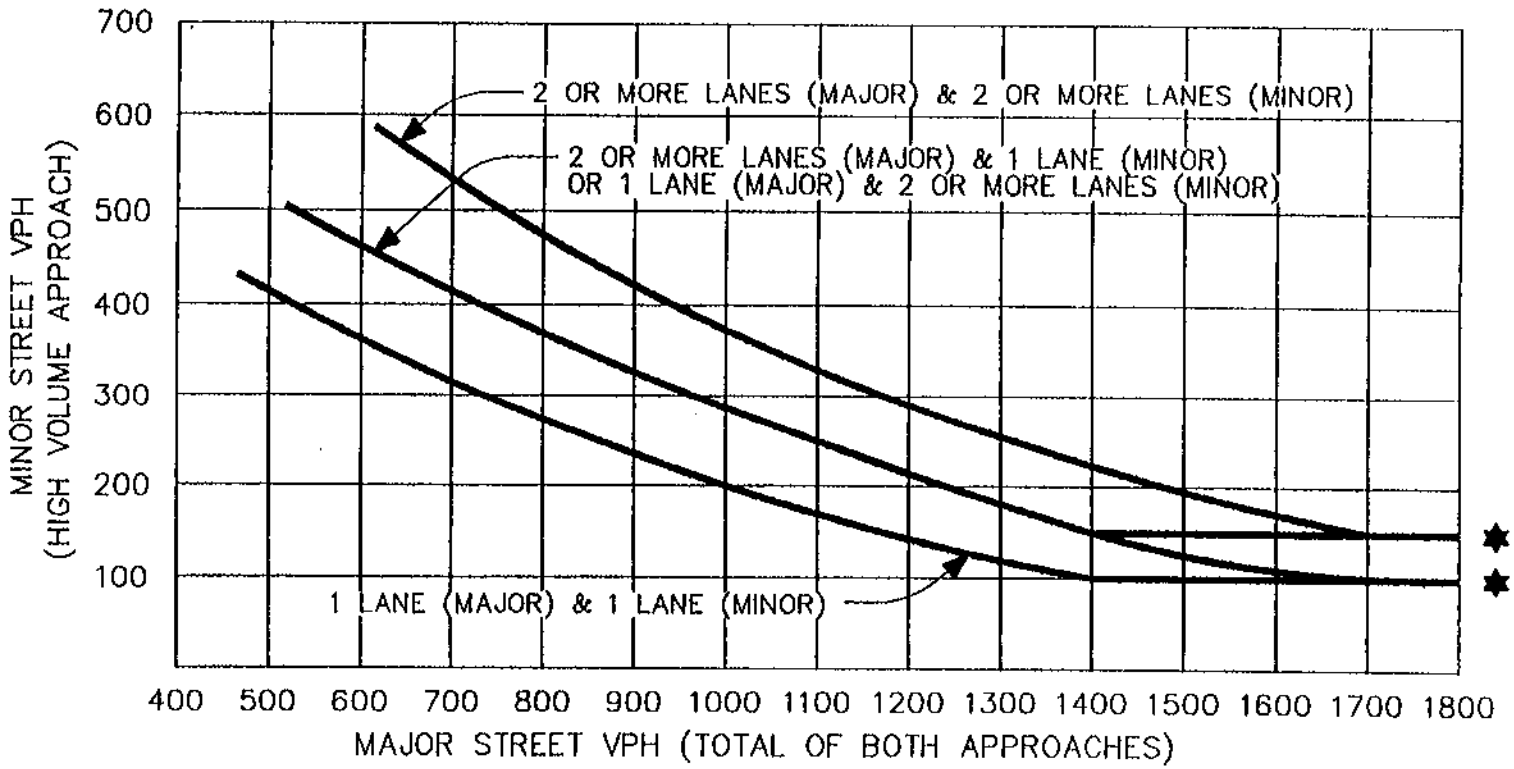
DRIVEWAY SIGNALIZATION

Traffic signal warrants, as adopted for use in California, identify the need for intersection signalization. Recent updating of signal warrants has resulted in a graph that is used for comparing peak hour intersection volumes with the minimum volume required to satisfy the warrant. It is based on the total for both approaches for the major street and the highest volume approach for the minor street. Figure 1 shows the signal warrant criteria for urban areas.

Table 1 summarizes the forecast approach volumes and the corresponding signal warrant requirements at the intersections along Business Park Road. This table uses the Los Angeles County signal warrant methodology, which excludes the right-turn volumes from the approach volumes. Left-turn phasing was assumed as each intersection, allowing the left-turn volume to be added to the minor approach. As indicated, all intersections meet the signal warrant criteria.

