

## 2) Issue

Would development of the project site increase the potential for erosion?

### Impacts

The disruption of natural soil profiles by grading operations would result in the exposure of subsoils to the erosive forces of wind and water, thereby temporarily increasing susceptibility to erosion. This temporary condition would exist during the grading and development process. Implementation of the mitigation measures immediately after grading would lessen this impact. The geologic units found within the California Terraces Precise Plan area (San Diego Formation; Otay Member, Rosarito Formation; and the terrace deposits) are moderately to highly erosive. Cut and fill operations could result in significant erosion if proper grading techniques are not utilized.

### Significance of the Impacts

The potential for short-term impacts from soil erosion, both on- and off-site, are considered significant. These impacts can be reduced to below a level of significance by grading and erosion-control techniques proposed in the precise plan and California Terraces and South Palm Vista VTM, as described below.

### Mitigation, Monitoring and Reporting Program

#### a) California Terrace Precise Plan

The following mitigation measures shall be a condition of approval of future tentative maps within the precise plan boundary.

1. Limiting grading to only what is permitted so that spillovers into natural areas are avoided, and native vegetation to be preserved is not trampled.
2. Watering and capping final earth surfaces to form a hardened cap.
3. Sandbagging roadbeds until paved, in order to minimize erosion and prevent sediment transport. This may need to occur on portions of Palm Avenue and Dennery Canyon Road adjacent to sideslopes of Dennery Canyon.
4. Controlling sediment production from graded building pads with low perimeter berms, sandbags, bladed ditches, or other appropriate methods.

5. Construction of on-site interim and ultimate storm drain systems to reduce the off-site impact due to construction activities and ultimate development. Drainage facilities would include channels, inlets, storm drain piping, detention basins, and outlet structures to reduce impacts to the downstream receiving waters.
6. Native areas not to be disturbed by grading shall be flagged to delineate the extent of the grading.

It shall be a condition of approval of the precise plan that the above mitigation measures be conditions of all subsequent tentative maps within the precise plan. The City of San Diego Environmental Analysis Section and City of San Diego Engineering and Development Department shall verify this is a condition of the precise plan approval prior to approval of the precise plan.

**b) California Terraces and South Palm Vista Vesting Tentative Maps**

Specific measures to reduce potentially significant impacts to below a level of significance for the California Terraces and South Palm Vista VTMs as made a condition of approval include the following:

1. Limiting grading to only what is permitted so that spillovers into natural areas are avoided, and native vegetation to be preserved is not trampled.
2. Watering and capping final earth surfaces to form a hardened cap.
3. Sandbagging roadbeds (where necessary) until paved, in order to minimize erosion and prevent sediment transport. This may need to occur on portions of Palm Avenue.
4. Controlling sediment production from graded building pads with low perimeter berms, sandbags, bladed ditches, or other appropriate methods.
5. Construction of on-site interim and ultimate storm drain systems to reduce the off-site impact due to construction activities and ultimate development. Drainage facilities would include channels, inlets, storm drain piping, detention basins, and outlet structures to reduce impacts to the downstream receiving waters.
6. Native areas not to be disturbed by grading shall be flagged to delineate the extent of the grading.

Implementation Schedule. A note shall be included on the grading plans that these measures are conditions of approval of the tentative maps. The City of San Diego

Environmental Analysis Section and City of San Diego Engineering and Development Department shall ensure these measures are conditions of the tentative map prior to approval of the tentative map. Prior to the issuance of grading permits, EAS and EDD shall review the grading plans to ensure that these measures are on the plans. The applicant shall retain a soils engineer to monitor the grading and construction. At its discretion, the Planning Department shall conduct field inspections during grading. Only after the Planning Director and the City Engineer approve the grading and other appropriate improvements, a recommendation may be made to the City Council for the release of the subdivision bond.

### 3) Issue

Would compliance with the City's brush management program result in increased erosion?

### Impacts

The proposed brush management programs and their consistency with the City's Landscape Technical Manual are discussed in the Landform Alteration/Visual Quality section of this EIR. Potential impacts related to the clearing of a firebreak include increased soil erosion, slope failure, and downstream sedimentation. The conceptual brush management plan for the California Terraces Precise Plan is shown as Figure 23. The brush management plans for the California Terraces and South Palm VTM are shown as Figures 24 and 25, respectively.

When grading for house pads and firebreaks, sensitive grading techniques would take into account the potential for soil erosion. Grading would be limited to the minimum area necessary. Further, an effective landscape maintenance plan requiring weed- and debris-free planting areas would be implemented as a requirement of the HR permit and subsequent VTMs. These measures, in addition to the mitigation measures outlined below, would effectively reduce the potential for increased erosion resulting from compliance with the City's brush management program.

### Significance of the Impacts

Potentially significant impacts relating to erosion could result from implementation of the brush management and irrigation plan for the California Terraces Precise Plan, California Terraces VTM, and the South Palm Vista VTM.

## Mitigation, Monitoring, and Reporting Program

### a) California Terraces Precise Plan

It shall be a condition of all tentative maps within the precise plan area to prepare a detailed brush management program consistent with the guidelines of the City's Landscape Technical Manual. The plans shall address the plant fuel load clearance required for fire safety. While clearance and plant fuel load reduction is necessary for fire safety, erosion-control measures are included in the brush management program and the California Terraces Precise Plan. These control measures shall be a condition of future tentative maps within the precise plan area. These measures include the limitations on brush removal as noted in the brush management program, sensitive grading techniques, the planting of fire-resistant native ground covers in and around the natural chaparral after grading, a landscape maintenance program, and brush removal methods that do not disturb existing root systems. The applicant shall clearly indicate on the grading and landscape plans the areas that are to receive brush management treatment and maintenance. These measures and programs for the proposed VTMs are discussed in more detail in the Landform Alteration/Visual Quality section. These measures offer adequate safety precautions against erosion and subsequent downstream sedimentation. Brush management zones 2 and 3 would be linear zones placed under common ownership and maintained by a homeowner's association to insure long-term compliance with the brush management program. Clearing and thinning of these zones shall be done on a regular schedule by a professional contractor. Therefore, compliance with the City's brush management program would not result in increased erosion.

Implementation Schedule. It shall be a condition of approval of the precise plan that the above mitigation measures be conditions of all subsequent tentative maps within the precise plan. The City of San Diego Planning Department and City of San Diego Fire Department shall verify this is a condition of the precise plan approval prior to approval of the precise plan.

### b) California Terraces and South Palm Vista Vesting Tentative Maps

Specific measures to reduce potentially significant erosional impacts to below a level of significance for the California Terraces and South Palm Vista VTMs shall be a condition of approval of the VTMs. Approval of the VTMs shall require a detailed brush management program consistent with the guidelines of the City's Landscape Technical Manual.

A note shall be included on the grading and landscape plans requiring the applicant to notify the City of San Diego Environmental Analysis Section two weeks before grading begins and for the follow-up inspection after grading is complete. Prior to the issuance of

grading permits, EAS shall review the grading plans to ensure that measures regarding geotechnical, landscaping, irrigation, and soils issues are on the plans. The applicant shall retain a soils engineer to monitor the grading and construction. At its discretion, the Planning Department shall conduct field inspections during grading to verify the brush management program is being implemented according to the plan. Only after the Planning Director and the City Engineer approve the final grading and other appropriate improvements, a recommendation may be made to the City Council for the release of the subdivision bond.

## D. Biological Resources

Biological and zoological field surveys of the precise plan project site, excluding the South Palm Vista VTM area, were performed in 1980 by RBR and Associates and on April 14, 15, and 29 and May 2, 1988, by RECON. The South Palm Vista VTM portion of the project was surveyed by RECON on July 3, November 29, and November 30 of 1989 and March 12 of 1990. Additional vernal pool surveys were conducted April 2 and 9, 1991. The biological report compiling the information gathered during these surveys is included as Appendix B to this EIR and is summarized below. An update to the biology report was prepared based on field surveys conducted on August 10, 1992. The results of this update are provided in Attachment 1 to Appendix B. Additionally, the biological impact acreages have changed since the time of the survey report due to changes in the project design, and the correct acreages are provided in the following discussions.

### Existing Conditions

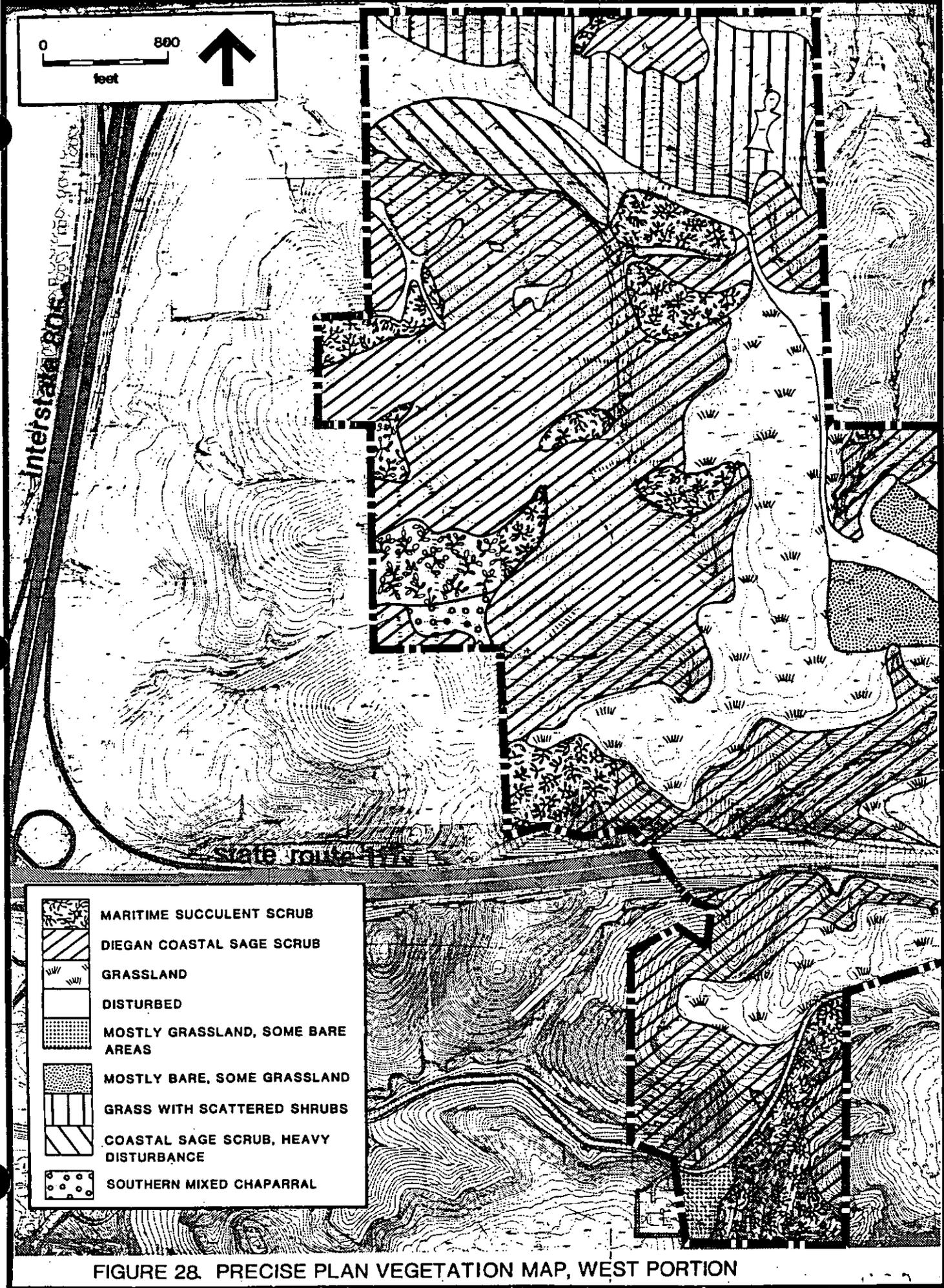
#### a) Vegetation and Wildlife

##### California Terraces Precise Plan Area

Five plant communities as classified by the California Department of Fish and Game (CDFG) (Holland 1986) are present; Diegan coastal sage scrub, maritime succulent scrub, southern mixed chaparral, nonnative grassland, and San Diego mesa claypan vernal pools (included in coastal sage scrub and disturbed areas). Vegetation is shown on Figures 28 and 29 for the precise plan area.

The Diegan coastal sage scrub is dominated by coastal sagebrush (*Artemisia californica*), with lemonadeberry (*Rhus integrifolia*) and toyon (*Heteromeles arbutifolia*) as common constituents on the steep slopes of the canyons. Within the precise plan area, this community occupies 286 acres (43 percent). On the mesas, coastal sage scrub occurs where there has been little or no disturbance and is often interspersed among native and nonnative grasslands. Much of the nonnative grassland which currently exists was likely once coastal sage scrub.

Maritime succulent scrub occupies 65.7 acres (10 percent) of the precise plan area, occurring on many of the steep canyon slopes and along the mesa rims. This low-growing scrub is dominated by drought-deciduous shrubs with a mixture of succulents, including cactus. Characteristic species are coastal sagebrush, cliff spurge (*Euphorbia misera*), coast barrel cactus (*Ferocactus viridescens*), jojoba (*Simmondsia chinensis*), coast cholla (*Opuntia prolifera*), fishhook cactus (*Mammillaria dioica*), San Diego bur-sage (*Ambrosia chenopodiifolia*), and San Diego sunflower (*Viguiera laciniata*).



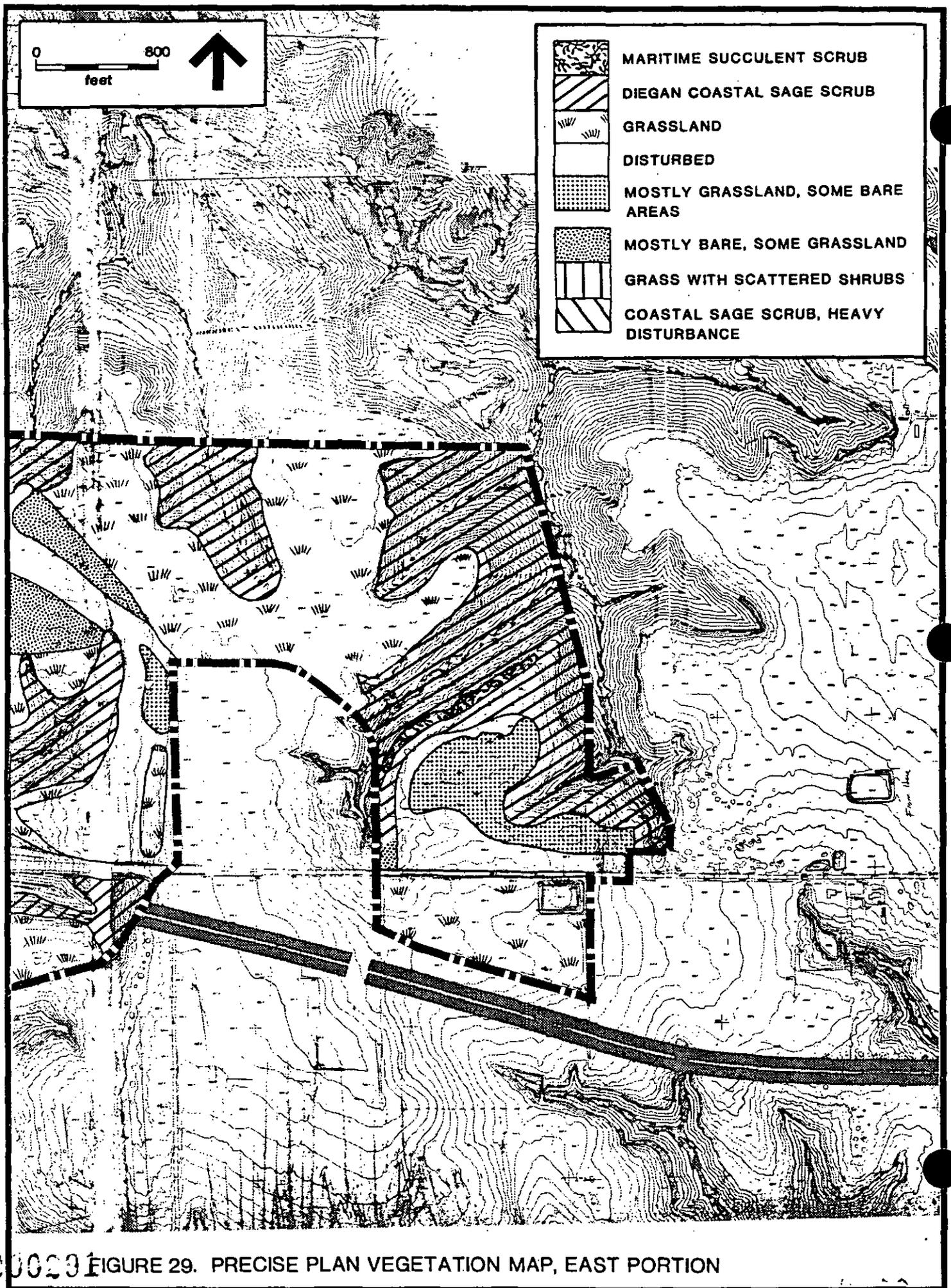
0 800  
feet ↑

Interstate 805

State route 163

-  MARITIME SUCCULENT SCRUB
-  DIEGAN COASTAL SAGE SCRUB
-  GRASSLAND
-  DISTURBED
-  MOSTLY GRASSLAND, SOME BARE AREAS
-  MOSTLY BARE, SOME GRASSLAND
-  GRASS WITH SCATTERED SHRUBS
-  COASTAL SAGE SCRUB, HEAVY DISTURBANCE
-  SOUTHERN MIXED CHAPARRAL

FIGURE 28. PRECISE PLAN VEGETATION MAP, WEST PORTION



00029 FIGURE 29. PRECISE PLAN VEGETATION MAP, EAST PORTION

Southern mixed chaparral occupies 1.8 acres (0.3 percent) and is dominated by evergreen, sclerophyllous shrub species such as toyon, lemonadeberry, and scrub oak (*Quercus dumosa*). The southern mixed chaparral is located exclusively within the South Palm Vista VTM area.

Nonnative grassland covers the majority of the mesas within the precise plan (244 acres, 37 percent). Dominant species include slender wild oat (*Avena barbata*), riggut grass (*Bromus diandrus*), foxtail fescue (*Festuca megalura*), rat-tailed fescue (*Festuca myuros*), Italian ryegrass (*Lolium perenne* ssp. *multiflorum*), and foxtail (*Hordeum jubatum*). Many weedy species mix with the grasses, including black mustard (*Brassica nigra*), Australian saltbush (*Atriplex semibaccata*), and tocolote (*Centaurea melitensis*). The grasslands cover areas that have been used for agriculture in the past. In some areas where the grassland and the coastal sage scrub adjoin, coastal sagebrush is reestablishing as scattered individuals. Large areas of the grassland have been denuded by intense off-road-vehicle activity.

Thirty-two vernal pools representing approximately 11,342 square feet of surface area exist in six locations on the mesa within the boundaries of the precise plan. Total estimated watershed for the six areas is 3.1 acres. These pools are part of the San Diego mesa claypan vernal pool community complex which occurs on marine terraces between San Diego and Ensenada. This community is comprised of both the pool basins and associated mima mound topography where still intact. Species representative of vernal pools on Otay Mesa and observed in the pools in the precise plan and California Terraces tentative map include San Diego button celery (*Eryngium aristulatum* var. *parishii*), woollyheads (*Psilocarphus brevissimus*), and toad-rush (*Juncus bufonius*).

Sampling of the vernal pools within the California Terraces Precise Plan for the presence of fairy shrimp was done in June 1992. Dry soil samples were collected both from basins which contained dried vegetation typical of vernal pools (woollyheads) and from those which were devoid of vegetation. Hydration of these soil samples indicated that the San Diego fairy shrimp (*Branchinecta sandiegense*) were present only in the vernal pools within the South Palm Vista TM area. Fairy shrimp were not present in the remainder of the pools within the precise plan.

Other vernal pools are present off-site, to the east of the subject property. In contrast to on-site pools, these support little mousetail (*Myosurus minimus* var. *apus*) and prostrate navarretia (*Navarretia fossalis*). Vernal pools on the property, and Otay Mesa in general, have been studied for many years (see Appendix B).

The canyons on the property show a relatively high diversity of wildlife when compared to the mesas, which have been subjected to disturbance for a number of years. Several species of mammals were identified. Ground squirrel (*Spermophilus beecheyi*), desert cottontail (*Sylvilagus auduboni*), San Diego black-tailed jackrabbit (*Lepus californicus*

*bennettii*), valley pocket gopher (*Thomomys bottae*), and mouse (*Perognathus* spp. and *Peromyscus* spp.) are common on the mesa in sparse shrub habitat and on the upper canyon slopes. Bobcat (*Lynx rufus*), coyote (*Canis latrans*), mule deer (*Odocoileus hemionus*), rabbits, and various rodent species are present in the canyons.

Rattlesnakes (*Crotalus* sp.) were observed on the mesas and in the canyons. Pacific tree frogs (*Hyla regilla*) were found in areas of standing water and one San Diego horned lizard (*Phrynosoma coronatum blainvillei*) was seen near a canyon rim. Another horned lizard was observed within the southwestern portion of the project. Horned lizards would be expected in sandy areas, such as the bottom of the canyon on the south side of SR-905.

Birds observed during surveys of the property include meadowlark (*Sturnella neglecta*), house finch (*Carpodacus mexicanus frontalis*), and California horned lark (*Eremophila alpestris actia*) and are common on the mesas. The canyons support a variety of birds including wren-tit (*Chamaea fasciata henshawi*), coastal California gnatcatcher (*Poliophtila californica californica*), Bewick's wren (*Thyromanes bewickii*), and California towhee (*Pipilo crissalis*). Several raptors were observed on the site, including black-shouldered kite (*Elanus caeruleus*), red-tailed hawk (*Buteo jamaicensis*), and American kestrel (*Falco sparverius*).

### California Terraces VTM Area

Four of the five plant communities within the precise plan area are located within the California Terraces VTM area: Diegan coastal sage scrub (218.9 acres, 40 percent), maritime succulent scrub (50.3 acres, 9 percent), San Diego mesa claypan vernal pools (25 pools encompassing 8,692 square feet of pool surface area and 2.8 acres of watershed), and nonnative grassland (227.5 acres, 42 percent). Plant community composition and structure for coastal sage scrub, maritime succulent scrub, and nonnative grassland are similar to that described for the precise plan.

Wildlife use of this site was similar to that observed within the California Terraces Precise Plan area.

### South Palm Vista VTM Area

Four of the five plant communities located within the precise plan area are found within the 27.3-acre South Palm Vista VTM area: Diegan coastal sage scrub (9.5 acres, 34.8 percent), maritime succulent scrub (15.4 acres, 56.4 percent), San Diego mesa claypan vernal pools (7 pools encompassing approximately 2,650 square feet of surface area with an estimated watershed of 0.3 acre), and southern mixed chaparral (2.4 acres, 8.8 percent). This is the only location of southern mixed chaparral within the precise plan area. Plant community composition and structure for coastal sage scrub and maritime succulent scrub are similar to that described for the precise plan. Southern mixed

chaparral is composed of evergreen sclerophyllous shrub species such as lemonadeberry, toyon, and scrub oak.

The mesa top has slight depressions surrounded by mima mound topography. One depression contained a plant species indicative of vernal pools, woollyheads, although no standing water was evident at the time of the survey. Additional surveys were performed on April 2, 1991, after the onset of spring rains. A follow-up survey was performed on April 9 to confirm or locate and map vernal pools within the boundaries of this VTM. During the April surveys, seven depressions were confirmed as vernal pools based upon ponding of water and presence of floral indicator species such as woollyheads and flowering quillwort (*Lillea scilloides*).

Wildlife use of this site also was similar to that discussed in the previous existing conditions section.

#### b) Sensitive Resources

In the past several years, a number of animal and plant species have been added to both the state and federal candidate lists. While these species were not the subject of specific searches in 1988, some were observed. The majority are mentioned herein, listed in Tables 6 and 7, and are discussed in greater detail in the biological technical report.

#### California Terraces Precise Plan and VTM Area

Identified sensitive resources are shown on Figures 30 and 31 and discussed below.

**Habitats.** The San Diego claypan vernal pool community is considered a high-priority community by the California Natural Diversity Data Base (Holland 1986), a program within the Nongame-Heritage Program of CDFG, and sensitive by the City of San Diego, the U.S. Fish and Wildlife Service (USFWS), and a number of southern California conservation organizations. In addition, the U.S. Army Corps of Engineers regulates vernal pools as isolated waters of the United States. As temporal wetland systems, vernal pools support a unique assemblage of plant and animal species, many of which cannot persist outside of this environment. A few of these species are endemic, occurring only in a very restricted geographical range (Zedler 1987). In southern California, vernal pools are found on coastal terraces that are flat and very desirable for both development and agriculture, which has led to losses which exceed 90 percent for this habitat type county-wide in the last century. From an estimated 28,595 acres of vernal pool habitat (which included the basins and associated mima mound topography) existing in the 1880s, only 3,699 acres of pools remained by 1979. An additional 28 percent of these pools were lost in the following eight years, leaving 2,657 acres of pools (9.3 percent) in 1986 (Bauder 1986). It is estimated that only 5 percent of the vernal pool acreage which once existed in San Diego County is present today (Oberbauer and Vanderwier 1991).