MULTI-AXLE TRUCK TRIPENDS

The percentage of tripends from multi-axle trucks was estimated using the truck tripend average given in the Institute of Traffic Engineer's (ITE) Trip Generation Manual which contains



✱ NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Figure 1

PEAK HOUR SIGNAL WARRANT (URBAN AREAS)

Table 1

PEAK HOUR SIGNAL WARRANT ANALYSIS

INTERSECTION		PEAK HOUR* AM	PEAK HOUR* PM
Business Park Road/Chiquito Canyon			
Major Approach	NB	1069	315
	SB	239	1007
	Total	1308	1322
Minor Approach	EB	188	465
Satisfies Warrant?		YES	YES
Business Park Road/Residential Road			
Major Approach	NB	1094	673
	SB	698	1145
	Total	1792	1818
Minor Approach	EB	222	436
Satisfies Warrant?		YES	YES
Business Park Road/Commercial Road			
Major Approach	NB	1188	943
	SB	1024	1264
	Total	2212	2207
Minor Approach	WB	552	515
Satisfies Warrant?		YES	YES

* Right-turn volumes are excluded

case studies for different types of land uses. The average for each type of non-residential land use is shown below:

PERCENTAGE OF TRUCK TRIPENDS

Land Use Type	ITE Average
Industrial Park	8%
Office	2%
Retail	2%

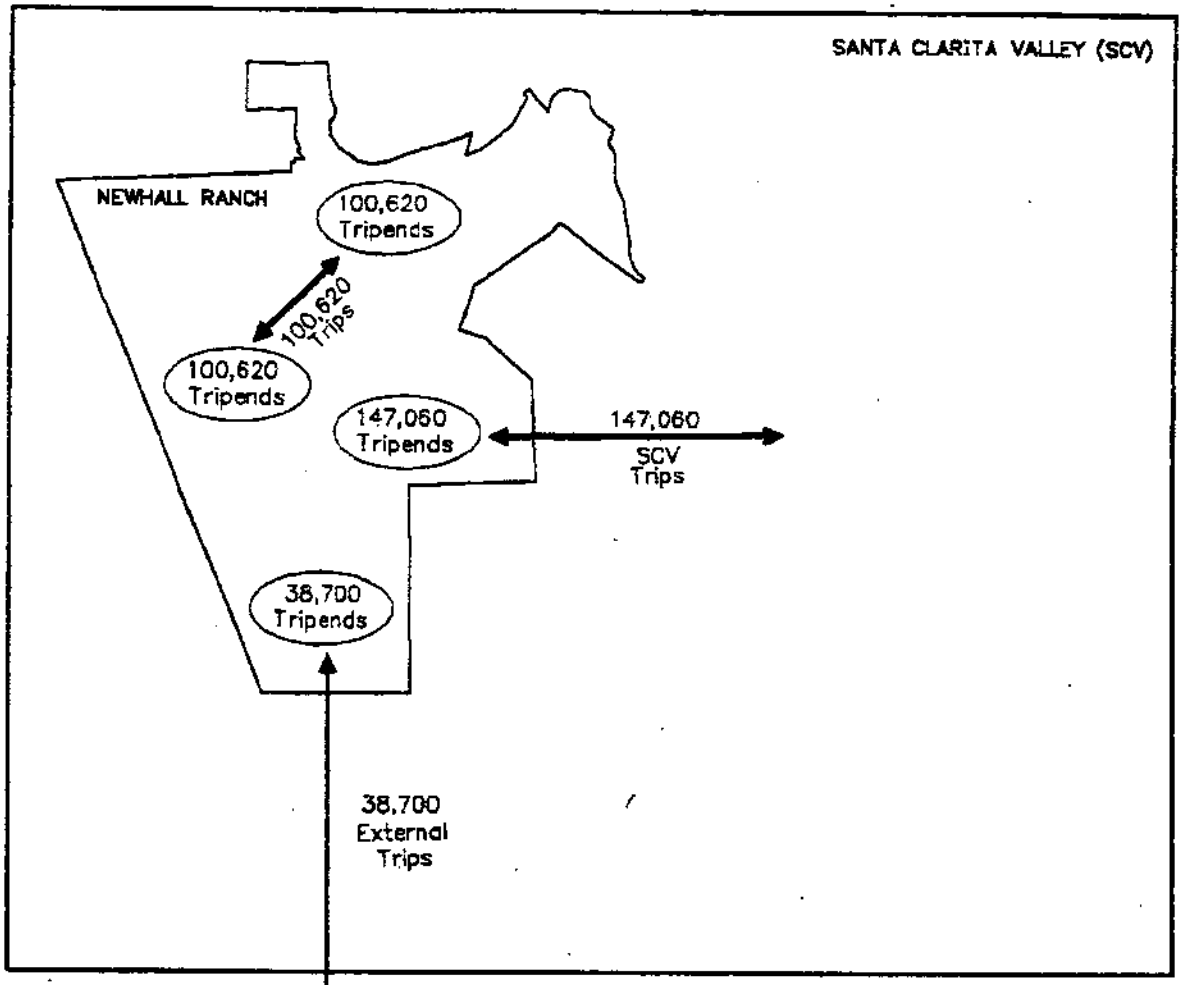
The percentage of truck tripends was applied to the previous trip generation estimates for the non-residential uses and truck tripends and non-truck tripends are shown on Table 2.