TABLE 6  
SENSITIVE WILDLIFE SPECIES OBSERVED (†) OR EXPECTED TO OCCUR

Species	State/ Federal	Other Status	Comments
<u>Invertebrates</u>			
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	--/C1		Vernal pools.
San Diego fairy shrimp <i>Brachinecta sandiegense</i>	--/--	*	Vernal pools.
Checkerspot butterfly <i>Euphydryas editha quino</i>	--/C2		Open, dry areas in low foothills, mesas, lake margins. Larval host plant <i>Plantago erecta</i> , adult emergence mid-January through April.
<u>Amphibians</u>			
Western spadefoot toad <i>Scaphiopus hammondi</i>		CSC	Vernal pools.
<u>Reptiles</u>			
San Diego horned lizard† <i>Phrynosoma coronatum blainvillii</i>	--/C2	CSC	Chaparral, coastal sage scrub with fine loose soil. Dependent on harvester ants for forage.
Orange-throated whiptail† <i>Cnemidophorus hyperythrus beldingi</i>	--/C2	CSC	Chaparral, coastal sage scrub with coarse sandy soils.
Coastal western whiptail <i>Cnemidophorus tigris multiscutatus</i>	--/C2	CSC	Chaparral, coastal sage scrub with coarse sandy soils.
Two-striped garter snake <i>Thamnophis hammondi</i>	--/C2	HT,SDC	Permanent freshwater streams with rocky bottoms, riparian vegetation.

000000

000000

**TABLE 7**  
**SENSITIVE PLANT SPECIES**  
**OBSERVED (†) OR WITH THE POTENTIAL FOR OCCURRENCE**

Species	State/Federal Status	CNPS List	CNPS Code	Comments
<i>Acanthomintha ilicifolia</i> San Diego thornmint	CE/C1	1B	2-3-2	Chaparral, coastal sage scrub, valley and foothill grassland/clay
<i>Ambrosia chenopodiifolia</i> † San Diego bur-sage	--/--	2	2-2-1	Coastal sage scrub
<i>Artemisia palmeri</i> San Diego sagewort	--/--	2	2-2-1	Coastal sage scrub, streams
<i>Brodiaea orcuttii</i> Orcutt's brodiaea	--/C2	1B	1-3-2	Closed-cone coniferous forest, meadows, cismontane woodland, valley and foothill grassland, vernal pools
<i>Dudleya attenuata</i> ssp. <i>orcuttii</i> Orcutt's dudleya	--/C2	2	3-3-1	Coastal sage scrub
<i>Dudleya variegata</i> Variegated dudleya	--/C2	4	1-2-2	Chaparral, coastal sage scrub, clay soils
<i>Ericameria palmeri</i> ssp. <i>palmeri</i> Palmer's ericameria	--/C2	2	2-2-1	Coastal sage scrub
<i>Eryngium aristulatum</i> var. <i>parishii</i> † San Diego button celery	CE/FPE	1B	1-3-2	Vernal pools
<i>Euphorbia misera</i> † Cliff spurge	--/--	2	2-2-1	Coastal sage scrub, maritime succulent scrub
<i>Ferocactus viridescens</i> † Coast barrel cactus	--/C2	2	1-3-1	Chaparral, coastal sage scrub, valley and foothill grassland
<i>Hemizonia conjugens</i> † Otay tarplant	CE/C2	1B	3-3-2	Coastal sage scrub, grassland
<i>Myosurus minimus</i> ssp. <i>apus</i> Little mousetail	--/C2	3	2-3-2	Vernal pools
<i>Navarretia fossalis</i> Prostrate navarretia	--/C2	1B	2-3-2	Vernal pools
<i>Opuntia parryi</i> var. <i>serpentina</i> † Snake cholla	--/C2	1B	3-3-2	Chaparral, coastal sage scrub, maritime succulent scrub

**TABLE 7**  
**SENSITIVE PLANT SPECIES**  
**OBSERVED (†) OR WITH THE POTENTIAL FOR OCCURRENCE**  
**(continued)**

Species	State/Federal Status	CNPS List	CNPS Code	Comments
<i>Pogogyne nudiuscula</i> Otay mesa mint	CE/FPE	1B	3-3-2	Vernal pools
<i>Rosa minutifolia</i> † Small-leaved rose	CE/--	2	3-3-1	Coastal sage scrub
<i>Selaginella cinerascens</i> † Asby spikemoss	--/--	4	1-2-1	Chaparral, coastal sage scrub
<i>Stipa diegoensis</i> San Diego County needle grass	--/--	2	3-1-1	Vernal streams, chaparral
<i>Viguiera laciniata</i> † San Diego sunflower	--/--	2	1-2-1	Chaparral, coastal sage scrub

NOTE: See Table 8 for explanation of sensitivity codes.

**TABLE 8  
SENSITIVITY CODES**

**FEDERAL CANDIDATES AND LISTED PLANTS**

- FE = Federally listed, endangered
- FT = Federally listed, threatened
- C1 = Enough data are on file to support a proposal for the federal listing
- C1\* = Enough data are on file to support a proposal for federal listing, but the plant is presumed extinct
- C2 = Threat and/or distribution data are insufficient to support federal listing
- C2\* = Threat and/or distribution data are insufficient to support federal listing; plant presumed extinct
- C3a = Extinct
- C3b = Taxonomically invalid
- C3c = Too widespread and/or not threatened

**STATE LISTED PLANTS**

- CE = State listed, endangered
- CR = State listed, rare
- CT = State listed, threatened

**CALIFORNIA NATIVE PLANT SOCIETY**

**LISTS**

- 1A = Species presumed extinct.
- 1B = Species rare, threatened, or endangered in California and elsewhere. These species are eligible for state listing.
- 2 = Species rare, threatened, or endangered in California but which are more common elsewhere. These species are eligible for state listing.
- 3 = Species for which more information is needed. Distribution, endangerment, and/or taxonomic information is needed.
- 4 = A watch list of species of limited distribution. These species need to be monitored for changes in the status of their populations.

**R-E-D CODES**

**R (Rarity)**

- 1 = Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time.
- 2 = Occurrence confined to several populations or to one extended population.
- 3 = Occurrence limited to one or a few highly restricted populations, or present in such small numbers that it is seldom reported.

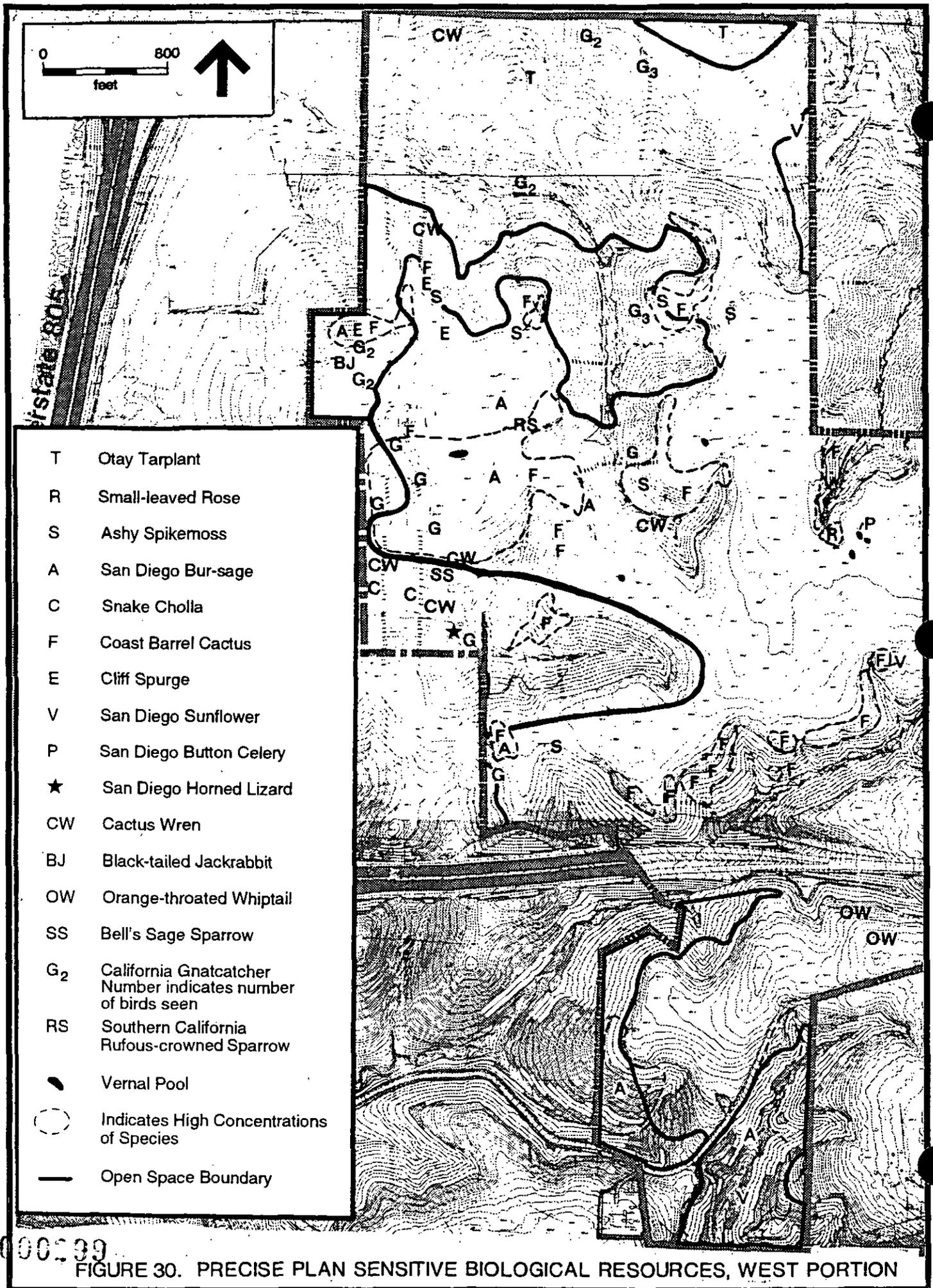
**E (Endangerment)**

- 1 = Not endangered
- 2 = Endangered in a portion of its range
- 3 = Endangered throughout its range

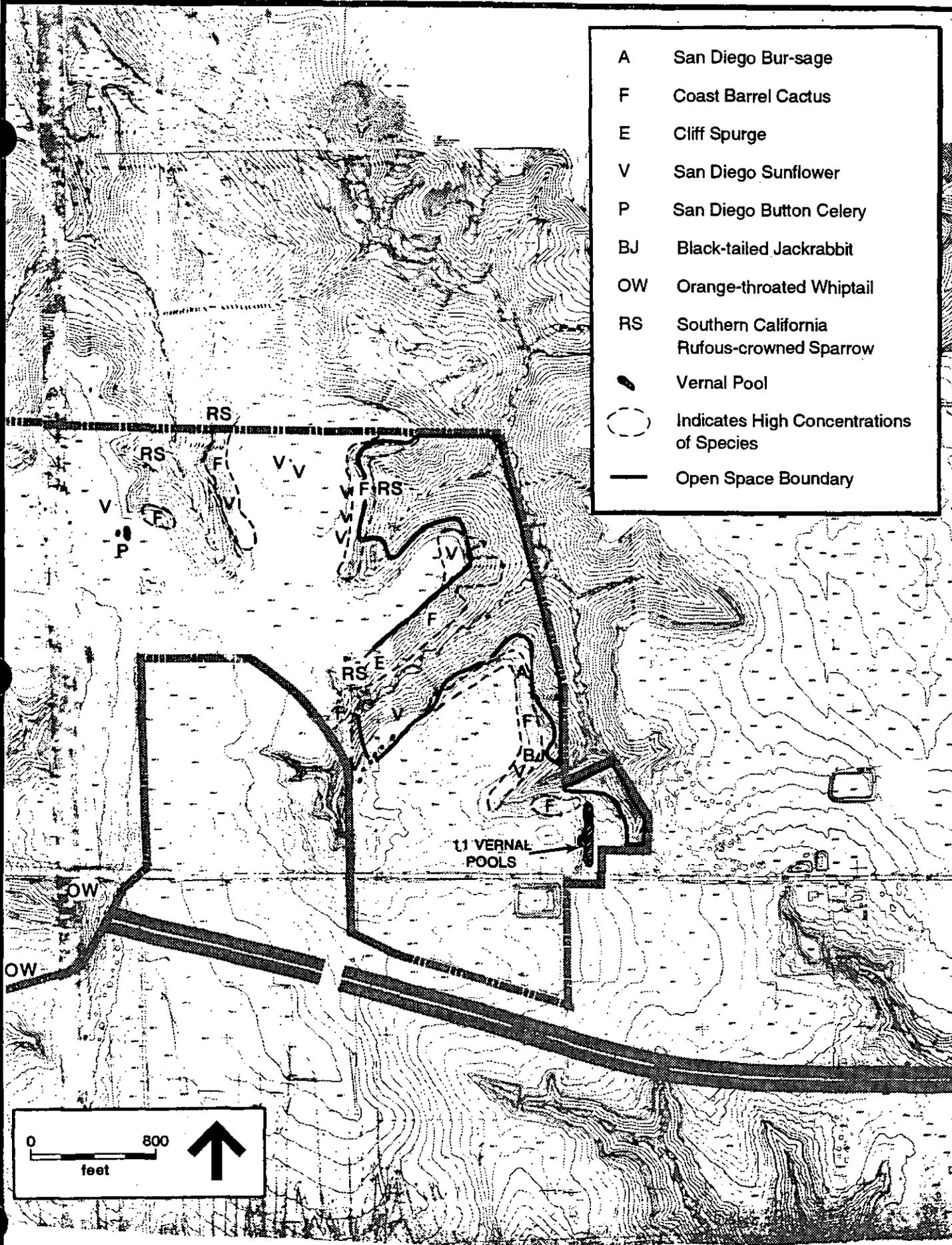
**D (Distribution)**

- 1 = More or less widespread outside California
- 2 = Rare outside California
- 3 = Endemic to California

000298



000239  
 FIGURE 30. PRECISE PLAN SENSITIVE BIOLOGICAL RESOURCES, WEST PORTION



- A San Diego Bur-sage
- F Coast Barrel Cactus
- E Cliff Spurge
- V San Diego Sunflower
- P San Diego Button Celery
- BJ Black-tailed Jackrabbit
- OW Orange-throated Whiptail
- RS Southern California Rufous-crowned Sparrow
-  Vernal Pool
-  Indicates High Concentrations of Species
-  Open Space Boundary

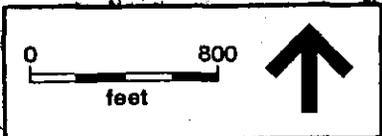


FIGURE 31. PRECISE PLAN SENSITIVE BIOLOGICAL RESOURCES, EAST PORTION

Diegan coastal sage scrub and maritime succulent scrub are also considered a high-priority vegetation type by the California Natural Diversity Data Base and sensitive by the City of San Diego, the USFWS, and a number of conservation organizations. Westman, a renowned researcher of southern California sage scrub communities, considers coastal sage scrub to be endangered because as little as 10 to 15 percent of its former acreage remains (Westman 1987). Once widespread on the coastal plains and shallow slopes of southern California, coastal sage scrub communities are rapidly being lost as a result of clearing for agriculture and urbanization. Maritime succulent scrub is similarly affected by agricultural activities and urbanization.

**Animal Species.** No wildlife species listed as rare and endangered by the state or federal governments were observed during surveys of the property. Sensitive wildlife observed or with the potential to occur on-site are shown in Table 6.

The coastal California gnatcatcher, a bird currently proposed for listing as federally endangered, was observed. In addition to being proposed for federal listing, the coastal California gnatcatcher is a CDFG species of special concern. Everett (1979) considers the bird declining in San Diego County, and Remsen (1979) lists it as declining throughout California. As a result, it is also considered to be sensitive by the City of San Diego. The range of the coastal California gnatcatcher encompasses the coastal plains of southern California and the most northern part of Baja California, Mexico. Sage scrub dominated by coastal sagebrush is the habitat most commonly used by the gnatcatcher although areas dominated by other sage scrub species, and chaparral and riparian habitats when they are adjacent to sage scrub habitat, can form parts of a home range for this species. Coastal California gnatcatchers were observed in coastal sage and maritime succulent scrub at several locations within the precise plan and California Terraces tentative map areas during the course of the 1988 surveys. ~~Three pairs of these birds were observed during the course of the field surveys.~~ A pair of gnatcatchers may require a territory which ranges in size from 20 to 40 acres, depending on the quality of the habitat and time of year. Approximately five pairs were observed within the California Terraces VTM. During the August 1992 survey, approximately 22 coastal California gnatcatchers were observed at several locations at the northwest and southwest portions of the site.

Seven federal Category 2 candidate species were also observed: the San Diego horned lizard (*Phrynosoma coronatum blainvillii*), orange-throated whiptail (*Cnemidophorus hyperythrus beldingi*), California horned lark (*Eremophila alpestris actia*), Bell's sage sparrow (*Amphispiza belli belli*), Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), San Diego cactus wren (coastal population) (*Campylorhynchus brunneicapillus couesi*), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). These species are briefly described below.

The San Diego horned lizard occurs along coastal southern California to the desert foothills and south into Baja California. In San Diego County, it has a wide range but spotty distribution. This species is often associated with coastal sage scrub. Populations along the coast and inland have been severely reduced by loss of habitat. Where it can be found, the San Diego horned lizard can be locally abundant, with densities near 20 adults per acre. The San Diego horned lizard is also classified as a California species of special concern and is a City of San Diego sensitive species.

The orange-throated whiptail occupies areas of low, scattered brush and grass with loose sandy loam soils. This preferred habitat is usually within coastal sage scrub and mixed chaparral areas. The ongoing threats to these habitat types have coincidentally reduced this species range and resulted in its listing as a California species of special concern and City of San Diego sensitive species. It ranges from southwest San Bernardino County south into lower Baja California.

Although not observed on-site, the sandy substrate in sage and maritime scrub habitats and other areas likely provides habitat for the coastal western whiptail (*Cnemidophorus tigris multiscutatus*), which is also a federal Category 2 candidate and California species of special concern. The red diamond rattlesnake (*Crotalus ruber ruber*), a federal Category 2 candidate and California species of special concern, was also not observed but is likely present on-site; the two-striped garter snake (*Thamnophis couchi hammondi*), which is found in or near fresh water, may occur in the reservoir in the southeast corner of the site when water is present. This garter snake is also a federal Category 2 candidate and a California species of special concern.

The California horned lark is a common breeding resident of San Diego County known to inhabit open areas with little vegetative cover. These larks were commonly observed within the project site in grassland areas.

The Bell's sage sparrow is a resident of chaparral communities, particularly those dominated by chamise (*Adenostoma fasciculatum*); however, chamise is also found within sage scrub communities. Population declines are primarily attributed to urban and agricultural expansion in southern California.

The coastal race of the cactus wren is declining in San Diego County (Everett 1979; Unitt 1984). This large wren species inhabits the coastal lowlands on mesas and slopes of coastal sage scrub where cactus thickets required for nesting are present. Loss of habitat as a result of expanding urbanization is the major cause of the decline for this wren. Cactus wrens were observed on the project site during 1988 surveys.

The Southern California rufous-crowned sparrow ranges from southwestern California (Santa Barbara County south) to northwestern Baja California. Its habitat includes steep, rocky areas of coastal sage scrub and scattered patches of grass within sage scrub.

Widespread destruction of sage scrub habitat for agricultural and urban development has led to the C2 listing of this species.

Several raptors (birds of prey) were observed during the surveys of the property, and all are protected by the State of California. The black-shouldered kite is fully protected, and the Cooper's hawk, sharp-shinned hawk, and northern harrier are species of special concern. Due to the paucity of trees within the precise plan and California Terraces tentative map areas, these raptors probably use the property primarily for foraging, although they may roost or nest in nearby trees off-site. While the northern harrier is a ground nesting species, the amount of disturbance and level of off-road activity would make it unlikely that any nesting activity currently exists.

The burrowing owl, also a CDFG species of special concern, was reported on the property (RECON 1980) but was not observed during subsequent surveys. As this owl is active during the day, it is likely that increased off-road activities within the California Terraces precise plan and tentative map areas have extirpated this species from the site.

The San Diego black-tailed jackrabbit ranges from near Mt. Pinos southward, to the west of the Peninsular range, into Baja California. It inhabits open or semi-open habitats. Thick chaparral is not suitable habitat for this species. Despite its historical familiarity, this subspecies is on the decline due to its association with the rapidly declining coastal sage scrub habitat type.

**Plant Species.** The six sensitive plant species observed on this property and those with the potential for occurrence based on habitat and soil types present are listed in Table 7; sensitivity codes are explained in Table 8. Observed species include the state-listed and federally proposed San Diego button celery, state-listed small-leaved rose (*Rosa minutifolia*), federal Category 2 and state endangered Otay tarplant (*Hemizonia conjugans*), federal Category 2 candidate coast barrel cactus, and California Native Plant Society-listed San Diego sunflower, San Diego bur-sage, cliff spurge, and ashy spikemoss. San Diego button celery occurs in a limited number of vernal pools, and the state-listed small-leaved rose occurs at the head of a canyon in the central portion of the California Terraces tentative map property. This is the only location in the United States of this species, which is known to commonly occur from near Ensenada to the vicinity of Mission de San Fernando in Baja California, Mexico. Otay tarplant was observed during the August 10, 1992 survey near the northwestern boundary of the property on the lower terrace, adjacent to Otay Valley.

### South Palm Vista VTM

**Habitats.** Diegan coastal sage scrub, maritime succulent scrub, and San Diego mesa claypan vernal pool habitats are all present within the boundaries of this vesting tentative map. These communities and their sensitivity have been discussed previously.

**Animal Species.** No state or federally listed animal species were identified; however, one federally proposed species, the coastal California gnatcatcher, and two federal Category 2 candidates, the San Diego cactus wren and San Diego horned lizard, were observed. In addition, several species could potentially occur, and these are provided in Table 6.

**Plant Species.** No state or federally listed plant species were identified in the South Palm Vista VTM project area. Three plant species listed by the California Native Plant Society were identified, however, and these are coast barrel cactus, snake cholla, San Diego bur-sage, and ashy spikemoss. Additional sensitive plant species could be present; these are provided in Table 7.

### c) **Brush Management**

Much of San Diego's existing and proposed development occurs within and adjacent to steep, brush-covered canyon slopes or mesas. As a result, a serious fire threat to property and life exists if urban encroachment into these areas is not managed properly. The City of San Diego Planning Department has developed guidelines intended to reduce the fire hazard to an acceptable level of risk without creating or aggravating other hazards such as soil erosion and slope failure. These guidelines are presented in the City's Landscape Technical Manual for Brush Management (October 1989), available from the Planning Department. The brush management programs proposed for the California Terraces Precise Plan and VTM and South Palm Vista VTM are discussed in detail in the Landform Alteration/Visual Quality section.

Brush management requirements will affect biological resources, particularly in Zones 1 and 2. Guidelines for Zone 1, the width of which can be up to 40 feet, essentially require a type-conversion of chaparral and sage scrub native habitats. This in turn affects the constituent plants and animals found within these communities, some of which are sensitive. Guidelines for Zones 1 and 2 provide for the selective thinning of high-volume plant species and replacement with low-volume vegetation. This makes the habitat less desirable for wildlife by reducing cover and increasing susceptibility to predators. The addition of new species can result in the introduction of nonnative, competitive weedy species to adjacent natural communities. Zone 3, while resulting in the least amount of biological impact, nevertheless reduces cover for wildlife species. These measures reduce the biological integrity and function of wildlife habitat and may significantly reduce sensitive plant and animal populations as well as increase soil erosion. There are methods in which to remove brush to reduce the soil erosion which is often associated with fuel management. The preferred method, and the one recommended in this report, is the use of hand tools, axes, and chain saws for cutting back, trimming, thinning, and pruning. The existing root systems of the natural brush are critical in the control of erosion. This method preserves the root systems of established plants and reduces the amount of destruction to the habitat. It also eliminates the possibility of accidentally

undercutting the toe of a slope and causing slope failure. It does require continued maintenance and does little to reduce impacts to biological resources.

## 1) Issue

What sensitive species or important habitats would be directly or indirectly impacted by the proposed project?

### Impacts

#### a) California Terraces Precise Plan

The amount of acreage to be impacted by the precise plan project development is shown in Table 9. Of the 665 acres currently vegetated, approximately 132.5 acres (20 percent) will remain undisturbed. Three sensitive plant communities, Diegan coastal sage scrub, maritime succulent scrub, and San Diego mesa claypan vernal pools, would be impacted through implementation of the proposed precise plan. Habitat for the California gnatcatcher and San Diego cactus wren would be lost commensurate to losses in Diegan coastal and maritime succulent scrub habitats. Twenty-five (78 percent) of the 32 vernal pools within the project boundaries would be impacted by the precise plan and this would affect the sensitive plant species found within them, including all of the San Diego button celery.

Sensitive plant species such as coast barrel cactus, San Diego sunflower, cliff spurge, San Diego bur-sage, small-leaved rose, Otay tarplant, and ashy spikemoss would also be impacted. In addition, all of the San Diego button celery and small-leaved rose on the property would be impacted by the project as proposed. The federal Category 2 candidate sensitive wildlife species observed on the property—San Diego horned lizard, orange-throated whiptail, California horned lark, Bell's sage sparrow, Southern California rufous-crowned sparrow, San Diego cactus wren (coastal population), and San Diego black-tailed jackrabbit—would also be impacted.

Approximately 202 acres (70 percent) of the high-quality, undisturbed Diegan coastal sage scrub and 40 acres (61 percent) of the maritime succulent scrub would be impacted. All of the disturbed Diegan coastal sage scrub would be impacted. All but 19.5 acres of grassland with scattered shrubs would be developed.