Table 2

NON-RESIDENTIAL PROJECT TRIP GENERATION

LAND USE	UNITS	—AM PEAK HOUR— IN	OUT	TOTAL	—PM PEAK HOUR— IN	OUT	TOTAL	ADT
INDUSTRIAL PARK	1,095 SF							
Truck Tripends		76	13	89	18	72	89	894
Non-Truck Tripends		874	154	1,028	205	822	1,028	10,276
TOTAL		950	167	1,117	223	894	1,117	11,170
OFFICE	357 SF							
Truck Tripends		7	1	8	2	7	9	82
Non-Truck Tripends		364	40	404	81	322	403	4,038
TOTAL		371	41	412	83	329	412	4,120
RETAIL	119 SF							
Truck Tripends		14	6	20	10	10	20	202
Non-Truck Tripends		695	297	992	496	496	992	9,918
TOTAL		709	303	1,012	506	506	1,012	10,120

NEWHALL RANCH TRIP DISTRIBUTION



OUTSIDE SANTA CLARITA VALLEY

PROJECT TRIPEND AND TRIP COMPARISON

Total Project Tripends = 387,000
Calculated as (100,620 + 100,620 + 147,060 + 38,700)
Percent Project Tripends = 52%
Calculated as (100,620(2) / 387,000)

Total Project Trips = 286,380
Calculated as (100,620 + 147,060 + 38,700)
Percent Project Trips = 35%
Calculated as (100,620 / 286,380)

NEWHALL RANCH TRIP DISTRIBUTION

File: NR-Traffic

MAY 14 1996

CC: GE, JH, TW, TA, ER
Comment Binder
I asked Barry for this a while back. This helps us substantiate our approach. Get orig to DC

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (818) 458-5100

HARRY W. STONE, Director

ADDRESS ALL CORRESPONDENCE TO:
P.O.BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

May 7, 1996

IN REPLY PLEASE REFER TO FILE: P-3

5/16

Mr. David Crowder
Project Manager
Newhall Ranch Company
23929 Valencia Boulevard, Suite 207
Valencia, CA 91355

Dear Mr. Crowder:

NEWHALL RANCH TRAFFIC MODELING

Pursuant to your request, following is a discussion of the guidelines for your use in analyzing the Newhall Ranch project.

The Newhall Ranch project as proposed will impact much of the circulation system for the Santa Clarita Valley since it represents a major change in land use west of the I-5 Freeway. A comparison of impacts of the proposed land use versus land use as designated by the County's General Plan should be made for buildout of the valley. The purpose of this analysis is to determine whether or not the planned circulation system for the Valley can accommodate traffic generated due to the proposed change in land use.

Time Frame

The project is expected to build out over 20 to 30 years; therefore, the buildout version of the traffic model which includes the buildout of both the County and City of Santa Clarita General Plans should be used. This will provide a conservative analysis of valleywide traffic since some of the remaining land will likely remain undeveloped in this time frame.

Level of Analysis

Average Daily Traffic Volume to Capacity ratio (V/C) level of detail as opposed to peak-hour level of detail should be used for analyzing impacts on the network. This methodology is appropriate for long range planning purposes.

Thresholds

A V/C of 1.0 should be considered the maximum capacity of a roadway. The project should be considered to impact a roadway link if the project causes the V/C of a link to exceed 1.0 or significantly increases the V/C of a link already projected to be greater than 1.0.

Networks and Land Use

As you are aware, the City of Santa Clarita is in the process of preparing an EIR to study alternative versions of their Master Plan of Highways. The revisions are necessary due to the City's decision to abandon the cross-valley expressway (SR-126) from I-5 to SR-14. It appears that a number of alternative networks could conceivably be a viable replacement; however, the City is just now beginning to prepare their EIR and, consequently, no environmentally preferred alternative has yet been selected. The alternative network you had in the July 1995 draft of the Newhall Ranch Traffic Study will operate in a similar fashion to the more viable alternatives being contemplated by the City.

The Newhall Ranch Traffic Report should use the following guidelines for its analyses.

> The existing General Plan network as well as the alternative network which omits the cross-valley expressway should be used to analyze project impacts. The project level analysis should be based on the buildout version of the traffic model. Impacts should be calculated using a no-project vs. with-project approach. Also a comparison of project impacts should be made with a project that is consistent with the current General Plan Land Use.
>
> If the City of Santa Clarita identifies a definitive short list of alternative networks in the near future, we may request additional analysis.

Cumulative Impacts

Cumulative Impacts should be analyzed based on the alternative network. There is no value running the General Plan network as changes by the City are eminent. Further, this will give decision makers the most accurate picture of impacts generated by Newhall Ranch and other General Plan Amendments currently in process based on a network which more closely illustrates the future roadway network. It will also illustrate a worst-case scenario in that the alternative network contained in your report (January 1996 "Newhall Ranch Traffic Analysis") does not include a "Northerly Bypass".

I hope this letter clarifies the analysis issues pertaining to your project If you have any questions, please contact Mr. Barry S. Witler at (818) 458-4351.