The preserved plant and wildlife community acreage occurs on steep slopes of the canyons within the project area. Open space would occur as five areas of over ten acres in size, and several smaller areas. These areas would be isolated from each other by development, which will affect their viability and usefulness to wildlife in the long term. It is expected that the degradation of these isolated habitat fragments would continue as

**TABLE 9  
PRECISE PLAN VEGETATION IMPACTS**

Habitat Type	Existing Acreage	Impacted Acreage*	Percent Remaining
Maritime succulent scrub	65.7	40.0	39
Diegan coastal sage scrub	286.0	202.0	30
Nonnative grassland	244.0	224.5	8
Southern mixed chaparral	1.8	0.0	100

\*Including brush management impacts from Zones 2 and 3.

**TABLE 10  
CALIFORNIA TERRACES VTM VEGETATION IMPACTS**

Habitat Type	Existing Acreage	Impacted Acreage*	Percent Remaining
Maritime succulent scrub	50.3	32.5	35
Diegan coastal sage scrub	218.9	167.1	24
Nonnative grassland	227.5	211.1	1

\*Including brush management impacts from Zones 2 and 3.

**TABLE 11  
SOUTH PALM VISTA VTM VEGETATION IMPACTS**

Habitat Type	Existing Acreage	Impacted Acreage	Percent Remaining
Maritime succulent scrub	14.5	7.1	51
Diegan coastal sage scrub	8.6	6.6	23
Southern mixed chaparral	1.8	0.0	100

vegetation could be cleared from the canyon edges for increased fire protection. Additionally, domestic pets, especially cats, hunt the native wildlife in the canyons. Ornamental plantings from yards often propagate in the canyons, displacing the native vegetation upon which native wildlife depend.

Recent studies (Soule et al. 1988) indicate that species diversity in isolated canyons in San Diego County decays over time due to local extirpations in the canyons. Habitat loss, for reasons discussed above, is the major factor resulting in the localized loss of species in isolated canyons. Other contributing factors include environmental variations, predation, and reduction of variability in the local gene pool.

As 20-40 acres of sage scrub habitat may be required for a pair of breeding coastal California gnatcatchers, most of the preserved areas are not large enough to support even one pair of these birds. One area proposed for open space in the northwest portion of the site is over 20 acres and could possibly support a pair, although the area snakes along the steep hillsides and would have a long "edge" adjacent to development. The four larger areas are approximately 10 acres each and very likely would not support pairs of gnatcatchers. Open space areas less than 10 acres in size are not believed to be capable of supporting gnatcatchers.

While raptor perching or nesting areas were not specifically identified and are considered unlikely, development of the site would eliminate foraging areas for black-shouldered kite, Cooper's hawk, sharp-shinned hawk, and northern harrier. The loss of open scrub and grassland areas from the proposed project contributes incrementally to a cumulative regional impact of habitat loss.

#### **b) California Terraces VTM**

The vegetation acreages to be impacted by the California Terraces VTM are shown in Table 10.

Three sensitive plant communities, Diegan coastal sage scrub, maritime succulent scrub, and San Diego mesa claypan vernal pools, would be impacted through implementation of the proposed precise plan. The small-leaved rose would be extirpated. Habitat for the California gnatcatcher and San Diego cactus wren would be lost commensurate to losses in Diegan coastal and maritime succulent scrub habitats. Eighteen of the 32 vernal pools within the project boundaries would be impacted and would affect the sensitive plants species found within them.

Approximately 167.1 acres (76 percent) of the high-quality, undisturbed Diegan coastal sage scrub and 32.5 acres (65 percent) of the maritime succulent scrub would be impacted by the VTM.

The VTM essentially implements the precise plan as proposed. Therefore, impacts to the wildlife, including cumulative impact to raptor foraging habitat, would be similar as discussed above for the precise plan area.

### c) South Palm Vista VTM

As shown on Table 11, two sensitive plant communities will be impacted by the implementation of the South Palm Vista vesting tentative map: Diegan coastal sage scrub, maritime succulent scrub, and San Diego mesa claypan vernal pools. Of the 8.6 acres of coastal sage scrub in the South Palm VTM, 6.6 acres will be lost. Of the 14.5 acres of maritime succulent scrub present, 7.1 acres will be lost. All seven of the vernal pools present (30 square feet) will be lost.

The South Palm Vista VTM is also subject to RPO. The entire area of the VTM is considered to be biologically sensitive land, and the maximum encroachment allowable into biologically sensitive lands is 3.2 acres of habitat, with no encroachment allowed into wetlands. The project exceeds the allowable encroachment into sensitive habitat by 10.5 acres and would impact seven vernal pools.

This loss of habitat will result in impacts to several Category 2 species including the coastal California gnatcatcher, San Diego cactus wren, San Diego horned lizard, Bell's sage sparrow, coast barrel cactus, snake cholla, and San Diego bur-sage. Approximately 15 acres of California gnatcatcher habitat will be lost. Incremental cumulative loss of raptor foraging area would also result.

## Significance of the Impacts

### a) Precise Plan

The loss of 70 percent of Diegan coastal sage scrub (coastal California gnatcatcher habitat), approximately 25 of the 32 vernal pools, and 100 percent of both the small-leaved rose and the San Diego button celery is a significant adverse biological impact which will require coordination with the CDFG's Endangered Plant Program. Impacts to the other sensitive plant and wildlife populations and to sensitive plant communities are also considered to be significant; loss of most of the non-native grassland is considered cumulatively significant due to its use as foraging area for raptors.

### b) California Terraces VTM

The loss of 76 percent of Diegan coastal sage scrub (coastal California gnatcatcher habitat) results in a significant impact. The loss of approximately 18 of the vernal pools, 100 percent of the San Diego button celery, on the property is a significant impact. The

loss of 100 percent of the small-leaved rose is a significant adverse biological impact. Impacts to the other sensitive plant and wildlife populations and to sensitive plant communities are also considered to be cumulatively significant, as is the loss of most of the nonnative grassland.

### c) **South Palm Vista VTM**

The loss of 6.6 acres of Diegan coastal sage scrub and 7.1 acres of maritime succulent scrub and associated plant and wildlife species would be a significant impact. The loss of the 30 square feet (100 percent) of vernal pools on-site and sensitive plant species would also be a significant impact. The project is subject to RPO and exceeds the allowable encroachment into biologically sensitive lands. This would also represent a significant impact.

## **Mitigation, Monitoring, and Reporting Program**

### a) **Precise Plan**

Impacts to biological resources on a precise plan level as well as for the California Terraces, South Palm Vista, and other subsequent TMs are considered significant and unmitigated. The loss of 70 percent of the California gnatcatcher habitat associated with implementation of the precise plan is considered a significant and unmitigated impact to biological resources. Although a total of 132.5 acres of this habitat (consisting of coastal sage scrub and maritime succulent scrub) would be preserved in natural open space, the impact is not considered mitigated to a level below significance because much of the open space will consist of patches that are probably too small and isolated to support viable populations of California gnatcatcher.

Partial mitigation for impacts to vernal pools has been proposed through the Denney Canyon Vernal Pool Restoration and Preservation Plan, as discussed below for the California Terraces and South Palm Vista VTMs.

Complete mitigation for these impacts along with the loss of other sensitive species and communities from the project site could be accomplished by off-site acquisition of equivalent functional habitat at a ratio of 2:1 of habitat area or redesign of the project to significantly expand the areas reserved for natural open space. Project redesign alternatives are discussed in Chapter 6 of this report. The Increased Open Space alternative and the Reduced Grading alternative would expand the on-site open space system and could reduce the impacts to the small-leaved rose population and other sensitive species.

**b) California Terraces and South Palm Vista VTMs**

Partial mitigation of the impacts to vernal pool habitat on California Terraces and the South Palm Vista VTMs would result from the implementation of the Denney Canyon Vernal Pool Restoration and Preservation Plan. This plan is included as Appendix C of this report. The vernal pool preservation/enhancement plan proposes a 12-acre vernal pool preserve with 18 existing pools having a surface area of 13,696 square feet and plans for enhancement of the preserve to support 20 to 49 new pools with 20,200 to 27,500 square feet of surface area (Figure 32). The majority of the preserve would be established on the Otay Corporate Center North project just east of California Terraces. However, the preserve would also include acreage along the northern edge of the neighborhood park in the eastern area of California Terraces. This preserve would result in no net loss of vernal pool surface area or number of basins. Impacted pools would be replaced by the restoration of pool surface area at a minimum ratio of 3:1. The enhancement plan would also result in an overall increase in pool habitat quality due to rehabilitation and management efforts and incorporation of the preserve with the larger regional permanent open space system.

Criteria for success of the preserve include a goal for increase in gross area of habitat and a species-oriented restoration goal. These goals are intended to be met at the end of a five-year period. At least 24 pools supporting 20,200 square feet of habitat must be permanently established, in addition to previously existing pool area within the preserve, at the end of this monitoring period. Success of the program will also be based on the establishment of populations of Otay mesa mint, San Diego button celery, little mousetail, and prostrate navarretia in pools within the preserve. Plant species and abundance will be sampled in the pools to be impacted, and soil of these pools will be sampled for populations of fairy shrimp and other fauna. These data will be analyzed to determine minimum success criteria, to be defined in terms of percent cover for each of these plant taxa, species diversity of pool plant taxa, and species diversity of pool plants and animals-fauna.

Regular maintenance of the vernal pool preserve areas would be required throughout the establishment of the vegetation including a minimum five-year monitoring period for both uplands and vernal pool areas as described in the plan. The restoration efforts shall be monitored by the subdivider for a minimum five-year period or until the specific success criteria described in the plan have been met. Once the success criteria have been achieved, maintenance of the habitat itself should end as the plant communities mature; however, ongoing maintenance of the barriers and monitoring of trespassing would be required. The following factors should be included in the maintenance contract for the vernal pool preserves:

1. The removal of aggressive nonnative weeds would be necessary during the minimum five-year monitoring periods for the vernal pool and upland habitats.



DENNERY CANYON VERNAL POOL PRESERVE

OTAY CORPORATE CENTER NORTH

OTAY CORPORATE CENTER NORTH

2.5 ac.

NOT A PART

9.5 ac.

CALIFORNIA

NOT A PART

TERRACES

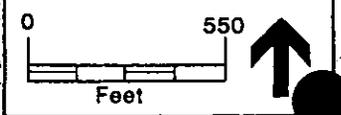


FIGURE 32. VERNAL POOL PRESERVE

000311

02.00.00

TABLE 6  
SENSITIVE WILDLIFE SPECIES OBSERVED (†) OR EXPECTED TO OCCUR  
(continued)

Species	State/ Federal	Other Status	Comments
<u>Reptiles (cont.)</u>			
Northern red diamond rattlesnake <i>Crotalus ruber ruber</i>	--/C2		
<u>Birds</u>			
Turkey vulture† <i>Cathartes aura</i>	--/--	SDC	Open fields, grasslands, rocky cliffs. Spring and fall migrant, winter visitor, rare summer resident.
Black-shouldered kite (breeding)† <i>Elanus caeruleus</i>	--/--	*,CFP SDC	Nest in riparian woodland, oaks, sycamores. Forage in open, grassy areas. Year-round resident.
Bald eagle <i>Haliaeetus leucocephalus</i>	SE/FE	CFP BEPA	Rivers, lakes. Feed mainly on fish. Rare winter visitor, rare fall migrant.
Northern harrier (breeding)† <i>Circus cyaneus</i>	--/--	CSC	Coastal lowland, marshes, grassland, agricultural fields. Migrant and winter resident, rare summer resident.
California horned lark† <i>Eremophila alpestris actia</i>	--/C2		Open fields, grasslands. Resident.
Sharp-shinned hawk (breeding)† <i>Accipiter striatus</i>	--/--	CSC	Open deciduous woodlands, forests, edges, parks, residential areas. Migrant and winter visitor.
Cooper's hawk (breeding)† <i>Accipiter cooperi</i>	--/--	CSC	Mature forest, open woodlands, wood edges, river groves. Also parks and residential areas. Migrant and winter visitor.
Golden eagle <i>Aquila chrysaetos</i>	--/--	CSC,CFP, BEPA	Require vast foraging areas in grassland, broken chaparral or sage scrub. Nest in cliffs and boulders. Uncommon resident.

TABLE 6  
SENSITIVE WILDLIFE SPECIES OBSERVED (†) OR EXPECTED TO OCCUR  
(continued)

Species	State/ Federal	Other Status	Comments
<u>Birds</u> (cont.)			
Peregrine falcon <i>Falco peregrinus anatum</i>	SE/FE	CFP	Coastline areas, mudflats, shores, ponds, open country. Rare inland. Rare fall and winter resident, casual in late spring and early summer. Local breeding populations extirpated.
Prairie falcon (breeding) <i>Falco mexicanus</i>	--/--	CSC	Grassland, agricultural fields, desert scrub. Uncommon winter resident, rare breeding resident.
Greater roadrunner† <i>Geococcyx californianus</i>	--/--	SDC	Desert scrub, coastal sage scrub, chaparral. Resident.
Lesser nighthawk <i>Chordeiles acutipennis</i>	--/--	SDC	Open, bare ground, desert scrub, coastal sage scrub, chaparral, agricultural areas. Summer resident and migrant, casual in winter.
Coastal California gnatcatcher† <i>Poliptila californica californica</i>	--/FPE	CSC	Coastal sage scrub, maritime succulent scrub. Resident.
Loggerhead shrike <i>Lanius ludovicianus</i>	--/C2		
Southern California rufous-crowned sparrow† <i>Aimophila ruficeps canescens</i>	--/C2		Coastal sage scrub, grassland. Resident.
Bell's sage sparrow† <i>Amphispiza belli belli</i>	--/C2	SDC	Chaparral, coastal sage scrub. Localized resident.
Grasshopper sparrow† <i>Ammodramus savannarum</i>	--/--	SDC	Tall grass areas. Localized summer resident, rare in winter.

TABLE 6  
 SENSITIVE WILDLIFE SPECIES OBSERVED (†) OR EXPECTED TO OCCUR  
 (continued)

Species	State/ Federal	Other Status	Comments
<u>Birds (cont.)</u>			
San Diego cactus wren (coastal population)† <i>Campylorhynchus brunneicapillus couesi</i>	--/C2		Maritime succulent scrub, coastal sage scrub with <i>Opuntia</i> thickets. Rare resident.
<u>Mammals</u>			
San Diego black-tailed jackrabbit† <i>Lepus californicus bennettii</i>	--/C2		
Pacific pocket mouse <i>Perognathus longimembris pacificus</i>	--/C2	CSC	Open coastal sage scrub; fine, alluvial sands near ocean.
White-eared pocket mouse <i>Perognathus alticola alticola</i>	--/C2		
Pallid San Diego pocket mouse <i>Chaetodipus fallax pallidus</i>	--/C2		
Southern grasshopper mouse <i>Onychomys torridus ramona</i>	--/C2		
San Diego desert woodrat <i>Neotoma lepida intermedia</i>	--/C2		

TABLE 6  
SENSITIVE WILDLIFE SPECIES OBSERVED (†) OR EXPECTED TO OCCUR  
(continued)

Status Codes

- BEPA = Bald Eagle Protection Act
- C1 = Category 1 candidate for federal listing (taxa for which the U.S. Fish and Wildlife Service has sufficient biological information to support a proposal to list as endangered or threatened)
- C2 = Category 2 candidate for federal listing (taxa which existing information indicates may warrant listing, but for which substantial biological information to support a proposed rule is lacking)
- CFP = California fully protected species
- CSC = California Department of Fish and Game species of special concern
- FE = Listed as endangered by the federal government
- FPE = Federally proposed endangered or threatened
- HT = San Diego Herpetological Society (1980) threatened
- SDC = City of San Diego Resource Protection Ordinance "Sensitive Species"
- SE = Listed as endangered by the state of California
- \* = Taxa listed with an asterisk fall into one or more of the following categories:
- 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 (e.g., wetlands, riparian, old growth forests, desert aquatic systems, native grasslands).

- All weeding should be done by using hand tools at least twice in the spring when the pools are dry. The monitoring biologist should monitor and notify the landscape contractor when to remove weeds and which plants require control during the monitoring periods. The need for weeding is expected to decrease substantially by the end of the monitoring period and, provided successful habitat restoration has been achieved, no long-term weeding requirements are recommended.
2. All barriers, fencing, and signs should be checked and repaired as necessary once every three months. Monitoring of disturbance and maintenance of the barrier and signs would be the responsibility of Pardee Construction Company for the term of the minimum five-year general monitoring period described below and would pass to the permanent trustee at the end of that period.
  3. Trash in the preserve areas should be removed once every three months.
  4. Any persons found willfully damaging the habitat within the preserves, including but not restricted to trash dumping, off-road-vehicle activity, illegal alien activity, plant removal, and destruction of barriers, should be prosecuted to the full extent of the law. Signs posted in English and Spanish to inform people of the status of the preserve area should also include a description of applicable laws and codes including fines for causing damage to the preserve.

Pardee Construction Company would retain responsibility for maintenance and management of the Dennery Canyon vernal pool preserve for a minimum five-year period or until the success criteria described in the plan have been met for the vernal pool and upland habitats. Ownership of the preserve will be transferred to the City of San Diego as a permanent steward. Pardee Construction Company would be responsible for employing an approved biological consultant to implement the monitoring programs. Other than the above-mentioned initial period, management of the preserve would be the responsibility of the City of San Diego as the ultimate owner of the preserve. The monitoring periods are to begin as stated in the restoration plan.

Long-term maintenance tasks for preserve management include (1) monthly monitoring and repair as necessary of barriers and signs around the preserve; (2) monthly removal of trash; (3) brief annual assessment of the status of target managed species within the preserve by an agency biologist or biological consultant, with the preparation of recommended species management activities, if warranted; (4) implementation of species management activities in consultation with resource agencies, if warranted; and (5) repair of vandalism or damage to pools in the preserve. The perpetual maintenance of the vernal pool preserve would be ensured through the provision of a funding mechanism to the satisfaction of the Director of the Park and Recreation Department prior to transferring ownership of the preserve to the City.

Ownership of the 12-acre preserve would be retained by Pardee Construction Company, its successors, or assigns until (1) an individual 404 permit has been issued (or agreed upon subject to implementation of this plan and transfer of site ownership) by the U.S. Army Corps of Engineers for grading associated with the aforementioned projects, and (2) the final subdivision map has been recorded, creating the preserve area as a legal lot. With the completion of these requirements, Pardee would dedicate to the City of San Diego, and the City of San Diego would accept, Lot B of Otay Corporate Center North and the 2.5-acre area adjacent to the neighborhood park as a natural open space preserve.

Partial mitigation for the impacts to biological resources for the South Palm Vista VTM has been accomplished by the realignment of Del Sol Boulevard to the south into the South Palm Precise Plan area. Also, the vernal pool preservation program would partially mitigate impacts to vernal pools. However, the impacts to sensitive habitats within the VTM would remain significant and not fully mitigated.

Complete mitigation for these impacts along with the loss of other sensitive species and communities from the project site could be accomplished by either off-site acquisition and preservation in biologically protected open space or redesign of the project to significantly expand the areas reserved for natural open space. Project redesign alternatives are discussed in Chapter 6 of this report. The Increased Open Space alternative and the Reduced Grading alternative would expand the on-site open space system and could reduce the impacts to the small-leaved rose population and other sensitive species.

## 2) Issue

Would compliance with the City's brush management program result in the loss of sensitive plant species or wildlife habitat?

## Impacts

### a) Precise Plan

As shown in Figure 23, brush management zones would be applied to the precise plan. Zones 1-3 include a non-building easement zone (30 feet in width), a selectively thinned zone planted with low-volume plantings (40 feet in width), and a selectively thinned zone of native vegetation (40 feet in width). Portions of Zones 2 and 3 would encroach into the native vegetation associated with open space areas.

Zone 1 would primarily be on the building pad and no additional biological impact would occur. Zones 2 and 3 would be selectively thinned, which would reduce the habitat value provided by the native vegetation in the open space areas. Approximately 19.2 acres of

native vegetation would be selectively thinned with implementation of the precise plan conceptual brush management plan. These areas are in addition to the impacts described above as part of the project. A detailed brush management plan shall be prepared for subsequent tentative maps.

Impacts associated with this clearing and trimming method are discussed in the EIR prepared for the Landscape Technical Manual. The shrubs would be trimmed to comply with Chapter 6 of the Landscape Technical Manual; however, they would still exist, and short plants, such as the coast barrel cactus and ashy spikemoss, would not be affected at all. The gnatcatcher would probably continue to use coastal sagebrush that was trimmed to 18 inches. If brush management activities occur during the California gnatcatcher breeding season, potential impacts to nests could occur.

**b) California Terraces VTM**

Approximately 14.9 acres of native vegetation would be selectively thinned with implementation of the California Terraces VTM brush management plan (see Figure 24). These impacted areas are in addition to the impacts described above as part of the project. No brush management is shown in open space areas.

The biology effects described for the precise plan would be similar to those resulting from implementing the brush management plan prepared for the VTM.

**c) South Palm Vista VTM**

Approximately 3.6 acres of native vegetation would be selectively thinned with implementation of the South Palm Vista VTM brush management plan (see Figure 25). These impacted areas are in addition to the impacts described above as part of the project. No brush management is shown in open space areas.

The biology effects described for the precise plan would be similar to those resulting from implementing the brush management plan prepared for the VTM.

## **Significance of the Impacts**

Selective thinning of the vegetation in Zones 2 and 3 as part of the precise plan conceptual map and proposed California Terraces and South Palm Vista VTMs would contribute to the significant and unmitigated biology impacts to sensitive biological resources described above.

## Mitigation, Monitoring, and Reporting Program

### a) Precise Plan

Implementation of the following mitigation measures would partially reduce potentially significant impacts to biological resources as a result of brush management requirements, although not to below a level of significance. A qualified biologist will be contracted to monitor the clearing of vegetation in association with brush management during all maintenance periods. This will ensure minimal removal and cutting of native vegetation in accordance with the guidelines for the Landscape Technical Manual and the brush management plan, thus minimizing impacts to wildlife habitat.

In addition, it shall be a condition of approval for all tentative maps that the developer provide maintenance of all brush management. The developer is responsible for maintaining the brush management until such time that either HOAs or other City-approved mechanisms can assume long-term responsibility. The brush management maintenance responsibility shall include brush management zones 2 and 3.

The applicant shall enter into a long-term maintenance agreement with the City, which shall be recorded with all final maps. The agreement shall stipulate that the developer shall be responsible for brush management until such time that either the HOAs or other mechanisms can assume responsibility. Any areas which are proposed to be deeded over to the City and require brush management are likewise the obligation of the developer until such time that the City has agreed to assume responsibility.

Areas covered by the Community Plan Implementation Overlay Zone, which contain brush management zones 2 and 3, must have either HOAs or other mechanisms (which must be approved by the Planning Department and Park and Recreation Department) established prior to the issuance of building permits. The HOAs and/or other approved mechanisms are required to provide permanent maintenance of the brush management areas.

### b) California Terraces and South Palm Vista VTMs

The City of San Diego EAS shall ensure that it is a condition of these VTMs that a qualified biologist is contracted to monitor the clearing of vegetation in association with brush management during all maintenance periods. This will ensure minimal removal and cutting of native vegetation in accordance with the guidelines for the Landscape Technical Manual and the brush management plan, thus minimizing impacts to wildlife habitat.

The long-term maintenance of the brush management zones will be ensured by the mechanisms described above under the precise plan discussion.

## E. Cultural Resources

### Existing Conditions

The original California Terraces Precise Plan project boundary area was surveyed by RBR & Associates in 1983. At that time the precise plan boundary included the current project area, as well as additional area to the east. In 1984, RBR & Associates conducted additional surveys of proposed off-site improvement areas. This survey included the currently proposed off-site improvement areas and the current boundary of the South Palm Vista VTM. These surveys identified a total of 36 archaeological sites and 11 isolates. In 1985, RBR & Associates tested and assessed for significance 21 of these 36 sites. The results of this testing program are provided in Appendix D of this EIR.

Since that time, the precise plan boundary has been revised to what is currently proposed and analyzed in this EIR. Of the original 36 sites recorded, 19 are located completely or partially within the current precise plan boundary and off-site improvement areas. RBR & Associates or RECON tested all of these sites for significance. The three which were determined to be significant by RBR & Associates are SDI-6941, Locus D; SDI-7604, Locus E; and SDI-10,200. The significance of the remaining three resource areas, SDI-10,208, SDI-10,210, and SDI-10,285, was unknown at that time.

A summary of the status of the archaeological sites within the current precise plan boundary or off-site improvement areas is presented in Table 12.

The archaeological testing program designed by RBR & Associates was focused towards assessing each of the 21 sites within the project area for their ability to address research related to chronology/culture identification, site function, and regional settlement patterns. A large bifacial knife fragment, a "San Dieguito-type" point, and a Silver Lake point were recovered during the testing program. These artifacts reflect an occupation period for the area spanning thousands of years. Two obsidian samples were traced to the Coso Hot Springs. One obsidian flake was dated within the range of 1,326 to 2,374 years before the present, a time within the Early Milling period. Ceramics found at this site can be used to establish a Late period of association.

Regarding site function, the tested sites reveal a variety of site types. Artifacts recovered from a majority of the sites indicate that both lithic reduction and specialized processing was occurring. Several conclusions were made regarding settlement pattern. It was proposed that the sites which were tested reflect a collector subsistence pattern. This pattern of subsistence would have involved several base camps supported by outlying special-use sites, such as lithic quarry sites and food processing sites. Both base camps identified within the precise plan area are at the head of Dennery Canyon. Campsites

**TABLE 12  
STATUS OF ARCHAEOLOGICAL SITES  
WITHIN THE CURRENT PRECISE PLAN  
AND OFF-SITE IMPROVEMENT AREA**

Site	Significant	Mitigation Required
SDI-6699A,B	No	None.
SDI-6941A-C, E-F	Yes	Data recovery, cataloging and analysis, report preparation. Completed (RBR & Associates 1988).
SDI-6941D	Yes	Data recovery, cataloging and analysis, report preparation. Completed by RECON in November 1992, prior to final map or grading permit.
SDI-7604A-E	Yes	Data recovery, cataloging and analysis, report preparation. Completed (RBR & Associates 1988).
SDI-7983	No	None.
SDI-7984A	No	None.
SDI-8640A,B	No	None.
SDI-10,192	No	None.
SDI-10,193	No	None.
SDI-10,194	No	None.
SDI-10,195	No	None.
SDI-10,197	No	None.
SDI-10,200	Yes	Detailed analysis of collected artifacts, report preparation. Completed by RECON in November 1992, prior to final map or grading permit.
SDI-10,202	No	None.
SDI-10,203	No	None.
SDI-10,204	No	None.
SDI-10,205	No	None.
SDI-10,208	No	None.
SDI-10,210	No	None.
SDI-10,285	No	None.

tended to be located near canyon heads, probably due to the proximity of resources necessary for subsistence.

Based on their value for addressing questions related to chronology/cultural identification, site function, and settlement pattern, 12 of the 15 sites tested by RBR & Associates within the current precise plan boundary were determined not to be significant. Three of the tested sites within the current precise plan area were determined to be significant cultural resources. The collections made during the testing program for sites SDI-7604E and SDI-10,200 were considered to be a sufficient amount of field work for these two significant sites. However, further analysis of the recovered artifacts was recommended in order to adequately mitigate expected impacts. Additional excavation and analysis was recommended for SDI-6941D. The results of RBR & Associates analysis of these three sites is included in Appendix D.

The City of San Diego required that the data recovery excavations be conducted at SDI-6941, Locus D prior to approval of the California Terraces Precise Plan. A portion of the mitigation surface collection and excavations were carried out by RECON in April and May of 1988. This program was developed in accordance with the research recommendations presented by RBR & Associates in the test report. These recommendations were based on a research program, designed by G. Timothy Gross (SOPA certified), which proposed that mitigation excavations address questions related to chronology/cultural identification, site function, and settlement pattern. Gross recommended an initial excavation program of thirty 1x1-meter test units to be followed by as many as 30 additional units, as deemed necessary to answer the research questions. At the completion of the initial 30-unit stratified sample, it was determined by RECON that no further excavations were warranted. This determination was based on the limited horizontal extent of the site deposits, the limited variety of the recovered remains, and absence of artifact variability within the deposit.

Upon review of the 1990 mitigation report, City staff determined that additional excavation was warranted at SDI-6941, Locus D. The additional excavation was guided by a detailed research design which incorporates the results of the first mitigation efforts with the continuation. The completion of the mitigation efforts calls for a grid based surface collection, excavation of 10 units in the peripheral areas of the site, and the completion of an additional 30 square units of excavation within the portion of the site that produced the greatest quantity and variety of artifacts and ecofacts. Additional excavation includes a mechanically excavated backhoe trench. All of the recovered materials are analyzed using a similar system to the first phase of the mitigation effort, paying special attention to edge damage and stages of flaked lithic artifact production. Samples for radiocarbon and obsidian sourcing and hydration studies will be processed and speciation of the shellfish and bone will be completed.

The first phase of data recovery investigations at SDI-6941D recovered a large quantity of lithic artifacts, a moderate quantity of shell and bone, one Late Prehistoric point fragment, and one ceramic sherd. No features (i.e., floor, hearth, or wall) were encountered. The good condition of the recovered shell indicates that the site was relatively undisturbed in the lower levels. The general results from this second phase are consistent with the findings of the first efforts with regard to the size and depth of the deposit at SDI-6941 and with regard to the nature of the site occupation, temporal sequence, and represented cultural assemblages. The final report for the mitigation of impacts to SDI-6941, Locus D and the detailed analysis of the collections from SDI-7604, Locus E and SDI-10,200 which mitigates impacts to these resource areas is attached as Appendix D.

SDI-10,210 was tested by RECON in 1990 for the South Palm plan. This site was not tested for importance by RBR & Associates because it was outside the boundary at the time of their work. The site is described by Davis and Wade (1990) as consisting of a sparse lithic scatter heavily impacted by road construction and vehicular activity, with over 89 percent of the site effectively destroyed by off-road-vehicle and clearing activity. Artifacts observed at this site include ground stone, flakes, unifacial tools, and flake tools primarily consisting of metavolcanics and green andesite. The conclusion of the testing program for this site was that it is not a unique archaeological resource and not important under CEQA or City of San Diego guidelines.

SDI-10,285 was tested in 1988 and is not important. The site was heavily impacted by off-road-vehicle activity. An intensive inspection of the surface of the site was performed and two 1x1-meter test units were excavated. Four flakes were recovered from the surface of the site. Two flakes of a fine-grained metavolcanic material were representative of secondary quarrying activities; two flakes of porphyritic metavolcanic material were representative of initial quarrying. No artifacts were recovered from the test units. Based on these findings, it was determined that SDI-10,285 does not represent a significant resource, and no further investigations were recommended.

There are two archaeological sites located very close to the boundary of the precise plan. These are SDI-10,201 and SDI-10,198. SDI-10,201 is not located near the boundary of the California Terraces VTM. SDI-10,198 is proposed to be placed in open space as part of the Otay Corporate Center project.

## 1) Issue

Would the project, including any off-site improvements, adversely affect archaeological resources?

## Impacts

### a) California Terraces Precise Plan

Implementation of the California Terraces Precise Plan and off-site improvements would completely or partially affect 16 of the 19 sites located within the boundary or off-site improvement areas. The three sites which would not be impacted by the precise plan, SDI-8640, SDI-10,205, and SDI-10,208, would be placed in open space. These sites were tested and found not to be significant (see Table 12).

The precise plan would impact three sites which were determined to be significant (SDI-6941D, SDI-7604E, and SDI-10,200). Mitigation for the three sites—SDI-6941, Locus D; SDI-7604, Locus E; and SDI-10,200—is ongoing. Completion of adequate mitigation would be a condition of individual tentative maps, as discussed below.

SDI-10,201 and SDI-10,198 are located off-site such that they would not be impacted by implementation of the precise plan. There are no materials present on the surface that would attract attention to these sites, with the only important change being a potential increase in pedestrian traffic across the sites.

### b) California Terraces VTM

Implementation of the California Terraces VTM and off-site improvements would completely or partially adversely affect 14 of the 19 sites located within the boundary or off-site improvement areas. Three sites which would not be impacted by the VTM—SDI-8640, SDI-10,205, and SDI-10,208—would be placed in open space consistent with the precise plan. These sites were tested and found not to be significant (see Table 12). Eleven of the 14 sites that will be impacted were found to be not important. Mitigation of impacts to the remaining three—SDI-6941, Locus D; SDI-7604, Locus E; and SDI-10,200—is ongoing. Completion of adequate mitigation would be a condition of the VTM.

SDI-10,201 and SDI-10,198 are located off-site such that they would not be impacted by the VTM. There are no materials present on the surface that would attract attention to these sites, with the only important change being a potential increase in pedestrian traffic across the sites.

### c) South Palm Vista VTM

Implementation of the South Palm Vista VTM would directly impact SDI-10,210 by the placement of houses. This site was tested and determined not to be significant.

## Significance of the Impacts

### a) California Terraces Precise Plan

Impacts to SDI-6941, Locus D; SDI-7604, Locus E; and SDI-10,200 are considered significant. Completion of the ongoing data recovery and analysis program has fully mitigated these impacts. Impacts to the other sites would not be significant, since they are either placed in open space or have been determined to be not important under CEQA and City of San Diego guidelines.

### b) California Terraces VTM

Impacts to SDI-6941, Locus D; SDI-7604, Locus E; and SDI-10,200 are considered significant. Completion of the ongoing data recovery and analysis program has fully mitigated the impacts. Impacts to the other sites would not be significant, since they are either placed in open space or have been determined to be not important under CEQA and City of San Diego guidelines.

### c) South Palm Vista VTM

Impacts to SDI-10,210 are not significant, since this site was determined not to be important according to CEQA and City of San Diego guidelines.

## Mitigation, Monitoring, and Reporting Program

### a) California Terraces Precise Plan

Because the value of an archaeological site lies in the research potential of the information contained in the site deposits, it is possible to partially mitigate the loss of information represented by the site's destruction. A data recovery program has been undertaken, which, through recovery of archaeological materials, would fully mitigate impacts to the resources. This program shall be completed prior to recordation of any final map or grading plan.

Testing phase excavations and surface collections conducted at SDI-7604E and SDI-10,200 and testing and data recovery phase sampling at SDI-6941D combine to represent a sufficient sample to adequately address the research objectives at these three sites as originally proposed during the test phase work effort by RBR & Associates. In summary, the testing and data recovery efforts account for a total sample of 77 square meters of excavation at SDI-6941D. With a site area of 10,000 square meters, this is a 0.77 percent sample. However, a 10,000-square-meter site area is not an accurate estimate of SDI-6941D, since this estimate is based on the distribution of surface artifacts and not the actual extent of the subsurface deposit. An estimate of the subsurface area of

SDI-6941D is approximately 3,600 square meters. Thus, the total sample percentage accomplished at this site within the subsurface area of the site area is 2.14 percent.

The data recovery effort completed at SDI-6941D was conducted in two phases. Phase I includes a grid-based surface collection and the excavation of 34 sample units, generally located within the northeastern portion of the site, as originally recorded. The Phase II data recovery program consists of a grid-based surface collection over a total area of 9,400 square meters, the mechanical excavation of 90 linear meters of trench and the hand excavation of 40 sample units. Coupled with the original testing program, this is a total of 77 square meters of hand excavation.

The following mitigation measures as discussed in detail in the technical report (see Appendix D) reduce potentially significant impacts from the California Terraces Precise Plan to below a level of significance. These measures shall be a condition of approval for future tentative maps within the precise plan boundary.

1. The data recovery program at SDI-6941D and artifact analysis and special studies, including radiocarbon dating and faunal analysis, shall be completed.
2. The detailed analysis of the lithic material recovered from SDI-7604, Locus E and SDI-10,200 shall be completed.
3. Any grading of archaeological sites shall be conducted under the direction of a qualified archaeologist.
4. A report shall be prepared documenting the findings addressing the research objectives proposed during the test phase.
5. A qualified archaeological monitor shall be present during construction grading in the vicinity of SDI-6941, Locus D; SDI-7604, Locus E; and SDI-10,200 to ensure appropriate treatment in the event that unknown buried deposits are encountered.

It shall be a condition of approval of the precise plan that the above mitigation measures be conditions of all subsequent tentative maps within the precise plan. The City of San Diego EAS shall verify this is a condition of the precise plan approval prior to the approval of the precise plan.

#### **b) California Terraces VTM**

The following data recovery mitigation measures would reduce potentially significant impacts from the California Terraces VTM to below a level of significance. The data recovery program includes excavation, artifact analysis, and final report preparation. Completion of these measures shall be a condition of the VTM.

1. A data recovery program shall be completed, including radiocarbon dating and faunal analysis at SDI-6941D.
2. Detailed lithic analysis of the artifacts recovered from SDI-7604E and SDI-10,200 shall be completed.
3. Any grading of archaeological sites shall be conducted under the direction of a qualified archaeologist.
4. A data recovery report for SDI-6941D documenting the findings addressing the research objectives proposed during the test phase shall be reviewed and approved by EAS.
5. A qualified archaeological monitor shall be present during construction grading in the vicinity of SDI-6941D, SDI-7604E, and SDI-10,200 to ensure the appropriate treatment upon discovery of any unknown buried deposits of cultural debris.

The City of San Diego EAS shall ensure these measures are conditions of the tentative map prior to approval of the tentative map. A qualified archaeologist shall be present to identify the area of constraint, which will be flagged prior to construction grading. Upon completion of grading, the area to be capped will be identified. Capping will be completed before building permits are issued.

## F. Noise

An acoustical analysis has been prepared for the California Terraces Precise Plan which addresses future traffic conditions on major roads within and adjacent to the precise plan area. The resulting report is summarized below and is included in this EIR as Appendix E. As discussed further below, the detail in the precise plan acoustical analysis was sufficient to determine impacts and mitigation at the tentative map level for the California Terraces VTM and South Palm VTM.

### Existing Conditions

Noise sources in the vicinity of the proposed California Terraces Precise Plan area include traffic-related noise and noise generated by aircraft from Brown Field. Existing roadway noise in the project vicinity was determined using the Federal Highway Administration (FHWA) Noise Prediction Model. The San Diego Association of Governments (SANDAG) provided current (1991) traffic levels on I-805, SR-905 (formerly SR-117), and Otay Mesa Road, which are 49,000, 14,000, and 16,000 average daily trips (ADT), respectively, for these roadways. There are no currently available traffic counts for the portion of Palm Avenue east of I-805. Existing noise levels of 80 Community Noise Equivalent Level (CNEL) and 74 CNEL were calculated at 50 feet from the roadway edges of I-805 and SR-905, respectively. An existing CNEL of 74 dBA was calculated adjacent to Otay Mesa Road. The influence of I-805 on the existing noise environment is negligible due to distance and topographic attenuation. Proposed modifications in the topography are discussed under impacts. Traffic-generated noise levels over the project site currently range from 74 A-weighted decibels (dBA) to approximately 55 dBA, with the highest noise levels observed in those areas immediately adjacent to SR-905 and Otay Mesa Road (Figure 33).

Aircraft operations at Brown Field, ~~approximately one mile~~ ~~two miles~~ east of the site, also generate noise in the project vicinity. Occasionally, aircraft fly over the precise plan area, thus generating high single-event noise levels. The majority of the precise plan area is, however, located outside the existing 65 dBA CNEL aircraft noise contour, as shown on Figure 34. An approximate 10-acre area of the east-central precise plan area designated as open space does lie within the 65 dBA noise contour. The year 2000 projected 65 CNEL noise contour for Rodriguez Field (Tijuana Airport) is shown on Figure 34 also (City of San Diego 1981).

The CNEL is a 24-hour cumulative measure of community noise levels based on the A-weighted decibel. A-weighting is a frequency correction that correlates sound pressure levels with the frequency response of the human ear. The CNEL adds 10 dBA to the average nighttime (10:00 p.m. to 7:00 a.m.) noise levels and 5 dBA to the average

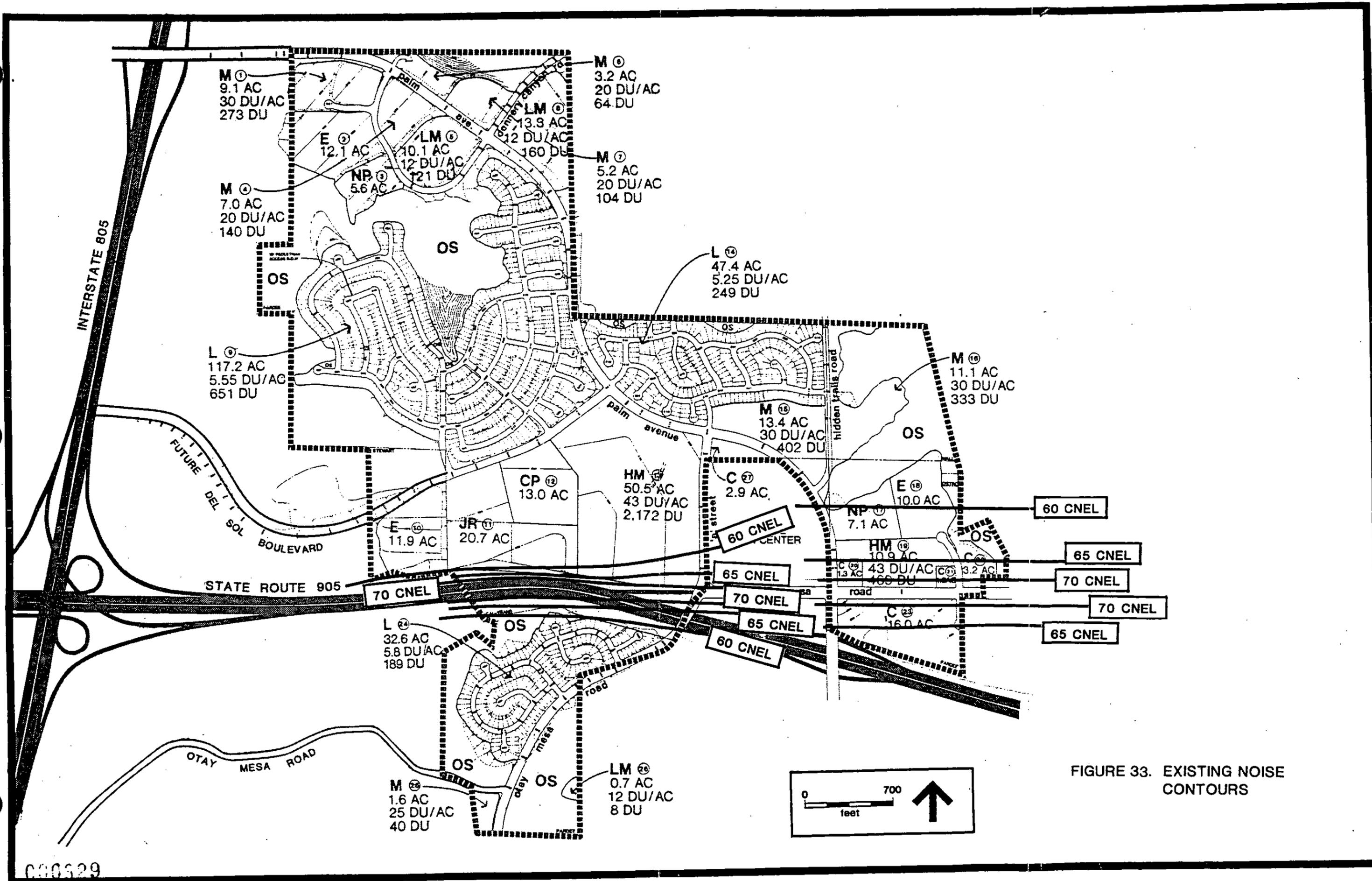
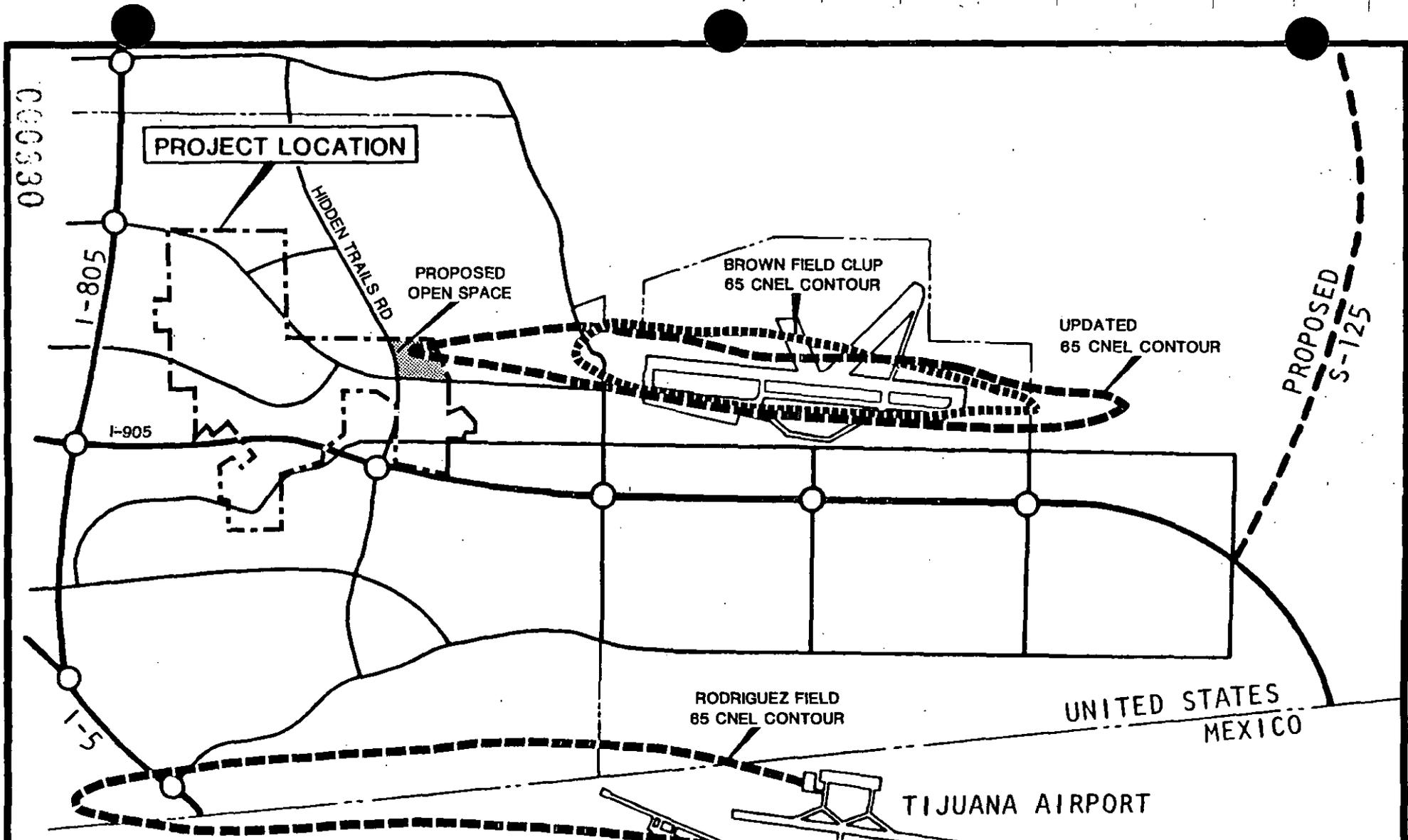


FIGURE 33. EXISTING NOISE CONTOURS



BROWN FIELD CLUP 65 CNEL CONTOUR SOURCE: SANDAG, 1981  
 UPDATED 65 CNEL CONTOUR SOURCE: CITY OF SAN DIEGO 1987  
 RODRIGUEZ FIELD 65 CNEL CONTOUR SOURCE: OTAY MESA COMMUNITY PLAN, 1981

FIGURE 34. 65 dBA NOISE CONTOUR FOR BROWN FIELD

evening (7:00 p.m. to 10:00 p.m.) noise levels to account for added sensitivity to noise during these times.

The City of San Diego has established noise criteria for new development in the Progress Guide and General Plan (1979). These standards indicate the maximum exterior CNEL considered to be compatible with various land uses. For areas where the projected future CNEL would exceed these levels, mitigation is generally required to reduce the noise. The City's exterior noise level standard is 65 CNEL for single- and multi-family residential uses, schools, and parks. Multi-family balconies which are part of required open space calculations also have a City standard of 65 CNEL. The City's exterior noise level standard is 70 CNEL for office/professional uses and 75 CNEL for other commercial developments such as shopping centers, restaurants, movie theaters, and wholesale uses. Multi-family buildings are required by the State Uniform Building Code (Title 24, Section 25-28) and City Noise Ordinance (Section 59.5.0701) to achieve an interior noise level of 45 CNEL. The City also has an interior standard of 45 CNEL for single-family residential buildings.

## 1) Issue

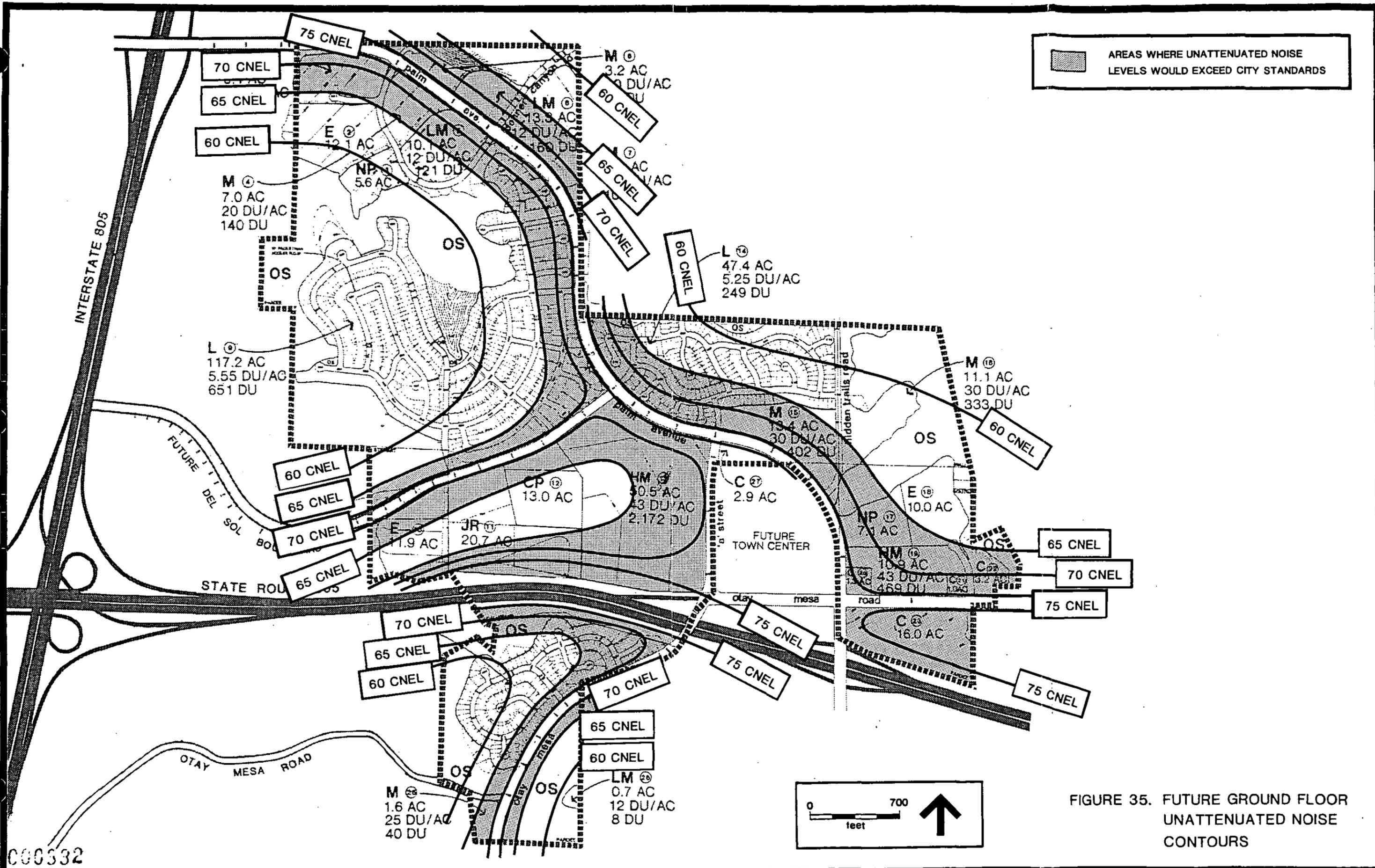
Would existing or future noise levels on the site be compatible with the uses proposed?