Very truly yours,

HARRY W. STONE
Director of Public Works

DAVID YAMAHARA
Assistant Deputy Director
Planning Division

BSW:nr
255

CHIQUITO CANYON BUSINESS PARK
ALTERNATIVE ROADWAY ANALYSIS

Prepared for:

Newhall Ranch Company

Prepared by:

Austin-Foust Associates, Inc.
2020 North Tustin Avenue
Santa Ana, California 92705-7827
(714) 667-0496

March 29, 1996

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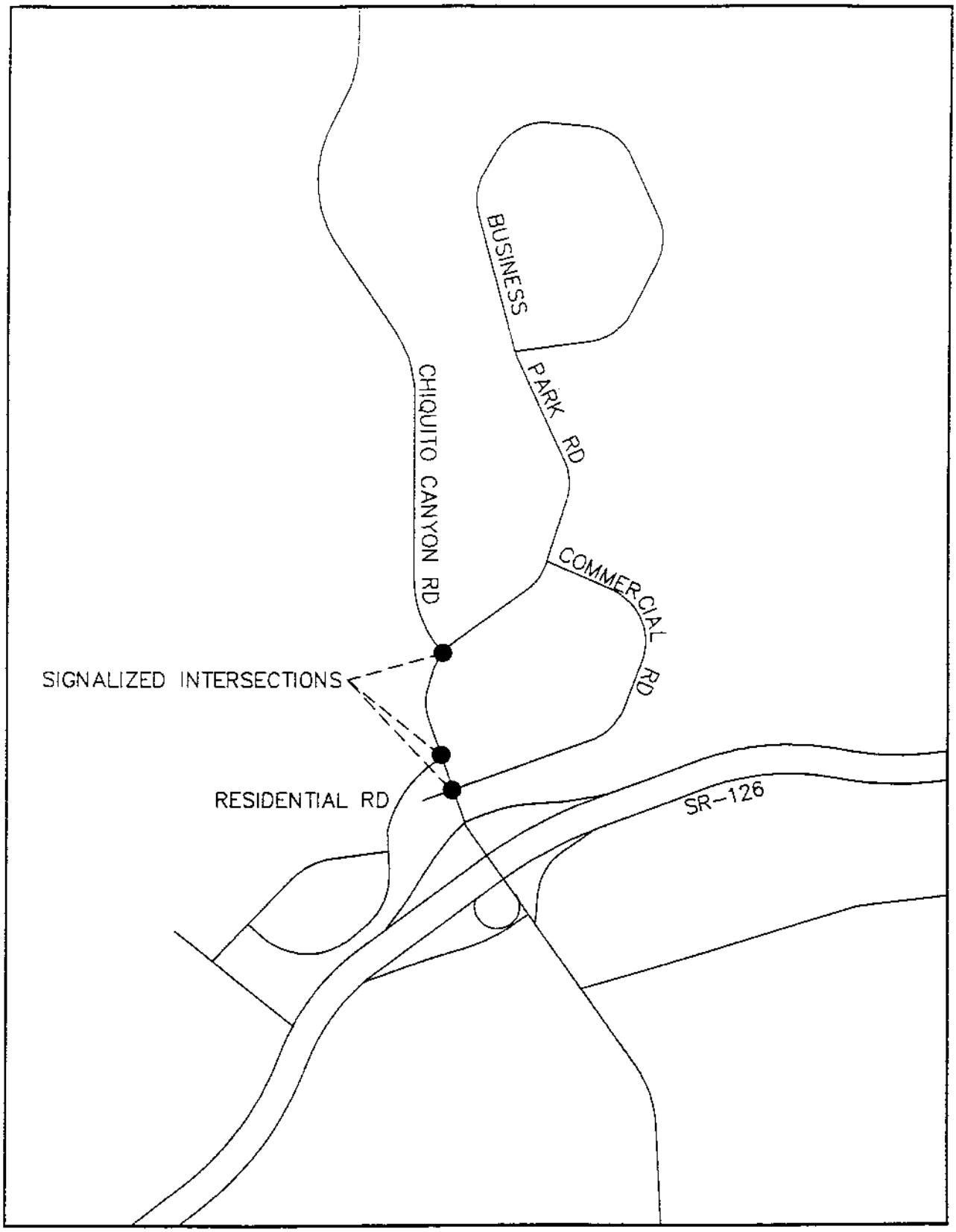