## Impacts

An acoustical analysis has been prepared for the California Terraces Precise Plan which addresses future traffic conditions on major roads within and adjacent to the precise plan area (Appendix E). This analysis considered the potential for a high percentage of truck traffic from the industrial area to the east. In addition, noise levels from aircraft operations at Brown Field were also considered. Noise impacts were evaluated in accordance with the City's General Plan standards for land use compatibility.

Figure 35 shows the unattenuated (i.e., without consideration of noise-mitigating berms, walls, or shielding by structures) future ground-floor CNEL vehicular noise levels over the California Terraces Precise Plan area and proposed VTM areas. As can be seen in Figure 35, portions of residential areas, school and park uses, and vernal pool open space proposed immediately adjacent to Palm Avenue, "A" Street, Del Sol Boulevard, Otay Mesa Road, and SR-905 would be exposed to noise levels in excess of the 65 CNEL standard, unless appropriate noise abatement is implemented. Also as shown in Figure 35, the South Palm Vista VTM area would not be exposed to noise levels above the City's 65 CNEL residential standard and noise impacts would not occur.

As discussed below under mitigation, a barrier greater than 6 feet tall is recommended along some of the roadways. This occurs along the south side of Palm Avenue between



AREAS WHERE UNATTENUATED NOISE LEVELS WOULD EXCEED CITY STANDARDS

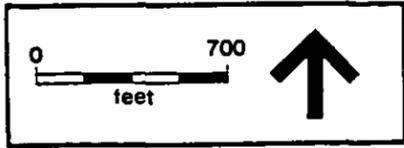


FIGURE 35. FUTURE GROUND FLOOR UNATTENUATED NOISE CONTOURS

Del Sol Boulevard and "A" Street on Planning Area 13 (VTM Lot 1022A), along the north side of Otay Mesa Road at Planning Area 19 (VTM Lots 1028B, C, D, E, and F), and along both sides of SR-905. The City's Significance Determination Guidelines (City of San Diego 1991) indicate that walls greater than 6 feet in height and 50 feet in length could create potential visual quality impacts. If the barriers greater than 6 feet in height cannot be constructed as 6-foot wall plus berm combinations, then they could create a visual impact. This issue is discussed in the Landform Alteration/Visual Quality section in this EIR.

In areas within the precise plan where residences are directly adjacent to SR-905, Palm Avenue, Otay Mesa Road, and Del Sol Boulevard, these buildings could experience interior noise levels greater than 45 CNEL. Typical construction techniques generally provide 15 dBA of exterior to interior noise attenuation.

Future noise levels could also exceed standards in the commercial lots, depending on the specific commercial use proposed. Planning Areas 20 and 21 (VTM Lots 1027 and 1029) are proposed for convenience store or gas station uses, which have a noise level limit of 75 CNEL. These areas would not be impacted by future noise levels in excess of the City's standards. Planning Area 22 (VTM Lot 1030) would not be exposed to noise levels above 70 CNEL and any commercial use (retail or office/professional) would conform with the City's noise standards. Planning Areas 23 and 27 (VTM Lots 1031 and 1023) would only be impacted if the commercial uses proposed would be subject to the 70 CNEL noise standard (office/professional uses).

In 1981, the Brown Field Airport Master Plan and the Otay Mesa Community Plan were adopted. Both included delineation of a 65 CNEL aircraft noise contour, within which residential and other similar uses would not be compatible. As shown in these documents, the projected 65 CNEL contour would occur approximately 4,000 feet from the eastern project boundary. Since 1981, new noise studies have shown the noise impact area to be larger than originally projected. The latest contours were developed using updated aircraft mix and departure times and show the projected 65 CNEL aircraft noise contour extending to Dennery Canyon. A City of San Diego Manager's Report (86-599, April 1987) has determined that with specific restriction of operations at Brown Field, residential development west of Dennery Canyon would be acceptable and not significantly affected by aircraft noise. Nearly the entire precise plan area is, however, located outside the existing 65 CNEL aircraft noise contour. A small portion of the east-central precise plan area does lie within the 65 CNEL noise contour, as shown in Figure 34. This portion of the precise plan has been designated as open space; therefore, aircraft activity associated with Brown Field would not pose a significant noise impact to future residents of the California Terraces Precise Plan area.

The year 2000 projected 65 CNEL noise contour for Rodriguez Field (Tijuana Airport) is also shown on Figure 34 (City of San Diego 1981). As can be seen in the figure, noise

from Rodriguez Field would not significantly impact the California Terraces Precise Plan area.

The City of San Diego is also considering the Otay Mesa area as a potential site for another major airport (known as TwinPort) to supplement operations at Lindbergh Field. The City Council passed Resolution R-278003 on May 28, 1991, which identified the TwinPort concept on Otay Mesa as the City's preferred option for a new airport. On the same day, the City Council also adopted Resolution R-278004 which identified the TwinPort study area and stated the council's determination not to approve any actions which could allow residential development in the study area. On May 12, 1992, the council resolved to not approve any specific plans or rezonings within the study area (City of San Diego 1992).

The study area identified in Resolution R-278004 was based on a possible 65 CNEL contour line from TwinPort and it includes most of the California Terraces Precise Plan area, with the exception of the northwest corner. If the TwinPort is approved, the residential area proposed for California Terraces may be incompatible with the noise levels generated by the new airport. If the TwinPort on Otay Mesa is approved, additional acoustical studies would be necessary to determine the airport's noise impacts to the project site.

If the City Council eliminates Otay Mesa as a potential site for a new airport, Brown Field and Rodriguez Field would operate as discussed above and there would be no aircraft-related noise impacts to the proposed project.

## Significance of the Impacts

Noise in the project area would be generated by future traffic on Palm Avenue, SR-905, Otay Mesa Road, Del Sol Boulevard, and "A" Street. Noise from these roadways would exceed the City of San Diego residential standard of 65 CNEL and have a potentially significant adverse noise impact on future residential, school, and park uses in the California Terraces Precise Plan and California Terraces VTM areas on the site. Also, in some commercial areas (i.e., Planning Area 23 at the southeast corner of the Palm Avenue/Otay Mesa Road intersection), if office/professional uses are proposed rather than commercial retail, the noise levels could exceed the City's 70 CNEL exterior standard. These represent a significant project-related noise impact.

Interior noise levels could exceed 45 CNEL for residential buildings directly adjacent to the major roadways within the project site. For residential uses this would represent a significant impact (City of San Diego 1991). In addition, if office/professional uses are proposed at the commercial areas, the interior noise level standard of 50 CNEL could be exceeded. This would also represent a significant impact.

Impacts to open space users from the neighborhood park and elementary school at the vernal pool preserve would also be significant as the noise levels would exceed the 65 CNEL standard.

There would be no significant vehicular traffic noise impacts to the South Palm Vista VTM area.

## **Mitigation, Monitoring, and Reporting Program**

### **a) California Terraces Precise Plan**

The following mitigation measures shall be a condition of approval of the currently proposed and future tentative maps within the precise plan boundary, which include the areas shown on Figure 36 as requiring noise mitigation.

The locations of noise barriers and/or setbacks needed to achieve City noise level standards at the ground-floor level are described in Table 13 and shown in Figure 36. Where there are two or more mitigation measures given for a segment on Table 13, any one of the measures would mitigate the noise impact and is considered equal as adequate noise mitigation. Construction of the noise barriers shown in Figure 36 and described in Table 13 shall be a condition of the future tentative maps which include those areas.

The recommended noise barriers would be effective for ground-floor receptors only. Second-story noise levels for residential buildings directly adjacent to Del Sol Boulevard, SR-905, Palm Avenue, and Otay Mesa Road would not be reduced by the noise barriers recommended in Table 13. Because buildings have not been designed at this planning level, the subsequent tentative map applicant shall demonstrate to the satisfaction of the City's Building Inspection Department prior to issuance of building permits that all multi-story single- and multi-family buildings adjacent to major roadways on the tentative map have been designed to achieve an interior standard of 45 CNEL, based upon future traffic volumes.

Also, if any multi-family buildings adjacent to the major roadways have second-story balconies which are required open space, then these balconies could be exposed to noise levels in excess of the City's 65 CNEL exterior standard. It shall be a condition of each tentative map containing multi-family development adjacent to SR-905, Palm Avenue, Otay Mesa Road, or Del Sol Boulevard that each balcony above the ground floor which is required open space shall be attenuated through berms, walls, or structural design to meet the City's 65 CNEL noise level standard.

Implementation of the above conditions shall be assured through the PRD and CPIOZ processing. For those planning areas within the precise plan that will be subject to the

**TABLE 13  
MITIGATION MEASURES**

Label*	Mitigation Measure
A	3-foot barrier†
B	4-foot barrier
C	4.5-foot barrier
D	5-foot barrier
E	6-foot barrier
F	7-foot barrier
G	8-foot barrier
H	8.5-foot barrier
I	3-foot barrier or 75-foot setback
J	4-foot barrier or 75-foot setback
K	7.5-foot barrier or 6-foot setback with soft setback
L	7.5-foot barrier or 6-foot barrier with 70-foot setback
M	9-foot barrier or 6-foot barrier with 120-foot setback
N	10-foot barrier or 6-foot barrier with 120-foot setback
O	If limit 70 CNEL - 4-foot barrier; If limit 75 CNEL - no barrier
P	If limit 70 CNEL - 5-foot barrier; If limit 75 CNEL - no barrier
Q	If limit 70 CNEL - 3-foot barrier; If limit 75 CNEL - no barrier

\*See Figure 36.

†A barrier can consist of any combination of earth, Plexiglas, and solid building materials such as masonry, concrete, or brick.

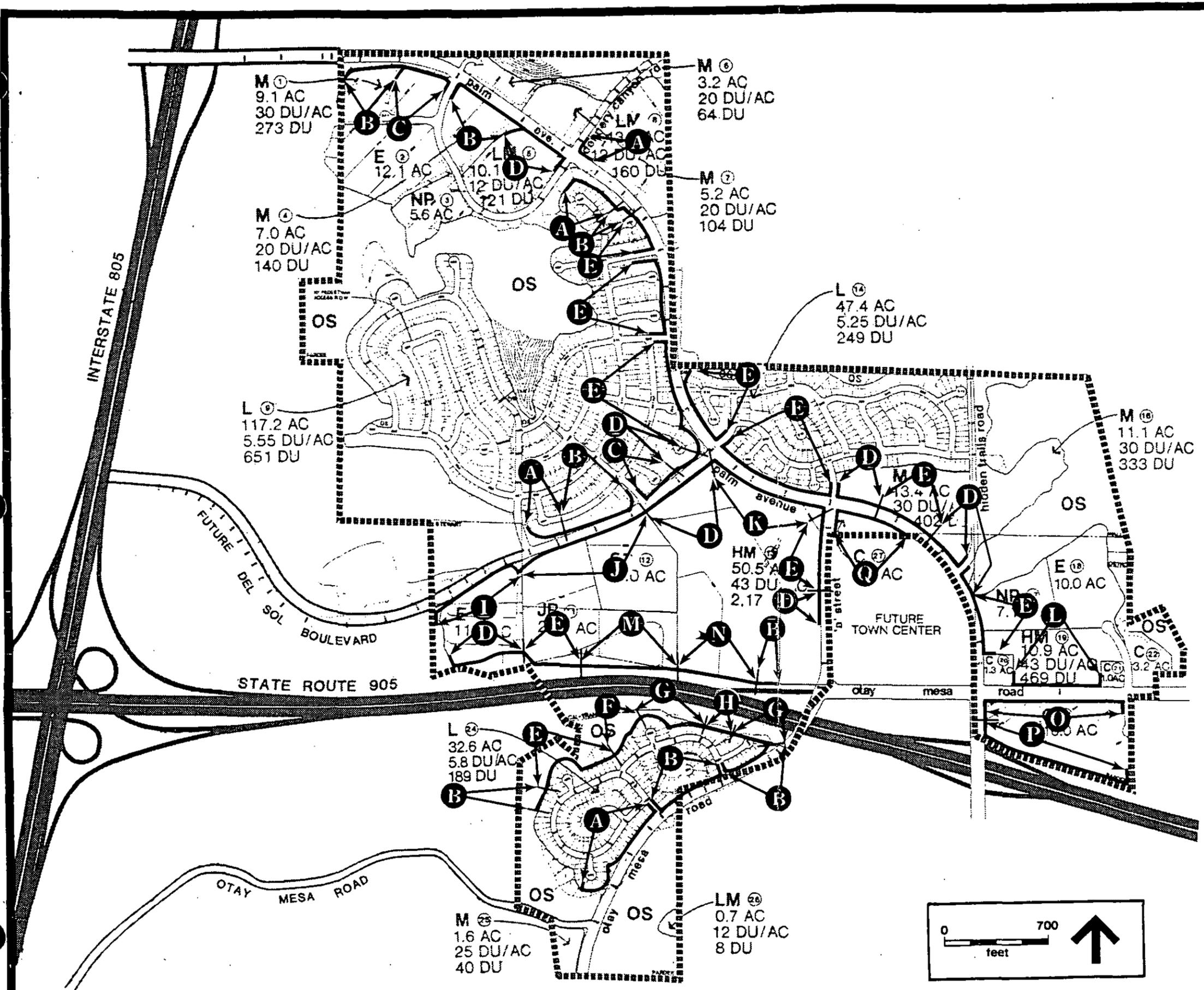
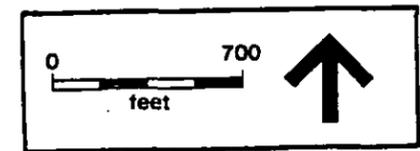


FIGURE 36. AREAS RECOMMENDED FOR FIRST FLOOR NOISE MITIGATION



( SEE TABLE 13 FOR BARRIER DESCRIPTIONS FOR EACH LETTER )

CPIOZ, the applicant shall provide an acoustical analysis to the Planning Department's Environmental Analysis Section which addresses exterior noise impacts to the proposed development prior to the issuance of any CPIOZ permit. The analysis shall determine mitigation measures which would mitigate noise impacts to below a level of significance. Future noise levels shall not exceed the adopted City standard of 65 CNEL for exterior noise. All exterior noise mitigation, including sound attenuation barriers, shall be completed prior to the issuance of any CPIOZ permits.

Likewise, for interior noise, the applicant shall provide an interior acoustical noise analysis to EAS prior to the issuance of any CPIOZ permit. The analysis shall determine mitigation measures which would mitigate interior noise impacts to below a level of significance. Future interior noise levels, including second stories, shall not exceed the adopted City standard of 45 CNEL. All interior noise mitigation shall be completed prior to the issuance of any occupancy permit.

In summary, all CPIOZ permits would require noise levels to meet the following criteria:

- Interior noise levels would not exceed the noise standard of 45 CNEL established in the General Plan Transportation Element.
- Exterior noise levels would not exceed the noise standard of 65 CNEL established in the General Plan Transportation Element.
- All acoustical studies shall be based on the final site plan and future ADT approved within the California Terraces Transportation Plan as well as the Otay Mesa Community Plan Transportation Element. The studies shall include any subsequent amendments to either document, including all other traffic studies approved by the Engineering and Development Department's Transportation Planning Division.

#### **b) California Terraces VTM**

Since the California Terraces VTM area includes areas shown on Figure 36 as requiring noise mitigation, provision of the noise barriers recommended for the California Terraces Precise Plan shown in Figure 36 and Table 13 which are within the California Terraces Precise Plan area shall be a condition of the VTM.

Where there are two or more mitigation measures given for a segment on Table 13, any one of the measures would mitigate the noise impact and is considered equal as adequate noise mitigation.

It shall be a condition of the VTM that all multi-story residential buildings adjacent to SR-905, Palm Avenue, Otay Mesa Road, and Del Sol Boulevard shall achieve interior

noise levels of 45 CNEL or less to meet the applicable City and State standards. The noise technical report (Appendix E) states the amount of exterior to interior attenuation required for buildings in each area of the tentative map adjacent to a major roadway.

It shall also be a condition of the VTM that all multi-family balconies on the second floor or higher which are part of required open space calculations shall be attenuated to meet the City's 65 CNEL exterior noise level standard. The City's standard does not apply to balconies which are not part of required open space.

All noise barriers shown on Figure 36 and Table 13 which are shown within the VTM area shall be constructed prior to issuance of building permits. This shall be a condition of the VTM. All barriers which are berms shall be shown on the grading plans and verified by field inspection by the Environmental Analysis Section. All walls which are greater than six feet in height shall be shown on the building plans and identified as noise walls. A building permit is required for all walls greater than six feet in height. The Building Inspection Department shall ensure that the noise walls for which permits have been obtained have been built on the project site prior to issuance of building permits for structures to be occupied. All walls under six feet in height shall be inspected by the Planning Department prior to issuance of building permits.

For single- and multi-family buildings taller than one story which are adjacent to SR-905, Palm Avenue, Otay Mesa Road, or Del Sol Boulevard, the applicant shall provide an acoustical study or other evidence to the satisfaction of the City Building Inspection Department that interior noise levels will meet the 45 CNEL noise level standards. This shall be provided prior to issuance of building permits and shall be a condition of the VTM.

The applicant shall provide an acoustical study or other evidence to the satisfaction of the City Building Inspection Department that all multi-family balconies on the second-story or above which are adjacent to SR-905, Palm Avenue, Otay Mesa Road, or Del Sol Boulevard and which are part of required open space calculations will meet the City's 65 CNEL noise level standard. This shall be completed prior to issuance of building permits.

Implementation of these mitigation measures shall be ensured through the PRD or CPIOZ permits as described in the preceding discussion for the precise plan.

#### **c) South Palm Vista VTM**

As shown in Figure 35, the South Palm Vista VTM area would not be exposed to noise levels above 65 CNEL, the City's standard for residential areas. Noise mitigation is not required for this VTM area.

## G. Traffic Circulation

A transportation analysis for the proposed California Terraces Precise Plan was prepared by Urban Systems Associates (USA), Inc., on December 16, 1986, and was subsequently revised in April 1987, January 1988, April 1988, October 1988, August 1989, November 1989, and April 2, 1990. The following information was obtained from the latest revision of the California Terraces transportation analysis, dated April 19, 1990, and comments provided by the City Transportation Development Section staff in a letter of comment dated December 9, 1991. The transportation analysis ~~which~~ reflects the dwelling unit increase from 4,323 dwelling units to 5,375, changes in land use densities, and increases to the commercial acreage. As noted in Appendix F, while the overall number of dwelling units has increased, the type of residential use has been changed to a higher density development which generates fewer trips per dwelling unit. Therefore, the net traffic generation has only increased by about 2,250 trips. This difference would not require any new analysis. The entire traffic analysis prepared for the California Terraces project is included in this EIR as Appendix F.

In 1986 and 1987, SANDAG conducted several travel forecasts of the Otay Mesa area in connection with their SR-125/Otay Mesa areawide study. USA relied upon these more recent figures in preparing the transportation analysis for California Terraces Precise Plan. A review of SANDAG's preliminary forecasts for the community plan street system in the precise plan area indicated that some street links would need to be reclassified in or adjacent to the precise plan area. To aid in determining appropriate street classification changes, USA, through SANDAG, revised the community plan street system to match the street system assumed for the precise plan area, and SANDAG ran a separate travel forecast which tested the revised street system called the USA/SANDAG Alternate 1 Travel Forecast.

This travel forecast was rerun to include other known proposed projects, such as Robinhood Ridge, Gateway Fair, Otay Corporate Center, and Spring Canyon. This report is entitled the SANDAG/USA's Alternate 2 forecast report.

The travel forecast has been rerun several times to include more recent land use changes. The latest forecast, entitled SANDAG-Otay Mesa/USA Alternate 4-11/88, changed the alignment of Palm Avenue to reflect the City staff-preferred alternative of Palm Avenue intersecting Otay Mesa Road and SR-117 (SR-905) to the east of the future town center. The street changes recommended in this forecast are based on the City's recently approved Street Design Manual of July, 1987. Other changes to the network were made outside the California Terraces Precise Plan area and do not affect the planned street system for California Terraces.

## Existing Conditions

### a) Traffic Circulation

The California Terraces Precise Plan area is currently undeveloped. It is situated east of I-805, between Otay Mesa Road to the south, Palm Avenue to the north, and Otay Valley Road to the east. Access to the project area is provided by SR-905 and Otay Mesa Road. There is presently a diamond freeway interchange at I-805 and Palm Avenue, but Palm Avenue dead-ends just to the east of I-805 at this time. Figure 37 shows the existing street system and the 1988 SANDAG average weekday traffic volumes.

The circulation element of the Otay Mesa Community Plan identifies future street classifications around and in the project site (Figure 38). According to the adopted plan, SR-117 (currently SR-905) would be a six-lane freeway with an interchange at Heritage Road. Palm Avenue is designated as a four-lane primary arterial and a four-lane major street between I-805 and Heritage Road. One segment of Palm Avenue, between Caliente Boulevard and Heritage Road, has been proposed for deletion in conjunction with the proposed Otay Corporate Center project to the east. Del Sol Boulevard, which passes east-west near the center of the precise plan area, is designated as a four-lane major street.

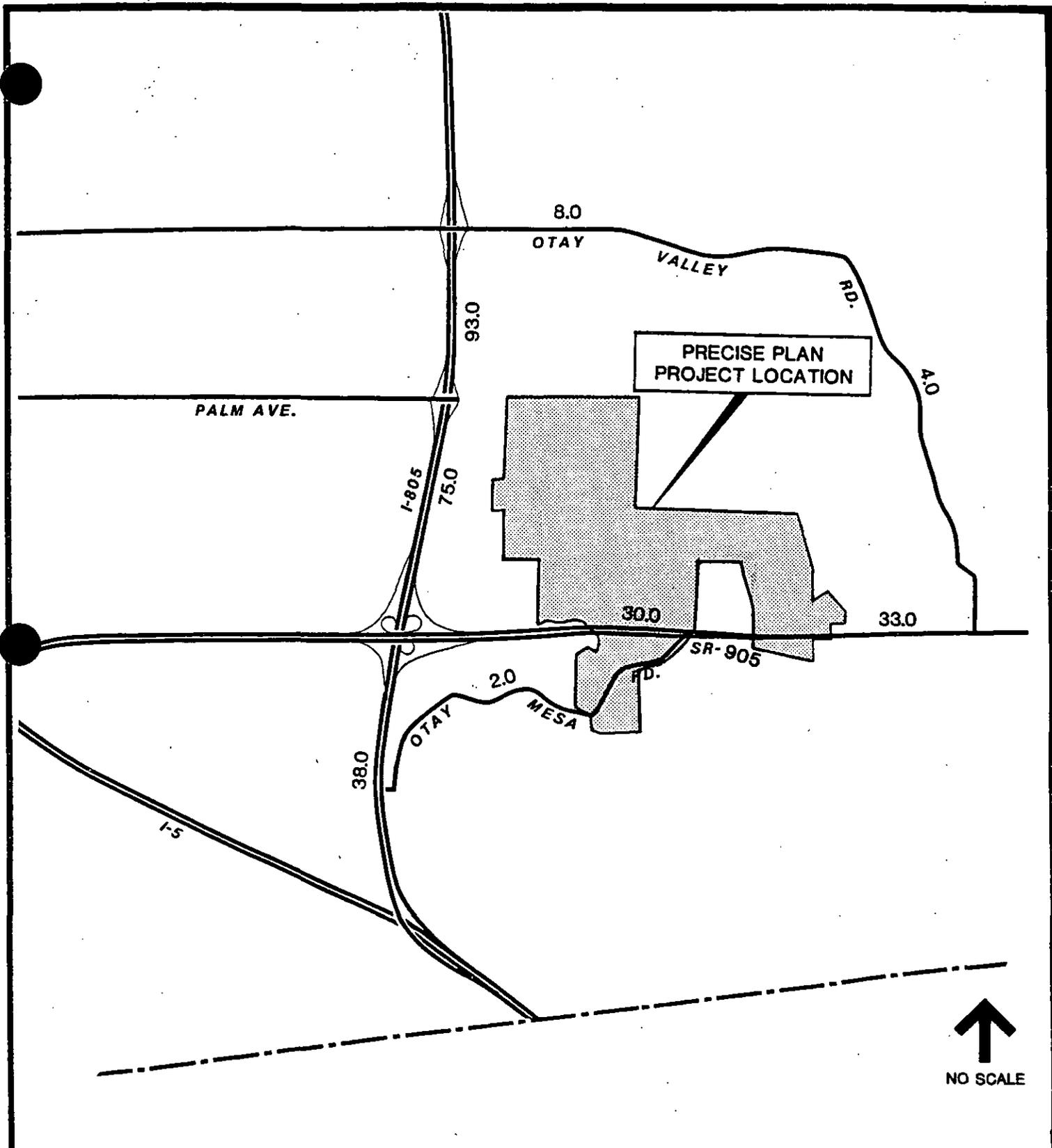
The travel forecasts as described above were all based on land uses for the Otay Mesa Community Plan area. The proposed land uses for the project site generally conform with the community plan land uses, as discussed in the Land Use section, and they are also consistent with the SANDAG-Otay Mesa/City Forecast.