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CHIQUITO CANYON ROAD
ALTERNATIVE ROADWAY ALIGNMENT

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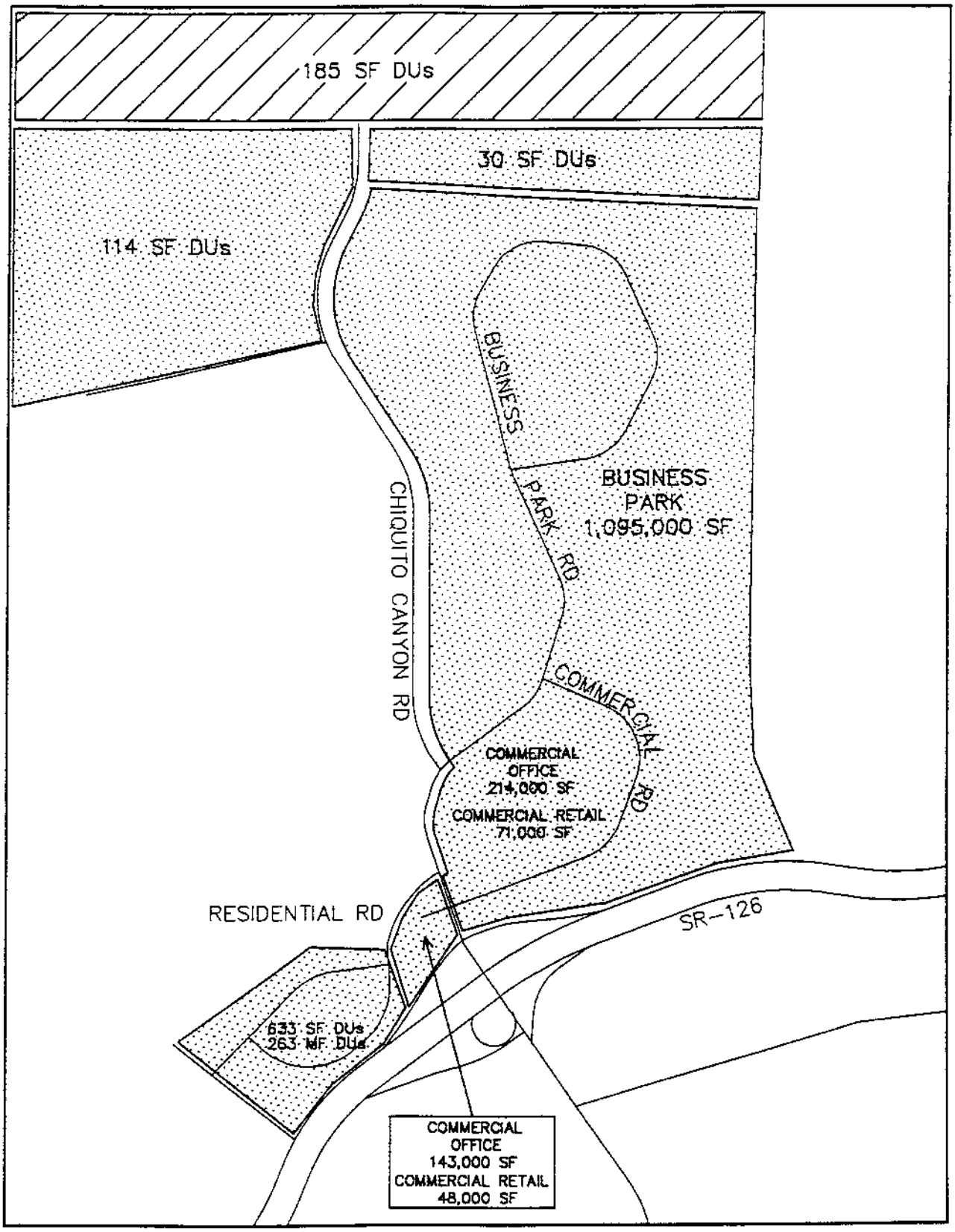
Figure 2 shows the amount and location of the projected land use for the Newhall Ranch project in the Chiquito Canyon area. The proposed land uses comprise 1,040 dwelling units, 1,095,000 square feet of business park, 357,000 square feet of office uses and 119,000 square feet of retail uses. East of Chiquito Canyon Road, land uses are comprised of 30 single family dwelling units and 1,380,000 square feet of business park, retail and office uses. The 30 dwelling units account for 300 ADT, with 30 AM and PM peak hour trips. The non-residential trips account for 19,682 ADT with 1968 AM and PM peak hour trips.

Near the north end of the business park on the west side of Chiquito Canyon Road, 114 single family homes are planned, which will generate 114 AM and PM peak hour trips. The remainder of the non-residential uses are located west of Business Park Road and north of SR-126. Non-residential uses are comprised of 191,000 square feet of office and retail uses, which account for 5,736 ADT (574 AM and PM peak hour trips). Residential uses west of Business Park Road consist of 896 dwelling units (633 single family and 263 multi-family homes), which account for 896 AM and PM peak hour trips.



LEGEND

NEWHALL RANCH PROJECT

VAL VERDE GROWTH

Figure 2

CHIQUITO CANYON FUTURE LAND USE

All of the residential trips from the northern residential areas were assigned to Chiquito Canyon Road. From the southern residential areas, all the multi-family dwelling unit trips and half of the single family trips were assigned to Residential Road/Business Park Road. The remaining half of single family dwelling unit trips were assigned to San Martinez Grande Road west of the area depicted here.

All of the trips from the business park were assigned to Business Park Road. Based on the overall site layout, two-thirds of the commercial office and retail trips east of Business Park Road were assigned to the southern intersection of Business Park Road/Commercial Road while the remaining one-third was assigned to the northern intersection of Business Park Road/Commercial Road. All of the office and retail trips west of Business Park Road were assigned to the southern intersection of Business Park Road/Commercial Road. The following table shows the trip generation for each type of land use:

TRIP GENERATION SUMMARY

		—AM PEAK HOUR—			—PM PEAK HOUR—			
LAND USE	UNITS	IN	OUT	TOTAL	IN	OUT	TOTAL	ADT
East of Chiquito Canyon Road								
Single Family Res	30 DU	7	23	30	20	10	30	300
Business Park	1,095,000 SF	950	167	1117	223	894	1117	11170
Office	214,000 SF							
1/3 to BP Rd/N Comm Rd		75	9	84	17	67	84	840
2/3 to BP Rd/S Comm Rd		147	16	163	33	130	163	1630
Retail	71,000 SF							
1/3 to BP Rd/N Comm Rd		144	62	206	103	103	206	2060
2/3 to BP Rd/S Comm Rd		279	119	398	199	199	398	3980
West of Chiquito Canyon Road								
Single Family Res	114 DU	26	88	114	75	39	114	1140
Office	143,000 SF	149	16	165	33	132	165	1650
Retail	48,000 SF	286	122	408	204	204	408	4080
Multi-Family Res	263 DU	60	203	263	174	89	263	2630
Single Family Res	633 DU							
1/2 to BP Rd		73	244	317	209	108	317	3170
1/2 to San Martinez Grande		73	243	316	209	107	316	3160
GRAND TOTAL		2269	1312	3581	1499	2082	3581	35810

BUSINESS PARK ROAD INTERSECTIONS

Peak hour intersection capacity utilization (ICU) calculations were performed for each of the intersections for the background plus project volumes. Figure 3 shows the lane configurations and peak hour volumes for the three intersections located along the southern portion of Business Park Road. As shown, Business Park Road would have two lanes in each direction, while Chiquito Canyon Road could remain at the existing one lane in each direction. The following table shows that each intersection operates at LOS "D" or better (i.e., ICU less than .91).

PEAK HOUR ICU SUMMARY
(With Project)

LOCATION	AM	PM
Business Park Rd/Chiquito Canyon Rd	.45	.62
Business Park Rd/Residential Rd	.54	.66
Business Park Rd/Commercial Rd	.68	.78

Individual calculations for each intersection can be found in the Appendix.

CONCLUSION

The roadway alternative plan is a viable alternative in terms of traffic impact and operational effectiveness. It can adequately serve the projected traffic demand created by the Newhall Ranch project. The section of Chiquito Canyon Road north of Business Park Road would remain at its current two-lane section, retaining its existing rural character and serving only a small increase in traffic compared to present day volumes.