### b) Bikeways

The Otay Mesa Community Plan contains objectives for both a bikeway system and a pathway system for pedestrians. Bikeways should be considered as a separate, but integral, portion of the transportation system and should be oriented to connect activity centers to residential areas (City of San Diego 1981:124). The plan lists the following methods to achieve these objectives.

1. Neighborhood bikeway systems should link neighborhood parks, elementary schools, and convenience commercial centers with residential areas, with minimal street crossings.
2. Community bikeway systems should link neighborhoods with major activity centers, such as the town center, community parks, junior and high schools, and the employment center. This segment of the system should tie into the city-wide and regionwide network of proposed bicycle corridor routes and should utilize exclusive rights-of-way and grade-separated crossings whenever possible.

C00641



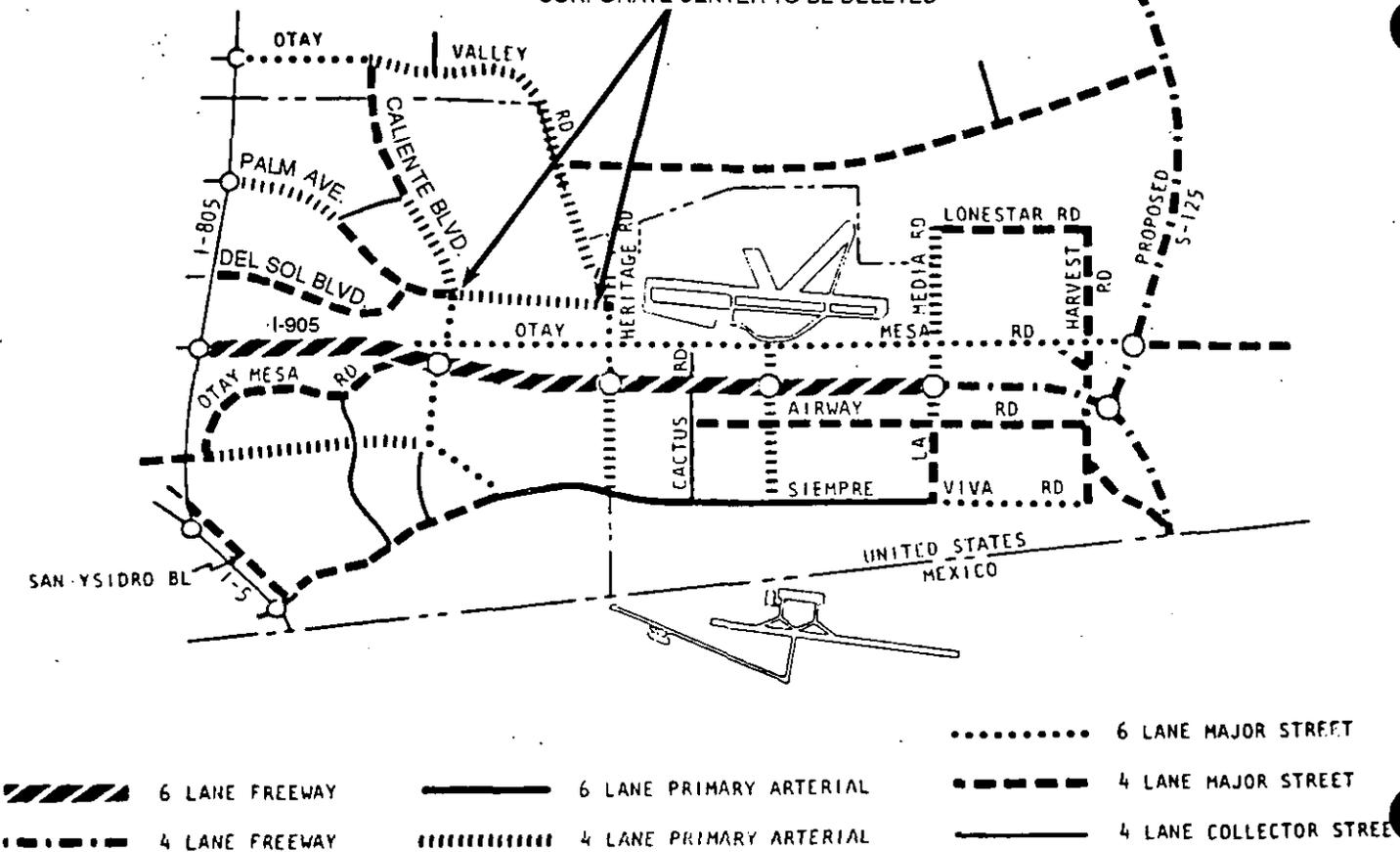
00.0 VOLUMES IN THOUSANDS

SOURCE: USA, INC., 1988

000342

FIGURE 37. EXISTING STREET SYSTEM AND TRAFFIC VOLUMES

PALM AVE. SEGMENT PROPOSED BY OTAY  
CORPORATE CENTER TO BE DELETED



**PROPOSED AUTOMOBILE SYSTEM  
POST YEAR 2000**



NO SCALE

SOURCE: SANDAG 1992  
TRAFFIC FLOW MAP

**FIGURE 38. COMMUNITY PLAN RECOMMENDED FUTURE STREET CLASSIFICATIONS**

3. Bikeways should avoid high-volume streets, long or steep grades, and circuitous routing where possible.
4. Lockable bicycle racks should be provided at activity areas that receive significant bicycle traffic.
5. Minimum state standards for bikeways should be adopted.
6. On any major street with a Class II bikeway, parking should be prohibited immediately upon completion of construction.
7. On any collector street with a bikeway which has houses fronting on it, an additional ten feet of street width and right-of-way are required since parking is not prohibited.

The community plan also states that, "in addition to pedestrian pathways paralleling streets, an interior system within each neighborhood should be installed. It should lead to the neighborhood park, school, and shopping center with a minimum number of streets to cross. There should be undercrossings or overcrossings where major pedestrian ways and major streets intersect" (City of San Diego 1981:125).

## 1) Issue

What direct impacts would this project have on the traffic circulation system?

### Impact

Because the project area is undeveloped, a new street system must be constructed within the project area to carry the project's and area's projected traffic and connect with existing major roadways such as I-805, SR-905, Otay Valley Road, and Otay Mesa Road.

The California Terraces Precise Plan proposes primarily residential, educational, recreational, and neighborhood commercial uses. These land uses would be developed in four phases and would generate a total of 50,856 ADT. Table 14 illustrates project-generated trips based on land use. A SANDAG forecast based on the SR-125/Otay Mesa Transportation Study which is, in turn, based on the Otay Mesa Community Plan land uses (see Appendix D of the traffic report) would generate 48,612 trips for the same area. Therefore, it can be concluded that the California Terraces Precise Plan land use and trip generation assumptions for the SANDAG-Otay Mesa/USA ALT. 4-11/88 Travel Forecast are consistent with the land use assumptions for the Otay Mesa Community Plan for the same area.

**TABLE 14  
DEVELOPMENT PHASING TRIP GENERATION**

Parcel Number	Use	Amount	Trip Rate	Phase Trip Ends	Cumulative Trip Ends
<b>NORTH PHASE</b>					
1	MDR*	273.0 du	6/du	1,638	
2	Elementary School	12.1 ac.	40/ac.	484	
3	North Park	5.6 ac.	40/ac.	224	
4	MDR	140.0 du.	8/du	1,120	
5	LMDR	121.0 du	8/du	968	
6	MDR	64.0 du	8/du	512	
7	MDR	104.0 du	8/du	832	
8	LMDR	160.0 du	8/du	1,280	
9	LDR	651.0 du	10/du	<u>6,510</u>	
				13,568	13,568
<b>CENTRAL PHASE</b>					
10	Elementary School	11.9 ac.	40/ac.	476	
11	Junior High School	20.7 ac.	40/ac.	828	
12	Commercial Park	13.0 ac.	40/ac.	520	
13	HMDR	2,172.0 du	6/du	13,032	
14	LDR	249.0 du	10/du	<u>2,490</u>	
				17,346	30,914
<b>EAST PHASE</b>					
15	MDR*	402.0 du	6/du	2,412	
16	MDR*	333.0 du	6/du	1,998	
19	North Park	7.1 ac.	40/ac.	284	
20	Elementary School	10.0 ac.	40/ac.	400	
17	HMDR	469.0 du	6/du	2,814	
18	Commercial	1.3 ac.	400/ac.	520	
21	Commercial	1.0 ac.	400/ac.	400	
22	Commercial	3.2 ac.	400/ac.	<u>1,280</u>	
				10,108	41,022
<b>SOUTH PHASE</b>					
23	Commercial	16.0 ac.	400/ac.	6,400	
24	DLR	189.0 ac.	10/du	1,890	
25	MDR	40.0 du	8/du	320	
26	LMDR	8.0 du	8/du	64	
27	Commercial	2.9 ac.	400/ac.	<u>1,160</u>	
				9,834	50,856

NOTE: LDR = low density residential; LMDR = low-medium density residential; MDR = medium density residential; HMDR = high-medium density residential.

\*30 du/acre; therefore, use trip rate of 6/du.

The precise plan proposes to generally follow the street system designated in the community plan. However, the project does propose some modifications to the roadway alignments. Figure 39 shows the precise plan's ultimate proposed circulation system. In the community plan circulation system (see Figure 38), Palm Avenue extends from its existing terminus at I-805 through the project site, across Caliente Boulevard, to Heritage Road. As discussed above, the Otay Corporate Center North project would delete the segment of Palm Avenue between Caliente Boulevard and Heritage Road. Also in the community plan circulation system, Caliente Boulevard would extend north across SR-905 and Otay Mesa Road to connect with Otay Valley Road. Del Sol Boulevard would connect Palm Avenue and I-805. In the project's proposed circulation system (see Figure 39), the roadway labeled Palm Avenue in the community plan would be deleted entirely and the segment shown as Caliente Boulevard would be constructed as Palm Avenue. "A" Street would connect this new Palm Avenue with Otay Mesa Road. A segment of Del Sol Boulevard would also be constructed so that it could ultimately connect this roadway with I-805.

"A" Street is the north-south four-lane major street adjacent to the western boundary of the future town center site. It is proposed to extend southerly across Otay Mesa Road and the freeway and then follow "old" Otay Mesa Road south of the freeway. "A" Street will ultimately terminate at future North Vista Avenue. The old segment of Otay Mesa Road west of "A" Street was studied to upgrade it to a major street standard as originally suggested in the community plan. These standards (1,000 feet radius curves, 7 percent maximum slope, 50 to 55 miles per hour design speed) could not be achieved due to the prohibitive topography in the project vicinity. It is, therefore, proposed that this segment be downgraded to a four-lane collector (as opposed to major) street and that the southerly leg of "A" Street be designed as the primary street circulation link.

Del Sol Boulevard is an existing four-lane street which undercrosses I-805 from the west and dead-ends just east of the freeway. The community plan extends Del Sol Boulevard to a tee intersection with Palm Avenue. It is designated as a four-lane collector based on projected build-out traffic volumes. California Terraces would require the construction of a segment of the planned extension of Del Sol Boulevard which is located between Palm Avenue and the westerly boundary of the junior high school. The need to construct the remaining portion of the segment (from the westerly boundary of the junior high school to the existing terminus of Del Sol Boulevard) would be determined during environmental review of proposed developments on the surrounding properties.

Figure 39 also illustrates the projected build-out ADTs for the area. Of the total build-out traffic volumes, the project would contribute 19,628 ADT to SR-905, 2,274 ADT to "A" Street south of SR-905, 13,536 ADT to "A" Street north of SR-905, 10,600 ADT to Otay Mesa Road, and 22,980 ADT to Palm Avenue. Del Sol Boulevard would be a dead end until further development occurs to the east in the South Palm Precise Plan area. Because



California Terraces would be developed in four phases, the build-out traffic volumes would occur in stages. Therefore, the ultimate traffic improvements shown in Figure 39 can also be phased to accommodate the incremental construction of the project. Table 15 shows the incremental improvements needed to adequately handle traffic generated by particular numbers of dwelling units and commercial acreages.

## Significance of the Impacts

The generation of 50,856 ADT from land uses in the precise plan would create a significant impact upon the traffic circulation system in the Otay Mesa planning area. The impacts can be mitigated through adoption of the proposed California Terraces Precise Plan transportation improvements and phasing plan.

## Mitigation, Monitoring, and Reporting Program

Traffic impacts resulting from the build-out of the precise plan and the adjacent community can be mitigated to a level below significance by adoption of the precise plan street system in subsequent tentative maps as shown in Figure 39 (USA 1990). All roadway improvements shall meet the City's street design standards. These improvements can be constructed in accordance with the phasing shown in Table 15. Further mitigation measures are discussed in the second issue question addressing cumulative traffic impacts.

### a) California Terraces Precise Plan

The following measure shall be a condition of approval of subsequent tentative maps within the precise plan boundary. The circulation system shown in Figure 39 shall be incorporated into the precise plan and the applicable portions of the system shall be shown on all subsequent tentative maps.

It shall be a condition of approval of the precise plan that the applicable above mitigation measures be conditions of subsequent tentative maps within the precise plan. The City of San Diego Engineering and Development Department shall verify this is a condition of the precise plan prior to approval.

### b) California Terraces and South Palm Vista VTMs

The following measure shall be a condition of approval of subsequent tentative maps within the precise plan boundary. The circulation system shown in Figure 39 shall be incorporated into the applicable subsequent tentative maps.

**TABLE 15  
TRANSPORTATION IMPROVEMENT PHASING**

Improvement	Threshold	
	Dwelling Units	Commercial Acres
Construct Palm Avenue as four lanes, two lanes each direction plus median, to primary arterial standards between I-805 and west subdivision boundary	500*	
Construct Palm Avenue as four lanes to major street standards between first intersection and Dennery Canyon Road	500*	
<u>Improve the Palm Avenue/I-805 interchange as recommended in a project report assured to the satisfaction of the City Engineer</u>	1,513	5.5
Construct Palm Avenue as a four-lane major street between Dennery Canyon Road and Del Sol Boulevard	1,513	5.5
<u>Construct Palm Avenue as a minimum two-lanes facility, one half of a four-lane major street between Del Sol Boulevard and "A" Street to the satisfaction of the City Engineer</u>	1,513	5.5
<u>Construct "A" Street, an ultimate four-lane major street, as a minimum two-lanes facility, one half of a four-lane collector street between Palm Avenue and Otay Mesa Road to the satisfaction of the City Engineer</u>	1,513	5.5
Construct Del Sol Boulevard, north half, as two lanes, one half of a four-lane collector street along subdivision map frontage	N/A (subdivision map/school/park requirement)	
Construct Del Sol Boulevard, south half, as two lanes of a four-lane collector street along subdivision map frontage	N/A (subdivision map/school/park requirement)	
Complete the construction of Palm Avenue, westerly half, as a four-lane major street between Del Sol Boulevard and "A" Street	3,934	8.4
Construct easterly partial improvements of "A" Street as a four-lane major street between Palm Avenue and Otay Mesa Road	3,934	8.4
<u>Construct Palm Avenue, north half, with two-lanes as one half of a six-four-lane major street between "A" Street and Otay Mesa Road to the satisfaction of the City Engineer</u>	5,138	24.4

**TABLE 15**  
**TRANSPORTATION IMPROVEMENT PHASING**  
(continued)

Improvement	Threshold	
	Dwelling Units	Commercial Acres
Improve Otay Mesa Road as a six-lane major street between California Terraces "A" Street and Palm Avenue	5,138	24.4
Improve Otay Mesa Road to six-lane major street standards between "A" Street and I-905 ramps	5,138	24.4
Complete the construction of Palm Avenue as a six-lane primary arterial between I-805 and west subdivision boundary	5,138	24.4
Construct Otay Mesa Road (extension of "A" Street) south of I-905 as one half of a four-lane collector street to Parcel 26 access. Reserve four-lane collector right-of-way to southerly subdivision boundary	N/A (subdivision map requirement)	
Construct Otay Mesa Road as one half of a four-lane collector street adjacent to Parcel 24 of California Terraces	N/A (subdivision map requirement)	
Complete improvements of Otay Mesa Road to six-lane major street standards between east subdivision boundary and Palm Avenue	5,375	24.4
If I-905 freeway is constructed prior to development of the south phase and Caltrans is unwilling to construct the future "A" Street bridge over I-905 utilizing state funds, then construction of "A" Street will be a threshold condition of Parcels 24, 25, & 26 development	(Only applies if I-905 is completed before California Terraces build-out and Caltrans does not fund the bridge)	

NOTES: Improvements to be assured to the satisfaction of the City Engineer before final maps for the listed thresholds can be approved.

"Threshold" indicates maximum amount of development allowed within California Terraces with assurance of the listed improvement.

Assured improvements to be completed, under contract, bonded, ~~scheduled in the City Capital Improvements Program~~ or Otay Mesa Financing Plan, to the satisfaction of the City Engineer.

This plan is intended to serve as a guideline for sequential development of street improvements. Because the geographic order of developments is not certain, ~~it may be necessary for the City Engineer to regularly review and revise this phasing plan in order~~ to reflect current land development proposals and actual trip generation rates and trip distribution.

\*Only if development has direct access.

The City of San Diego Engineering and Development Department shall verify that the circulation system shown on the precise plan and on all subsequent tentative maps are consistent with the system shown in Figure 39 and with the City's street design standards.

Prior to occupancy of the nth dwelling unit and/or commercial parcel, the circulation system improvements shown in Table 15 shall be completed. Prior to issuance of the occupancy permits for the nth dwelling unit and/or commercial parcel, the Building and Inspection Department shall inspect the site to verify that the required circulation system improvements shown in Table 15 have been constructed.

## 2) Issue

Would the project result in cumulative traffic impacts to the community or regional circulation system?

### Impacts

The precise plan area and much of the Otay Mesa planning area is presently undeveloped. Development plans for several projects surrounding the site are in various stages of planning and environmental review. In order to determine the needed off-site transportation improvements, regional traffic that would contribute to total traffic volumes on Otay Mesa Road, SR-905, and Palm Avenue during the phased development of California Terraces was estimated.

The assessment of regional traffic impacts and improvements included estimated traffic from the Robinhood Ridge project, Gateway Fair project, and a mobile home park project planned for the southside of Palm Avenue. Background traffic also included 20 acres of industrial development (e.g., Otay Corporate Center) per year. Robinhood Ridge is a precise plan area to the northeast of California Terraces which is anticipated to generate approximately 9,840 trips. Of these trips, 1,900 would use SR-905 while 5,900 would use Palm Avenue at I-805. Gateway Fair, a commercial development proposed for the area north of Palm Avenue directly east of I-805, is projected to generate 13,439 trips. These trips were included in the traffic volume estimates for Palm Avenue. Figure 39 shows the projected build-out traffic volumes for the roadways in the project area. The street system shown in Figure 39 was designed to accommodate the project-generated traffic and the projected traffic generated by build-out of the Otay Mesa area.

Cumulative traffic generated by development of Otay Mesa could impact on- and off-ramps at I-805 and SR-905. However, development of public transportation could help reduce vehicle trips generated in the area. A trolley line has been planned by the Metropolitan Transit Development Board (MTDB) to run from the Iris Street station east along the SR-905 alignment to a point one mile east of I-805, continuing along the Otay

Mesa Road alignment to future SR-125. A station has been planned on Caliente Boulevard which would be adjacent to the south project boundary. This line is planned for development within the next 20 years (Mendoza, MTDB, 7/30/92). The community plan calls for a public transportation system consisting of four subsystems: regional express, subregional, intracommunity, and local (City of San Diego 1981:130). The regional express and subregional subsystems are proposed to operate on SR-905 and proposed SR-125. Intracommunity routes near the project site are proposed for Palm Avenue, Otay Valley Road, Otay Mesa Road, and Del Sol Boulevard. Currently, there is no bus service in the project area. The transit agency determined to be responsible for the area would determine the timing of development and the number and locations of routes in the project area. Other public transit facilities such as ramp signalization on I-805, high occupancy vehicle (HOV) lanes on I-805 or SR-905, and park-and-ride lots would be the responsibility of Caltrans to study and develop if determined necessary.

## **Significance of the Impacts**

The traffic generated from the land uses in the proposed precise plan, combined with trips from proposed developments which are outside the precise plan area, would create a cumulatively significant traffic impact at the identified freeway ramps.

## **Mitigation, Monitoring, and Reporting Program**

Reducing the vehicle miles traveled by residents and users of the project site would help relieve cumulative impacts to the region's circulation system. Vehicle trips could be reduced by providing access to public transportation. The applicant shall provide any bus stops or shelters required by San Diego Transit to develop needed bus routes through the project site. If requested by MTDB, the applicant shall work with that agency to develop the trolley line and station along the SR-905/Otay Mesa Road planned route.

It shall be a condition of the precise plan and all subsequent tentative maps that provisions for bus stops and/or shelters shall be provided upon request by the transit agency responsible for the area. It shall also be a condition of the precise plan and subsequent tentative maps that the applicant work with MTDB if the agency requires information regarding the planned trolley line and station near the project site.

EAS shall verify that these conditions have been included in the precise plan and subsequent tentative maps. Subsequent tentative maps shall provide the required measures prior to issuance of occupancy permits.

### 3) Issue

How would the project implement recommendations in the Otay Mesa Community Plan for bikeways and pedestrian paths?

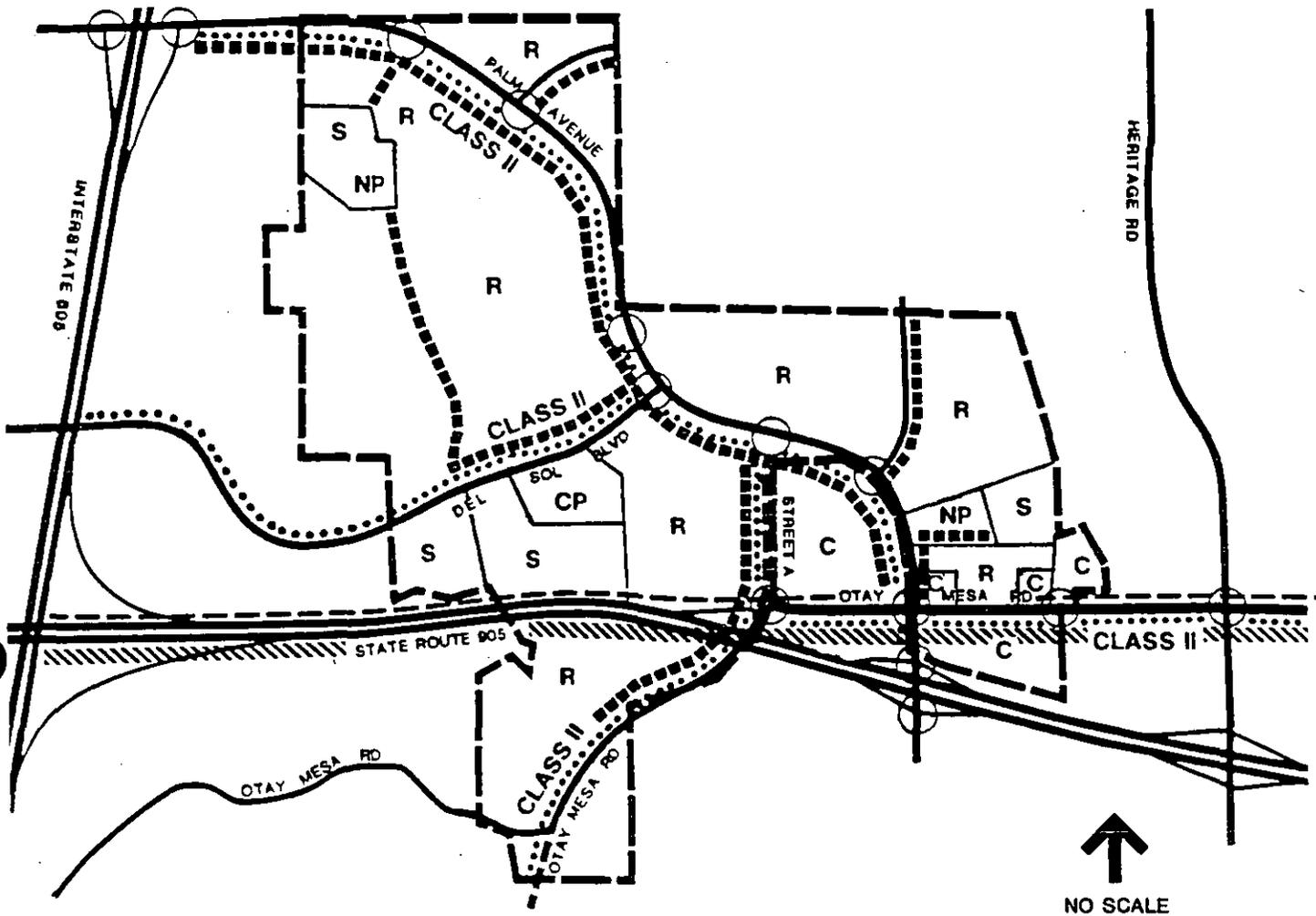
#### Impacts

The California Terraces Precise Plan proposed bikeway system would provide internal bicycle circulation, while linking the planning area to the community bike network and community activity centers such as parks, schools, the future town center, and institutional complexes. The bikeway system would involve the provision of marked bicycle lanes within the roadbeds of arterials, major streets, and access-controlled collector roads consistent with the bikeway system shown in the community plan (City of San Diego 1981:135). Figure 40 shows the Class II bikeways proposed in the project and the facilities which are linked by these bikeways. Access to the neighborhood park and school sites in the southeast area of the project would be provided by a low-volume cul-de-sac off Otay Mesa Road. The major roads, Palm Avenue, "A" Street, Otay Mesa Road, and Del Sol Boulevard would be provided with Class II bikeways, and parking would be prohibited. Collector streets shall also have bikeways, and an additional 10 feet of street width and right-of-way would be provided in accordance with the community plan objectives. The system should be completed with lockable bicycle racks or storage lockers at high activity centers and major transit stops to fulfill all the objectives regarding bikeways stated in the community plan.

The precise plan proposes pedestrian pathways to link the various residential projects with the community or neighborhood facilities. The pedestrian path system would include sidewalks within the parkways of arterial, major, and four-lane collectors (Palm Avenue, "A" Street, Del Sol Boulevard, and Otay Mesa Road) which are constructed in accordance with the streetscape design described in Chapter 4 of the precise plan. Standard sidewalks would be built along all local and local collector residential streets and pathways would be constructed within attached housing projects.

#### Significance of the Impacts

The proposed precise plan includes provisions for bikeways and pedestrian pathways in accordance with all but one of the recommendations in the Otay Mesa Community Plan.



- LIGHT RAIL TRANSIT LINE
- SIGNALIZED CROSSING
- ▬▬▬ PEDESTRIAN ROUTES (SIDEWALKS/TRAILS)
- ..... MARKED BICYCLE LANE
- ▨▨▨ BUS TRANSIT (PRIVATE)
- C COMMERCIAL
- S SCHOOL
- NP NEIGHBORHOOD PARK
- CP COMMUNITY PARK
- R RESIDENTIAL

SOURCE: PROJECT DESIGN CONSULTANTS, 1992

FIGURE 40. PRECISE PLAN ALTERNATE TRANSPORT MODES

## Mitigation, Monitoring, and Reporting Program

In conformance with the objectives of the community plan, lockable bike racks or storage lockers shall be provided at all school sites, parks, and commercial centers. Bikeways and sidewalks shall be constructed in conformance with City standards.

It shall be a condition of the precise plan that all subsequent tentative maps show the bikeways and sidewalks to be constructed. EAS shall verify that this condition is included in the precise plan prior to its approval.

It shall be a condition of the tentative maps that bikeways and sidewalks are constructed in conformance with City standards.

Provision of lockable bike racks or storage lockers at all schools, parks, and commercial areas shall be a condition of the precise plan and all tentative maps which contain these land uses. The City of San Diego Planning Department shall verify that these conditions have been placed on the maps prior to their approval. These measures shall be in place prior to issuance of occupancy permits.

EAS shall verify that bikeways and sidewalks are shown on the tentative maps in conformance with the conditions of the precise plan prior to approval of the tentative maps.

## H. Air Quality

### Existing Conditions

The California Terraces Precise Plan project site is located in the southeastern portion of the city of San Diego, one-half mile east of the I-805 and SR-905 interchange. The project area comprises approximately 665 acres in the western portion of Otay Mesa, overlooking the Otay River valley to the north and San Ysidro and the Pacific Ocean to the west. In the vicinity of the project site are San Ysidro and Imperial Beach to the west, Chula Vista to the north, Brown Field to the east, and Tijuana to the south.

#### a) Climate

Otay Mesa's climate, as with most of southern California, is dominated by the interaction of ocean/land influences and by the strength and position of the Pacific High Pressure Zone. Summers are warm and dry, while winters are mild with occasional rains. Within the project vicinity, the mean annual temperature is 60° F, with summer high temperatures in the low 70s and winter lows in the low 40s (University of California Agricultural Extension Service [UCAES] 1967:39). The average precipitation of 10.3 inches per year falls almost exclusively from November through April (UCAES 1967:61).

Winds are generally light with a fresh onshore breeze most afternoons and predominantly calm or slight offshore winds at night. Winds are an important criterion for defining the initial rate of dilution near a source and for determining the regional trajectory of these emissions. Daytime winds are usually strong enough to prevent localized pollution stagnation, but may transport pollutants from other source areas into Otay Mesa. Nighttime winds, while entering Otay Mesa from "clean" source areas, are so slow and occur under such nonturbulent conditions that they may lead to pollution "hot spots" near low-level source areas such as freeways or large parking lots.

In conjunction with the two characteristic onshore/offshore wind patterns, there are two types of temperature inversions (reversals of the normal decrease of temperature with height) which occur within the region. These inversions affect atmospheric dispersive capacity. When a buoyant parcel of polluted air rises, it cools by expansion. If the air around the parcel is warm, as in an inversion, the parcel sinks back down toward its source and is effectively prohibited from dispersing. In summer, a marine/subsidence inversion is formed when the warm, sinking air mass in the Pacific High Pressure Zone is undercut by a shallow layer of cool marine air flowing onshore. This inversion forms over the entire coastal plain and allows for mixing below the inversion base at 1,000-1,500 feet, but not any higher. Elevations on the project site range from approximately 250 to 540 feet above MSL.

During the offshore flow system, cold air pools in low areas and air in contact with the cold ground cools while the air aloft remains warm. This forms nightly shallow radiation inversions, generally associated with locally high levels of vehicular pollutants, which burn off after sunrise.

The predominant pattern is sometimes interrupted by so-called Santa Ana conditions, when high pressure over the Nevada-Utah area overcomes the prevailing westerlies, sending strong, steady, hot, dry winds east over the mountains and out to sea. Strong Santa Anas tend to blow pollutants out over the ocean, producing clear days. However, at the onset or breakdown of these conditions or if the Santa Ana is weak, air quality may be adversely affected. In these cases, emissions from the South Coast Air Basin to the north are blown out over the ocean, and low pressure over Baja California draws this pollutant-laden air mass southward. As the high pressure weakens, prevailing northwesterlies reassert themselves and send this cloud of contamination ashore in the San Diego Air Basin. There is a potential for such an occurrence about 45 days of the year. When this impact does occur, the combination of transported and locally produced contaminants produces the worst air quality measurements recorded in the basin.

#### **b) Air Quality**

The study area is within the San Diego Air Basin (SDAB). The concentration of pollutants within the SDAB is measured at 11 stations maintained by the County of San Diego Air Pollution Control District (APCD) and the California Air Resources Board (CARB). Table 16 lists the applicable state and federal standards for maximum air pollutant concentrations.

The air quality monitoring station nearest to the project site is located at 80 East J Street in Chula Vista. Monitoring results from this station are considered representative of the conditions on the project site.

Air quality is commonly expressed as the number of days on which air pollution levels exceed state standards and/or federal standards set by the Environmental Protection Agency (EPA). Table 17 lists the number of days pollutants exceeded the applicable state and federal standards at the Chula Vista monitoring station during the period 1987 to 1991.

At the Chula Vista monitoring station, the state ozone standard was exceeded 13 days in 1991 and the federal standard was exceeded 3 days in 1991. The state 24-hour average for particulate matter was also exceeded in 1990, but the federal standard was not exceeded. The area did not exceed the standards for carbon monoxide, nitrogen dioxide, or sulfur dioxide in 1987 through 1991.

**TABLE 16**  
**AMBIENT AIR QUALITY STANDARDS**

Pollutant	Maximum Concentration Averaged over Specified Time Period	
	State Standard	Federal Standard
Oxidant (ozone)	0.09 ppm (180 $\mu\text{g}/\text{m}^3$ ) 1 hr.	0.12 ppm (235 $\mu\text{g}/\text{m}^3$ ) 1 hr.
Carbon monoxide	9.0 ppm (10 $\mu\text{g}/\text{m}^3$ ) 8 hr.	9 ppm (10 $\mu\text{g}/\text{m}^3$ ) 8 hr.
Sulfur dioxide	0.05 ppm (131 $\mu\text{g}/\text{m}^3$ ) 24 hr.	0.14 ppm (365 $\mu\text{g}/\text{m}^3$ ) 24 hr.
Nitrogen dioxide	0.25 ppm (470 $\mu\text{g}/\text{m}^3$ ) 1 hr.	0.05 ppm (100 $\mu\text{g}/\text{m}^3$ ) Annual Average
Lead	1.5 $\mu\text{g}/\text{m}^3$ 30-day Average	1.5 $\mu\text{g}/\text{m}^3$ Calendar Quarter
Suspended particulate matter (PM-10)	30 $\mu\text{g}/\text{m}^3$ Annual Geometric Mean	50 $\mu\text{g}/\text{m}^3$ Annual Arithmetic Mean

**TABLE 17  
DAYS OVER AIR QUALITY STANDARDS  
CHULA VISTA MONITORING STATION**

Pollutant	Year				
	1987	1988	1989	1990	1991
<b>Ozone</b>					
Federal 1-hour standard (0.12 ppm)	2	4	7	3	3
State 1-hour standard (0.09 ppm)	15	17	21	21	13
<b>Carbon monoxide</b>					
Federal 8-hour average (> 9 ppm)	0	0	0	0	0
State 8-hour average (9 ppm)	0	0	0	0	0
<b>Nitrogen dioxide</b>					
Federal annual average (0.053 ppm)	0	0	0	0	0
State 1-hour standard (0.25 ppm)	0	0	0	0	0
<b>Sulfur dioxide</b>					
Federal annual average (0.03 ppm)	0	0	0	0	0
State 1-hour average (0.25 ppm)	0	0	0	0	0
State 24-hour average (0.05 ppm)	0	0	0	0	0
<b>Suspended 10-micron particulate matter (PM-10)</b>					
Federal 24-hour average (150 µg/m <sup>3</sup> )	0	0	0	0	0
Federal annual arithmetic mean (50 µg/m <sup>3</sup> )	0	*	0	0	0
State 24-hour average (50 µg/m <sup>3</sup> )†	5/61	3/92	7/61	7/62	ND
State annual geometric mean (30 µg/m <sup>3</sup> )	0	*	EX	0	EX

SOURCE: California Air Resources Board 1987, 1988, 1989a, 1990; County of San Diego 1992.

ppm - parts per million  
 µg/m<sup>3</sup> - micrograms per cubic meter  
 EX - annual average standard exceeded  
 ND - no data available

\*Data presented are valid but incomplete in that an insufficient number of valid data points were collected to meet EPA and/or CARB representative criteria.

†Number of days over standard/number of days data collected.

The San Diego APCD is responsible for achieving both state and federal air quality standards throughout the San Diego Air Basin. The programs and strategies by which the APCD proposes to meet the state and federal air quality standards are stated in the Regional Air Quality Strategies (RAQS). This document has recently been updated. The APCD Board adopted the new version of the RAQS on June 30, 1992, and the CARB approved it in November, 1992.

The project site is located within the Otay Mesa community planning area. The community plan indicates the proposed public transportation system for Otay Mesa (Figure 41). The system is envisioned as four subsystems: regional express, subregional, intracommunity, and local feeder system. The community plan also indicates proposed bike and pedestrian ways (Figure 42). The routes should connect all activity centers of the community. Figure 40 illustrates what is proposed as part of the precise plan.

In addition to the public transportation systems, the site and surrounding area is used extensively by unauthorized off-road vehicles. The high amount of off-road-vehicle usage may contribute to regional air quality problems. The amount of pollutants contributed by the unauthorized use of off-road vehicles in the area has not been quantified or addressed in any studies to date.

There is a proposed MTDB trolley line which would follow the SR-905 median east to Otay Mesa Road, then continue east along Otay Mesa Road. A station is proposed at Caliente Boulevard. Construction is proposed in approximately 15 to 20 years (Mendoza, MTDB, 7/30/92).

## Issue

Will the proposed project affect the ability of revised RAQS to meet the state and federal clean air standards?

## Impacts

Implementation of the proposed project would result in long-term emissions of criteria pollutants due to increases in traffic in the area. Additional impacts could also occur if traffic generated within the project area were to result in inadequate traffic flow.

The traffic report prepared for this project concluded that with implementation of the mitigation measures recommended in the traffic report, all roadways used by the precise plan traffic would operate at acceptable levels (see Appendix F and the Traffic Circulation section). Therefore, air quality impacts due to inadequate traffic flow would not occur.



000562

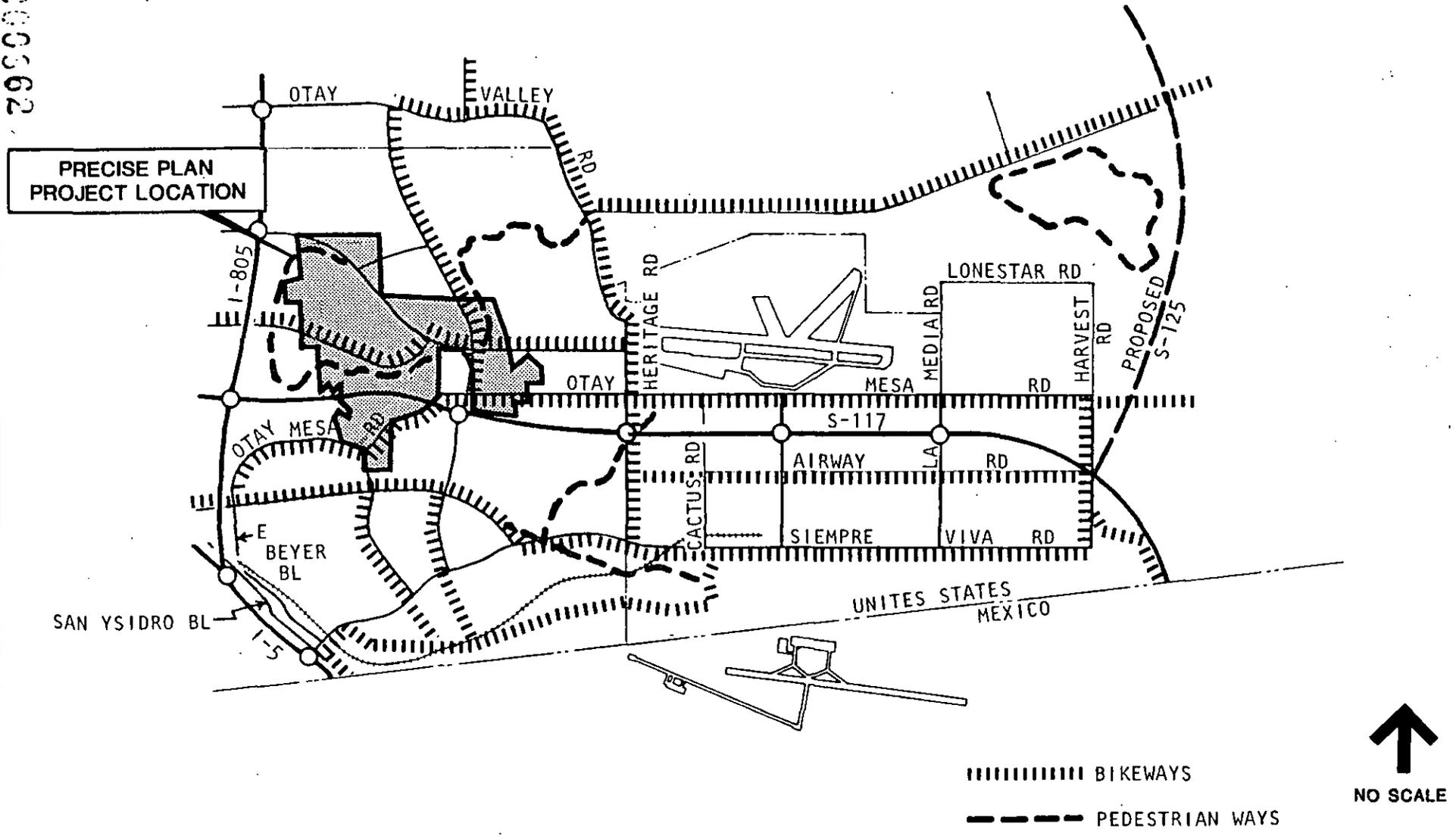


FIGURE 42. PROPOSED BIKE AND PEDESTRIAN WAYS AS DEPICTED IN THE COMMUNITY PLAN

For long-term emissions, the precise plan area contributions to the control of regional air quality may be measured by the degree to which the project is consistent with regional plans to improve and maintain air quality. The regional plan for San Diego is the San Diego RAQS. The California Air Resources Board has provided criteria for determining whether a project conforms with the RAQS (State of California 1989b:10), which include the following:

- a. Is a regional air quality plan being implemented in the project area?
- b. Is the project consistent with the growth assumptions in the regional air quality plan? and
- c. Does the project incorporate all feasible and available air quality control measures?

The project site is located within the city of San Diego, which is within the San Diego Air Basin. The new 1991/1992 RAQS will be implemented by APCD throughout the air basin. Therefore, the project fulfills the first criterion.

Normally, if a project is consistent with the City's General Plan, it can be considered consistent with the RAQS. This project is consistent with the City's General Plan. The proposed project does include a community plan amendment, generally to decrease the intensity of use from that planned. The decrease in intensity would not cause the project to generate more growth than what would have occurred under the community plan land use designations. Therefore, the project meets the second CARB criterion of being consistent with the growth assumptions.

Air quality control measures are incorporated into the project, such as incorporating some characteristics which would help reduce vehicle miles traveled to and from the project and fulfill CARB's third criterion. These include accommodating public transportation systems in conformance with the community plan, provision of bicycle lanes on major roadways within the project, and a pedestrian sidewalk system, as discussed in the Traffic Circulation section.

Three levels of public transportation are proposed in the community plan for the Otay Mesa area—regional, subregional, and intracommunity. The regional public transportation will link the Otay Mesa area to metropolitan San Diego and points northward, while the subregional transit system will link Otay Mesa to the South Bay communities. The intracommunity system of buses will extend along major and collector streets to provide service to residential, commercial, industrial, and public facility complexes within Otay Mesa.

Implementation of the community plan transit proposals would provide California Terraces with an adequate level of public transportation. Regional express routes on I-805 and SR-905 would be easily accessible via bus lines extending along Otay Mesa Road, Palm Avenue, Del Sol Boulevard, and Caliente Road. Other bus routes would ultimately provide connections to other areas of the community as well as Mexico.

As shown in Figure 40, the precise plan proposes a bikeway system which links the planning area to the community bike network and community activity centers such as parks, schools, the town center, and institutional complexes. The bikeway system involves marked bicycle lanes within the roadbeds of arterials, major streets, and access-controlled collector roads. The system should be completed with bicycle parking at high activity centers and major transit stops. Commercial centers will provide linkages to the community-level bicycle system.

Within California Terraces, a network of pedestrian paths is proposed to link the various residential projects with the community or neighborhood facilities. The pedestrian path system would include sidewalks within the parkways of arterials, major, and four-lane collectors. It would also include standard sidewalks along local and local-collector residential streets and along pathways within attached housing projects. Crosswalks with signals would be provided at major intersections identified in the precise plan.

## **Significance of the Impacts**

Implementation of the proposed project could cause significant direct impacts to regional air quality due to increases in pollutant emissions caused by project traffic. However, the precise plan has incorporated measures which would allow it to conform to the RAQS, including the provision of bike lanes and pedestrian trails to reduce vehicle miles traveled. Further, the applicants for future tentative maps shall work with the City to provide accommodation of bus routes and associated stops within the project area. With the mitigation measures discussed below, direct project impacts to air quality may be reduced to below a level of significance.

Potential cumulative air quality effects are discussed in Chapter 4.L., Cumulative Impacts.

## **Mitigation, Monitoring, and Reporting Program**

### **a) California Terraces Precise Plan**

The following mitigation measures shall be a condition of approval of those subsequent tentative maps within the precise plan boundary which include the areas shown on Figure 40 as requiring alternative transportation facilities.

The provision of alternative transportation routes as shown on Figure 40 shall be conditions of approval on all future tentative maps.

It shall be a condition of approval of the precise plan that the above mitigation measures be conditions of subsequent tentative maps within the precise plan. The City of San Diego Planning Department shall verify this is a condition of the precise plan approval prior to approval of the precise plan.

**b) California Terraces VTM**

Since the California Terraces VTM area includes areas shown on Figure 40 as requiring alternative transportation modes, provision of these shall be a condition of the VTM.

The alternative transportation routes shall be constructed prior to issuance of building permits. This shall be a condition of the VTM. A site inspection shall be conducted by EAS prior to issuance of building permits to ensure that improvements consistent with the approved precise street system have been properly constructed.

# I. Public Service and Utilities

## Existing Conditions

### a) Schools

California Terraces is located within the Otay Mesa community planning area. As shown in Figure 43, the project area is located within two elementary school districts. The Chula Vista City School District serves a small area in the northern portion of the project site, while a majority of the precise plan area is located within the San Ysidro School District. Boundary revisions have been proposed to place the entire project area within the San Ysidro School District; however, this has not yet occurred (Perez, San Ysidro School District, 7/24/92).

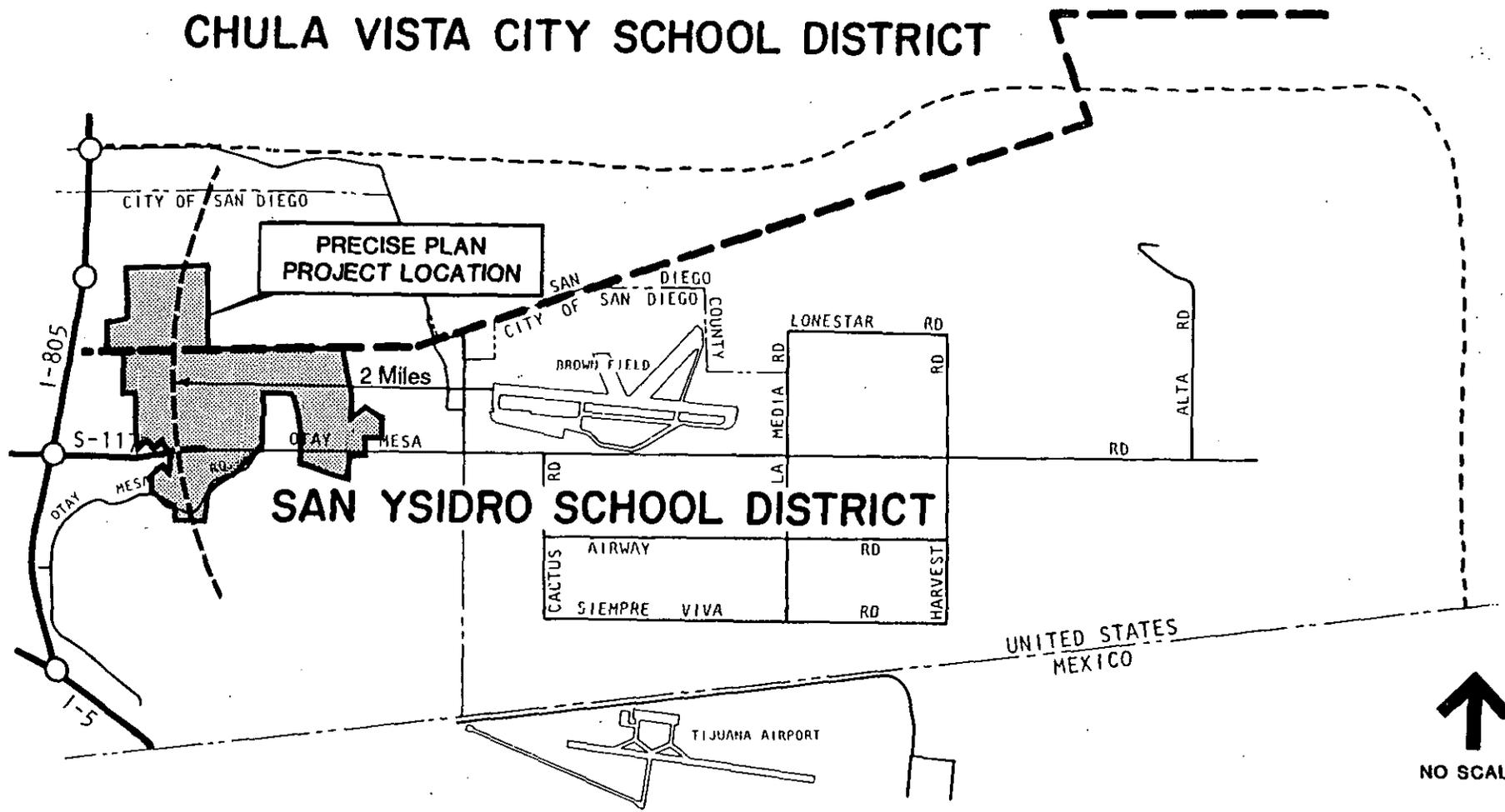
The San Ysidro School District serves grades kindergarten through eight. Existing schools within one mile of the project include Beyer Elementary located at 2312 East Beyer Boulevard and San Ysidro Middle School located at 4345 Otay Mesa Road. With a capacity of 631 and a current enrollment at the end of the 1992 school year of 809, Beyer Elementary is currently overcrowded. With a capacity of 1,182 and a current 1992 enrollment of 670, San Ysidro Middle School is currently operating within its design capacity (Perez, San Ysidro School District, 7/24/92).

The entire project site is within the service area of the Sweetwater Union High School District, which serves grades 9 through 12. Existing high schools closest to the project site are Southwest High School, located at 1685 Hollister, and Montgomery High School, located at 3250 Palm Avenue. Montgomery High School has a permanent capacity of 1,270 students and an additional temporary capacity of 480 from relocatable buildings for a total capacity of 1,750. The June, 1992 enrollment at Montgomery High School was 1,957 students. Southwest High School has a permanent capacity of 1,214 students and an additional temporary capacity of 780 from relocatables for a total capacity of 1,994. Enrollment in June, 1992 was 2,208 students. Both of these schools are severely impacted, and any development in Otay Mesa would require the district to begin construction of another high school (Silva, Sweetwater Union High School District, 7/24/92).