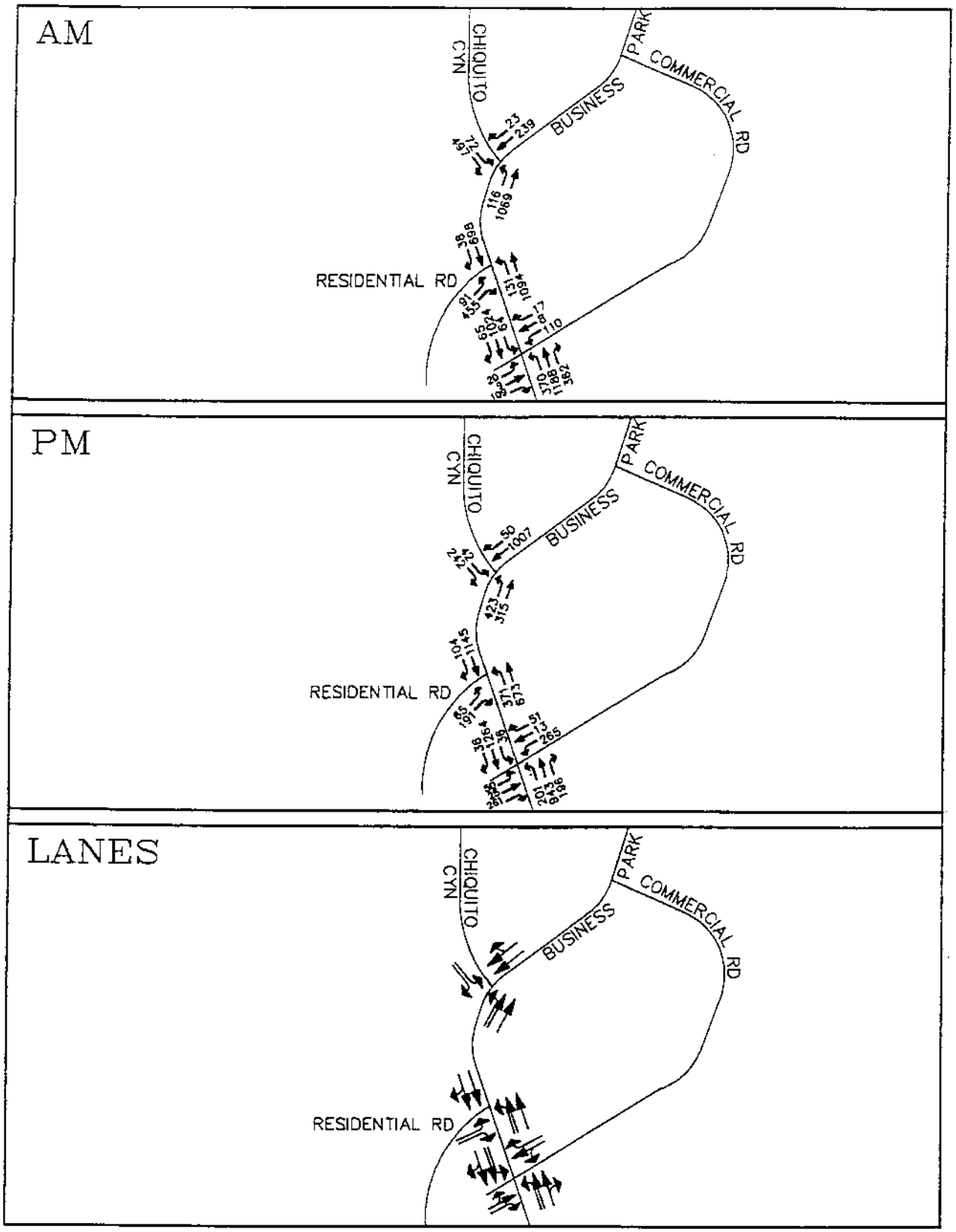


Figure 3
VOLUMES AND LANE CONFIGURATIONS
BUSINESS PARK ROAD AT CHIQUITO
CANYON AND COMMERCIAL ROAD

APPENDIX

The following sheets show the intersection capacity utilization (ICU) calculations for each intersection. Note that the ICUs given in the report feature a .10 reduction from these calculated values to account for long-range effects of Transportation Demand Management and signal system efficiency.

1. Business Park Rd & Chiquito

CHIQUITO CANYON BUSINESS PARK - WITH PROJECT

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	116	.07	423	.26*
NBT	2	3200	1069	.33*	315	.10
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3200	239	.08	1007	.33*
SBR	0	0	23		50	
EBL	1	1600	72	.05*	42	.03*
EBT	0	0	0		0	
EBR	1	1600	497	.31	242	.15
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.07*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.55		.72

2. BP Rd & Residential Rd

CHIQUITO CANYON BUSINESS PARK - WITH PROJECT

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	131	.08	371	.23*
NBT	2	3200	1094	.34*	673	.21
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3200	698	.23	1145	.39*
SBR	0	0	38		104	
EBL	1	1600	91	.06*	65	.04*
EBT	0	0	0		0	
EBR	1	1600	455	.28	191	.12
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.14*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.64		.76

3. BP Rd & Commercial Rd

CHIQUITO CANYON BUSINESS PARK - WITH PROJECT

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	370	.23*	201	.13*
NBT	2	3200	1188	.48	943	.36
NBR	0	0	362		196	
SBL	1	1600	64	.04	36	.02
SBT	2	3200	1024	.34*	1264	.41*
SBR	0	0	65		36	
EBL	0	0	20		50	
EBT	1	1600	9	.02*	25	.05*
EBR	1	1600	109	.07	261	.16
WBL	0	0	110	{.07}*	265	{.17}*
WBT	1	1600	8	.07	13	.17
WBR	1	1600	17	.01	51	.03
Right Turn Adjustment					EBR	.01*
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				**.76**		**.87**

→

CHIQUITO CANYON BUSINESS PARK
ALTERNATIVE ROADWAY ANALYSIS

Technical Notes

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CHIQUITO CANYON BUSINESS PARK
ALTERNATIVE ROADWAY ANALYSIS
Technical Notes

The purpose of these technical notes is to determine the need for signalization at each of the three intersections located along Business Park Road and to identify the percentage and corresponding trip generation of multi-axle trucks for industrial park, office, and retail land uses.

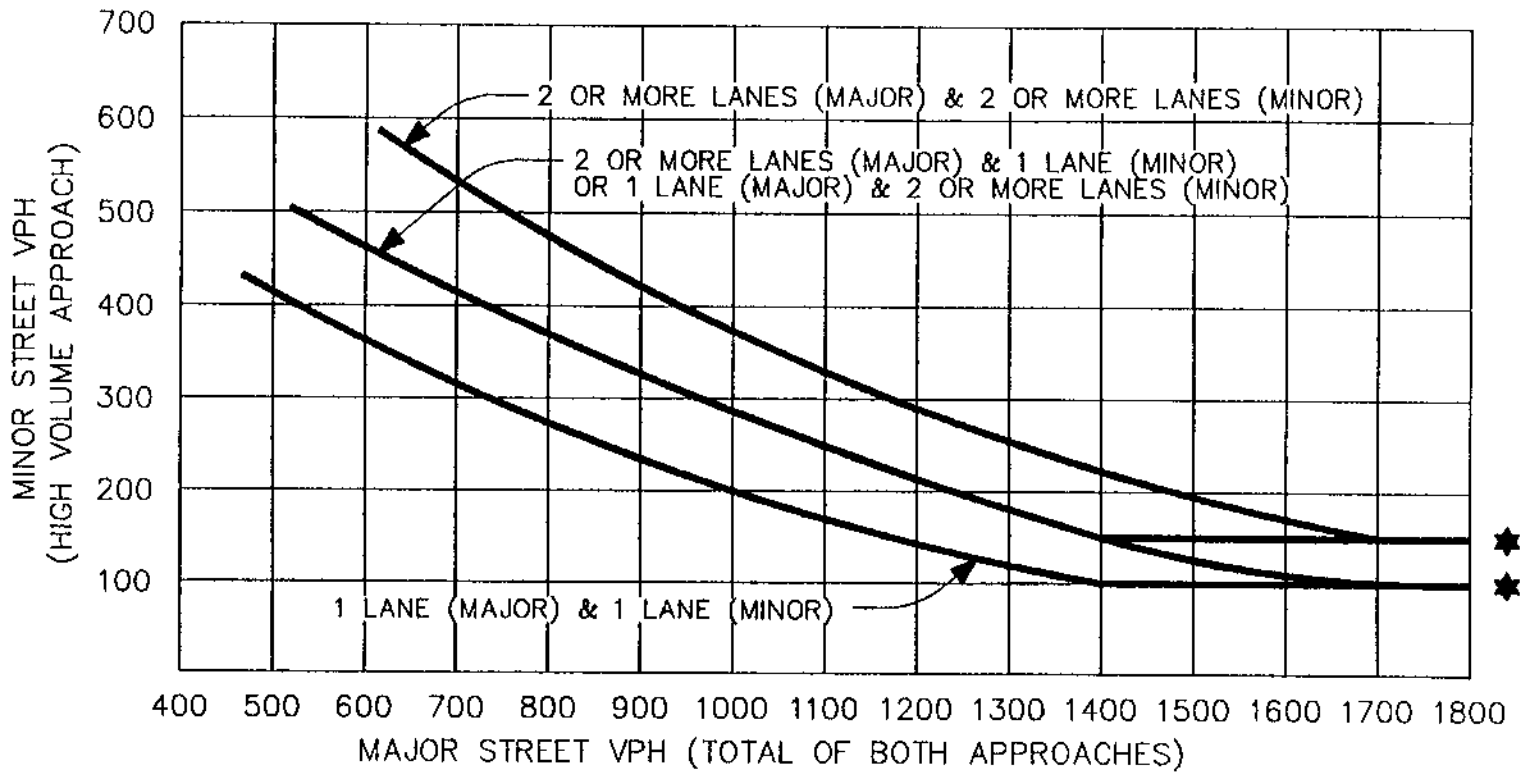
DRIVEWAY SIGNALIZATION

Traffic signal warrants, as adopted for use in California, identify the need for intersection signalization. Recent updating of signal warrants has resulted in a graph that is used for comparing peak hour intersection volumes with the minimum volume required to satisfy the warrant. It is based on the total for both approaches for the major street and the highest volume approach for the minor street. Figure 1 shows the signal warrant criteria for urban areas.

Table 1 summarizes the forecast approach volumes and the corresponding signal warrant requirements at the intersections along Business Park Road. This table uses the Los Angeles County signal warrant methodology, which excludes the right-turn volumes from the approach volumes. Left-turn phasing was assumed as each intersection, allowing the left-turn volume to be added to the minor approach. As indicated, all intersections meet the signal warrant criteria.

MULTI-AXLE TRUCK TRIPENDS

The percentage of tripends from multi-axle trucks was estimated using the truck tripend average given in the Institute of Traffic Engineer's (ITE) Trip Generation Manual which contains



✱ NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Figure 1

PEAK HOUR SIGNAL WARRANT (URBAN AREAS)

Table 1

PEAK HOUR SIGNAL WARRANT ANALYSIS

INTERSECTION		PEAK HOUR* AM	PEAK HOUR* PM
Business Park Road/Chiquito Canyon			
Major Approach	NB	1069	315
	SB	239	1007
	Total	1308	1322
Minor Approach	EB	188	465
Satisfies Warrant?		YES	YES
Business Park Road/Residential Road			
Major Approach	NB	1094	673
	SB	698	1145
	Total	1792	1818
Minor Approach	EB	222	436
Satisfies Warrant?		YES	YES
Business Park Road/Commercial Road			
Major Approach	NB	1188	943
	SB	1024	1264
	Total	2212	2207
Minor Approach	WB	552	515
Satisfies Warrant?		YES	YES

* Right-turn volumes are excluded

case studies for different types of land uses. The average for each type of non-residential land use is shown below:

PERCENTAGE OF TRUCK TRIPENDS

Land Use Type	ITE Average
Industrial Park	8%
Office	2%
Retail	2%

The percentage of truck tripends was applied to the previous trip generation estimates for the non-residential uses and truck tripends and non-truck tripends are shown on Table 2.

Table 2

NON-RESIDENTIAL PROJECT TRIP GENERATION

LAND USE	UNITS	—AM PEAK HOUR— IN	OUT	TOTAL	—PM PEAK HOUR— IN	OUT	TOTAL	ADT
INDUSTRIAL PARK	1,095 SF							
Truck Tripends		76	13	89	18	72	89	894
Non-Truck Tripends		874	154	1,028	205	822	1,028	10,276
TOTAL		950	167	1,117	223	894	1,117	11,170
OFFICE	357 SF							
Truck Tripends		7	1	8	2	7	9	82
Non-Truck Tripends		364	40	404	81	322	403	4,038
TOTAL		371	41	412	83	329	412	4,120
RETAIL	119 SF							
Truck Tripends		14	6	20	10	10	20	202
Non-Truck Tripends		695	297	992	496	496	992	9,918
TOTAL		709	303	1,012	506	506	1,012	10,120