As depicted in Figure 13, the Otay Mesa Community Plan contains designated sites for future elementary, junior high, and senior high schools. One junior high school and three elementary schools are designated within the boundaries of California Terraces. Although it is recommended that proposed school sites be reserved, the actual site selection and reservation under the Subdivision Map Act (Section 66480) would be the responsibility of the school district. Section 66480 of the Subdivision Map Act states that "The public agency for whose benefit an area has been reserved shall at the time of

000567

# CHULA VISTA CITY SCHOOL DISTRICT



↑  
NO SCALE

ENTIRE STUDY AREA IS WITHIN THE  
SWEETWATER UNION HIGH SCHOOL DISTRICT

SOURCE: OTAY MESA COMMUNITY PLAN, 1981

FIGURE 43. SCHOOL DISTRICT BOUNDARIES

000567

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

The Miramar Filtration Plant is located two miles east of ~~Interstate 15 State Route 163~~ in the ~~Scripps Ranch Mira Mesa~~ area and has a capacity of 140 mgd. A two-year predesign study for expansion has recently been initiated that would increase capacity to 210 mgd. The expansion is expected to be built three to eight years after the predesign study has been completed. The Miramar Filtration Plant discharges into the 55-million-gallon-capacity Miramar Reservoir, located on-site (Sandbeck, City WUD, 7/27/92).

In the vicinity of California Terraces, treated water is conveyed through transmission water lines in the Otay Valley to the north, near the intersection of I-805 and Palm Avenue, and at Beyer Boulevard near I-805. These systems all operate on the 490 MSL pressure level and are supplied by the Lower Otay Reservoir to the northeast. The city also maintains a 24-inch water line in Otay Valley Road and Otay Mesa Road. This line is supplied by the 490 MSL main in the Otay Valley and is pumped to an approximate pressure level of ~~590~~ 610-MSL to serve the mesa properties. The existing pumps are located in the Otay Valley, approximately 3,000 feet north of the project area.

Development of a large portion of Otay Mesa, including California Terraces as well as Robinhood Ridge, Hidden Trails, the future Town Center, Santee Investments, Handler Properties, Dennery Ranch, Palm Vista, and Remington Hills, will require design and construction of a new water system to serve a new 680 pressure zone and an increase in the capacity of the existing system to serve the existing 490 pressure zone. Previous water supply studies have been prepared which identify and size water facilities for this and other projects; however, these studies must be updated and approved by WUD.

The existing water supply system for the Otay Mesa area is adequate only for current conditions and would require facility upgrades prior to future development in the area. New development will be subject to updating the existing water supply study to identify impacts and recommend improvements.

The existing WUD policy is to require projects to submit a site-specific water facilities study in order to identify more detailed plans of on- and off-site facilities necessary to provide water facilities to the project. The study would need to identify total and phased incremental water demands, identify the location of specific on- and off-site facilities, provide fire flow demands, and identify probable and specify funding mechanisms and implementation with respect to phasing in relation to this project and other associated projects' phasing in the area.

The water facilities study must be submitted to WUD prior to final map approval. At that time the Development and Environmental Planning Division would review the study and determine if the study would require subsequent environmental review to evaluate the impacts of the recommended facilities and adequacy of the water service.

The Engineering and Development Department will not approve the final maps without a water facilities study approved by WUD. In addition, all off-site improvements needed to serve each phase of development must be completed or assured to the satisfaction of the City Engineer and the WUD prior to the final map and completed prior to occupancy. ~~Development of the California Terraces project will require design and construction of a new water system to serve a new 680 pressure zone and increasing the capacity of the existing system to serve the existing 490 pressure zone. A water supply study has been prepared to identify and size the necessary facilities to serve the project. The study has been reviewed by the City Water Utilities Department and is undergoing revisions. The scope of the study includes identification of water demand, assessment of existing facility capacity, identification and sizing of new facilities, phasing of improvements and identification of financing options. The requirement to finalize the water supply study and obtain approval of same by the Water Utilities Department will be identified as one of the conditions of each tentative map within the precise plan.~~

#### d) Sewer

The entire project area is within the city limits of San Diego, and the City of San Diego provides wastewater service to areas within its corporate boundaries. The major components of the City's treatment and disposal system which apply to the project site are briefly characterized below.

#### Collection System

The city's wastewater collection system is the Metropolitan Sewerage System. After collection in the Otay International Center trunk sewer, which is north of the project site, the Effluent carried within the trunk line in Otay Valley flows to the intersection of Coronado Avenue and 19th Street. At this point, the major facilities of the collection system begin. ~~From this point, effluent flows northward through 42-inch and larger sewers, passes through two major pump stations, and arrives at the Point Loma Wastewater Treatment Plant. Municipal trunk sewers and local sewers all discharge to this metropolitan system.~~

#### Point Loma Treatment Plant

All of the City's wastewater is treated at the Point Loma treatment plant. The plant has a present capacity of 200 mgd and is continuously upgraded incrementally. The Point Loma treatment plant provides primary treatment, and an outfall pipeline carries the effluent for ocean disposal. The City's Clean Water Program is addressing a plan for implementation of an expansion and upgrade of the Point Loma facility to provide secondary treatment of wastewater in accordance with the Clean Water Act.

The WUD will require that projects in the area submit a site-specific sewer facilities study in order to identify more detailed plans of on-site facilities. The study would need

approval of the final map or parcel map enter into a binding agreement to acquire such reserved area within two years after the completion and acceptance of full improvements, unless such period of time is extended by mutual agreement." If the school district does not wish to utilize a proposed school site, then the site may be developed consistent with the adjacent land uses designated by the community plan dependent upon approval of a rezone from an institutional to an appropriate zone by the City Council (Section 66479(d), Subdivision Map Act). Also, where possible, the school sites should be situated adjacent to park sites to promote sharing of facilities (City of San Diego 1981:106,107,144).

Additionally, a majority of the precise plan falls within a two-mile radius of Brown Field runways (see Figure 43). Education Code 39005, 39006, 39007, and 81036 and Government Code 15854.5 establish a requirement of the State of California to investigate and make recommendations on the acquisition of property for a new school site or for an addition to a present school site located within two miles of an airport/heliport runway. The state has not made a recommendation relative to the acquisition at this time. Approval of school sites by the state, local districts, City of San Diego Transportation Division, San Diego County Division of Aeronautics, and the City is pending due to the City of San Diego's reevaluation of the use of Brown Field. The issue of school site placement outside the two-mile radius is discussed in detail in the Project Alternatives section of this EIR.

#### **b) Parks**

The Public Facilities Element of the community plan includes the following proposals for population-based parks (City of San Diego 1981:103):

1. Designate seven neighborhood parks and two community parks. Actual locations to be determined as a result of precise plan preparation.
2. Develop all park sites with their full complement of recreational facilities.
3. Designate, dedicate, and develop the neighborhood and community parks in accordance with General Plan guidelines.
4. Integrate all school playgrounds with park sites and facilities where possible.

The community plan (see Figure 14) has one neighborhood and one community park site designated within California Terraces. The City of San Diego Progress Guide and General Plan suggests that neighborhood parks should contain a minimum usable area of five acres when adjacent to an elementary school. They should serve 3,500 to 5,000 people and have a service area radius of not over one-half mile. Community park and recreation centers should be approximately 13 acres when adjacent to a junior high

school and should serve between 18,000 and 25,000 residents. Parks located adjacent to junior high school sites should have at least 13 usable acres or 20 acres if not so located as specified in the General Plan (City of San Diego 1981:102,105). At the time of recordation of the final subdivision map, the developer must dedicate land for community and neighborhood parks consistent with the community plan.

### c) Water

San Diego County is located in a semiarid region which receives an annual rainfall of less than 10 inches. Without other natural sources of fresh water, almost 90 percent of the San Diego metropolitan area's freshwater supply is imported.—~~The above average rainfall which occurred in the winter of 1991 brought an end to the region's seven year drought. Southern California's groundwater basins were overdrawn by 1.5 million acre feet or more during the recent drought.~~

In response to the recent drought, the City of San Diego has developed water conservation requirements for new projects. The City's policy requires that landscape include drought-tolerant plants and irrigation systems be designed to limit water waste. As for building construction, the City is requiring low-flow fixtures as defined in the Uniform Building Code.

The California Terraces Precise Plan is located within the water service area of the City of San Diego. Three water filtration plants serve the city—the Alvarado Filtration Plant, the Otay Filtration Plant, and the Miramar Filtration Plant. The Alvarado and Otay Filtration Plants utilize a mixture of State Water Project water, Colorado River water, and runoff, while the Miramar Filtration Plant does not utilize runoff. A majority of the water is bought from the San Diego County Water Authority.

The Otay Filtration Plant is located seven miles east of I-805 and has recently been expanded to a capacity of 40 million gallons per day (mgd). No further expansion plans are being considered at this time. The Otay Filtration Plant discharges into the 15.2-million-gallon South San Diego Reservoir, located four miles east of I-805 (Pierce, City Water Utilities Department (WUD), 7/27/92).

The Alvarado Filtration Plant is located 14 miles to the north of the project site. This filtration plant has a capacity of 120 mgd. A predesign study for expansion has just been completed, and detailed design plans are under way. The expansion should be designed and built possibly by the end of 1996. Its capacity is planned to be 170 mgd. The Alvarado Filtration Plant discharges into the Alvarado and Earl Thomas Reservoir, which has a capacity of 52 million gallons and is located on-site at the filtration plant (Pierce, City WUD, 7/27/92).

to identify total and phased incremental sewer demand, identify the location and sizing of on-site sewage facilities, provide a discussion on the demands on the Point Loma plant, and identify and specify implementation with respect to phasing and probable funding mechanisms. The sewer facilities study must be submitted to the WUD prior to final map approval.

The Engineering and Development Department will not approve the final maps without a sewer study approved by WUD. In addition, all off-site improvements needed to serve each phase of development must be completed or assured to the satisfaction of the City Engineer and the WUD prior to the final map and completed prior to occupancy.

## 1) Issue

Would the proposed project impact school and park facilities?

## Impacts

### a) Schools

#### California Terraces Precise Plan

As previously mentioned, a boundary revision has been suggested to place the entire project site within the San Ysidro Elementary School District. Based on a generation factor of 0.649 student per unit for grades K-8 (Perez, San Ysidro Elementary School District, 7/24/92) and 5,375 units, full development of the project would add 3,488 students to the San Ysidro School District. Elementary school students (K-6) would attend the schools provided by the California Terraces Precise Plan. Other students would attend San Ysidro Middle School. This school is currently operating within its capacity of 1,182 students.

As indicated in Figure 4, the precise plan proposes four school facilities, three elementary schools (serving grades K-6) and a junior high school (serving grades 7-8). The San Ysidro Elementary School District has, by letter dated March 18, 1987, determined that the allocation of one junior high school and three elementary schools is adequate for the proposed dwelling units.

A 10.8-acre elementary school site would be provided in the North Phase of the precise plan and would be located in the northern portion of the project site, near Palm Avenue. A Class II bikeway is proposed along Palm Avenue. A smaller street would connect Palm Avenue with the school site. Full pedestrian sidewalks are proposed along both these streets in this area. Another 10-acre elementary school site would be provided to the east of the future town center in the East Phase of the proposed project. Both schools would be located adjacent to neighborhood parks to enable the sharing of facilities. Both

school complexes would include school buildings, paved play areas, tot lots, and a centrally located parking lot with associated drop-off facilities. Refer to the Design Element of the precise plan for a description of the proposals for the integrated design of school facilities, sports and multi-purpose courts, picnic areas, play apparatus, and passive areas. A 12-acre elementary school is also planned in the Central Phase of the project along the western portion of the project boundary, to the north of SR-905. This school site would be located adjacent to a junior high school site. All of the elementary schools would be linked to the pedestrian bike system planned for the precise plan.

The precise plan would provide a 34-acre junior high school site in the west-central portion of the project area and the Central Phase of the project, to the south of Del Sol Boulevard. The site would be situated adjacent to a 13-acre community park to enable the sharing of facilities. The parking area would be centrally located to enable efficient use by both park and school users, and a pedestrian/bicycle linkage would provide access from the street system to the recreational building and play areas within the complex.

Development of the junior high school site would occur during the Central Phase. Although San Ysidro Middle School is currently within its capacity, students from the project would attend the middle school until new facilities are constructed. The addition of students would cause the middle school to exceed its capacity and would constitute a significant impact. Once development of the on-site junior high school is completed, students from the project site would attend the junior high school.

Based on a generation factor of 0.19 student per household, the proposed 5,375 dwelling units are projected to generate 1,021 high school students (Silva, Sweetwater Union High School District, 7/24/92). It is not clear at this time whether students would attend Montgomery or Southwest high schools or a future planned high school. Adding students to the presently overcrowded high schools prior to the provision of an additional high school would constitute a significant impact.

Within the Sweetwater Union High School District, the developer fees are \$1.65 per square foot for residential and \$0.72 per square foot for commercial uses. However, this is insufficient to provide permanent school facilities for students generated from residential developments (Campbell, Sweetwater Union High School District, 2/16/88). Therefore, it is anticipated that additional funding (e.g., a Mello-Roos Community Facilities District) would be necessary. The specific type of financing mechanism would be a condition of approval of each VTM.

If any of the school sites are not developed or are no longer needed for educational purposes, the properties should be designated for a zone consistent with the surrounding uses designated in the community plan. Development of the Del Sol school complex should be limited to single-family detached housing in the low density range, while the school sites to the east of the town center and in the north should be developed with

medium-density attached residential uses. The impacts associated with the potential land use change of the school site are discussed in a project alternative in Chapter 6 of this EIR.

When the precise plan is adopted, the Otay Mesa Community Plan would be appropriately adjusted to reflect the distribution of school sites within and outside of the project site. The adjustment to the community plan would be achieved by the adoption of the proposed community plan amendment.

### **California Terraces VTM**

As described in the project description, the California Terraces VTM proposes to provide all four of the school sites shown in the precise plan. The elementary school sites would be a minimum of ten net usable acres. The junior high school would be approximately 25 acres, when combined with the development of the adjacent parcel. These acreages are consistent with the recommendations of the General Plan for schools located adjacent to parks.

### **b) Parks**

#### **California Terraces Precise Plan**

California Terraces Precise Plan proposes three parks sites within the project boundaries. Although the community plan designates only two parks (on a total of 29 acres) within the precise plan area, California Terraces would provide two neighborhood parks and one community park on a total of 25.7 acres. All park sites would be developed with recreational facilities, and the parks would be designated, dedicated, and developed in accordance with the community plan. In addition, all park sites would be integrated with school facilities.

The community plan indicates that neighborhood parks should be a minimum of five acres when situated adjacent to an elementary school and that community parks should be approximately 13 acres when situated adjacent to junior high schools. The precise plan provides one 7.1- and one 5.6-acre neighborhood park (both adjacent to elementary schools) and a 13-acre community park adjacent to a junior high school site. The community park site would be capable of accommodating active and passive areas as well as a recreational building and a pool.

The park sites were chosen for their accessibility to the community and neighborhood street systems and for their visibility within the community. The community park would be highly visible from SR-905 and Del Sol Boulevard. Once developed and landscaped, the park-school sites would become community landmarks and highly visible from Palm Avenue and the housing areas within its vicinity. The potential noise impacts to these sites is discussed in the Noise section of this EIR, along with mitigation measures.

The three parks would provide adequate facilities to serve the entire project area. Both neighborhood parks would have adequate area and facilities to serve 2,500 to 5,000 people, while the community park would be able to serve up to 25,000 people. As indicated in Table 2, California Terraces is projected to generate a population of 12,354. The precise plan would provide adequate park facilities for the generated population.

### **California Terraces VTM**

The California Terraces VTM would provide the three park sites of the precise plan. These would be in the same locations as identified in the precise plan and would be 5.0 and 5.6 acres for the neighborhood parks and 13.0 acres for the community park, as recommended in the General Plan.

#### **c) Phasing**

Development of the precise plan area would occur in four phases. The California Terraces VTM implements this same phasing program. In general, public facilities would be provided as needed under the Public Facilities Financing Plan. Development of the public facilities would be based on the recommended standards of the general plan for schools and parks, as described in Existing Conditions. Provision of facilities would be as follows:

1. Streets, utilities, and drainage facilities would be constructed along with residential development to ensure sufficient capacity to meet residents' requirements.
2. Community level facilities would be built when the service area is sufficient, with fees or assessments collected as construction progresses. These facilities are within the facilities financing plan.
3. Phasing of the schools would be determined by the affected school district and would be incorporated into the financing plan.

The North Phase of the precise plan would occur in the northern portion of the plan area and would include the development of 651 single-family and 867 multi-family units. The northern elementary school and neighborhood park would be developed in conformance with the facilities financing plan.

During the Central Phase of the precise plan, the junior high school and the community park would be built. This phase would include the construction of 2,172 multi-family units to the west of the future town center and the development of 249 single-family units to the northeast of the community park.

The East Phase of the precise plan includes the development of the areas to the north and east of the future town center, including 1,204 multi-family units. At this time, the elementary school and neighborhood park to the east of the town center would be developed.

During the South Phase of the precise plan, the areas to the south of SR-117, south of Otay Mesa Road, and west of the junior high school would be developed, resulting in 189 single-family and 48 multi-family units. Also during this time, the elementary school site south of Del Sol Boulevard would be developed.

## **Significance of the Impacts**

### **a) Schools**

The addition of students from the precise plan area and the California Terraces and South Palm VTMs to the area's middle and senior high schools would be a significant impact due to the existing overcrowding of those facilities. These impacts would be alleviated by the construction of the schools within precise plan in accordance with the Public Facilities Financing Plan and the funding contribution derived from the financing mechanism required as a condition of each VTM. If agreements cannot be reached to ensure the provision of schools at the time students are generated by the project, then significant impacts would occur.

### **b) Parks**

No significant impacts have been identified.

### **c) Phasing**

No significant impacts would occur from the precise plan or its implementation by the California Terraces and South Palm VTMs if the Public Facilities Financing Plan is properly implemented.

## **Mitigation, Monitoring, and Reporting Program**

### **a) Schools**

#### **California Terraces Precise Plan**

The City of San Diego Planning Department shall ensure that it is a condition of approval of future tentative maps within the precise plan boundary that the developer be required to demonstrate that agreements have been made with the affected school districts to ensure that the appropriate funds are made available to the districts prior to recording any

final map. Funding could be derived from a Mello-Roos Community Facilities District. This district could cover California Terraces and any other development on the west end of Otay Mesa which is primarily zoned residential, commercial, and industrial. The funds would be used partially to finance construction of the new schools on-site and could also be used to provide portable classrooms at the schools which would be affected by students as described above generated from the initial phases of development. Implementation of those applicable portions of the Public Facilities Financing Plan shall be a condition of subsequent tentative maps. Alternative school site locations are discussed in Chapter 6 of this report. The City shall ensure this is a condition prior to approval of the precise plan.

### **California Terraces and South Palm VTMs**

The City of San Diego Planning Department shall ensure that it is a condition of these tentative maps that the developer be required to demonstrate that agreements have been made with the affected school districts to ensure that the appropriate funds are made available to the districts prior to recording of any final map. Funding could be derived from a Mello-Roos Community Facilities District. This district could cover California Terraces and any other development on the west end of Otay Mesa which is primarily zoned residential, commercial, and industrial. The funds would be used partially to finance construction of the new schools on-site and could also be used to provide portable classrooms at the schools which would be affected by students as described above generated from the initial phases of development. Implementation of those applicable portions of the Public Facilities Financing Plan shall also be a condition of these tentative maps.

Agreements shall be made between the developer and affected school districts prior to approval of final maps ensuring that funds are available for acquisition and construction of required school facilities. Prior to issuance of any building permits within the precise plan area, the school sites for the phase to be developed shall be approved by the San Ysidro Elementary School District and the Sweetwater Union High School District, and the Public Facilities Financing Plan shall be implemented according to the schedule.

#### **b) Parks**

No mitigation is required.

#### **c) Phasing**

No mitigation is required.

## 2) Issue

How would the project obtain sewer and water service?

### Impacts

#### a) Water

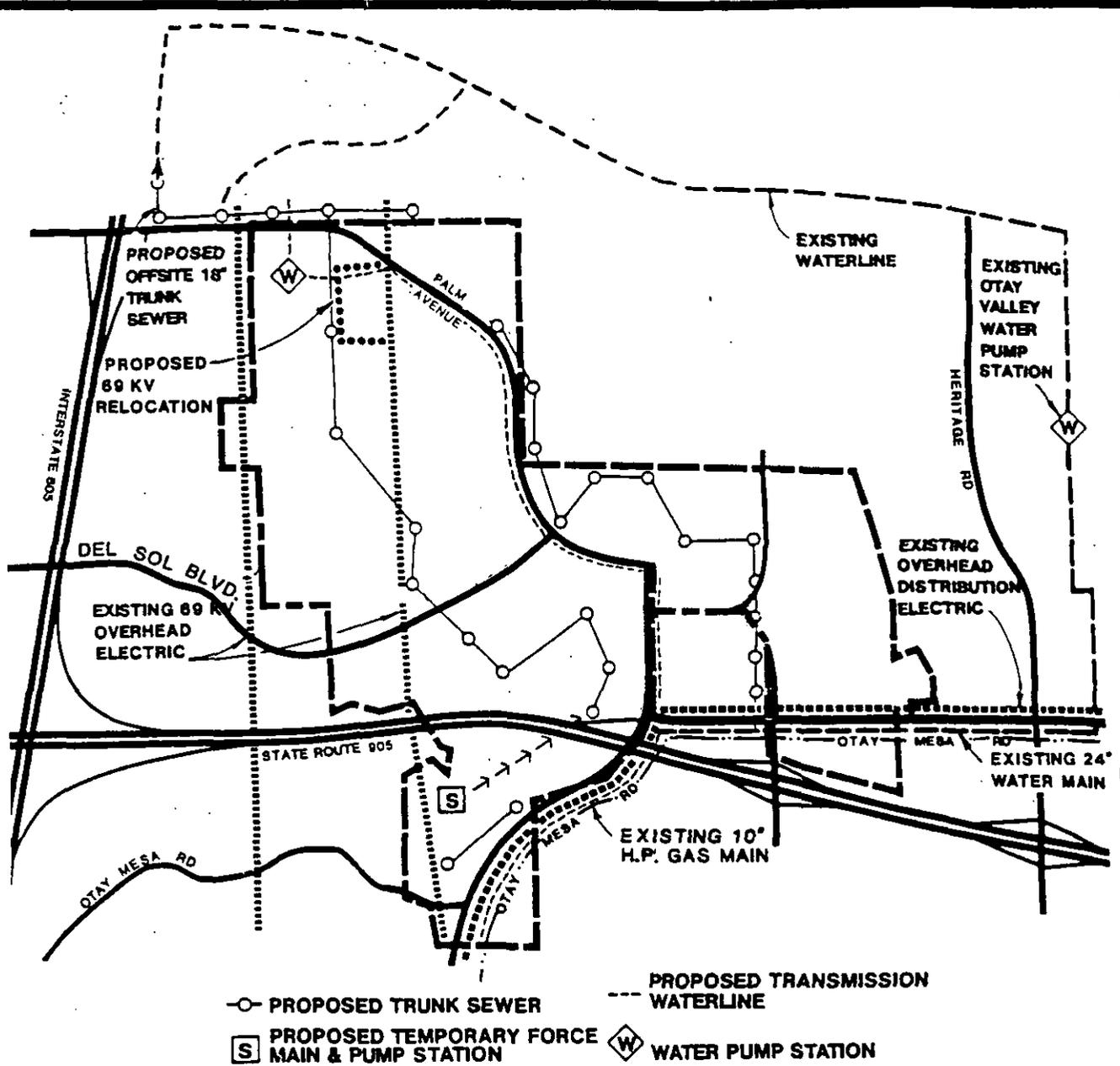
A water supply study was conducted by N.B.S. Lowry and Associates in July 1989 and Boyle Engineering Corporation in September 1990 and address the water system for California Terraces Precise Plan area and the surrounding properties. Both studies recommend that a new pressure zone be established operating at a static head of approximately 680 MSL. This zone would supply adequate pressure to all of those lands within the Otay Mesa Community Plan area lying above the elevation 340 feet and which are not presently served by the water district. Those areas below elevation 340 feet would be served from the existing 490 pressure zone.

Approximately 95 percent of the precise plan area lies within the new 680 zone, and the remaining area would be served by the 490 zone. Existing and proposed water lines and pump stations are shown in Figure 44. The new 680 zone would be created by a series of three water pumping stations. Each pump station would draw water from the existing network of pipes in the 490 zone and would boost the pressure sufficiently to deliver the required fire flows (along with domestic demand) to the higher properties. Implementation of the precise plan and VTMs would require the first two of the three pump stations to be installed.

Based on current water consumption rates for residential, commercial, and school and park uses and an estimated population for the California Terraces Precise Plan of 12,375 persons, it is estimated that the project would create a demand of approximately 2.35 million gallons per day, would accommodate an estimated total 12,354 persons. These would demand approximately 1.85 million gallons per day, based on the City's current per capita residential demand rate of 150 gallons per day.

The initial phases of the precise plan development (or the first development to occur in this area) would require upgrading the existing pump station for capacity and pressure. The later phases would require development of the second pump station. In addition to these two stations, an emergency water connection to the Otay Water District is proposed. This connection would be near the southwest corner of Brown Field. With the two stations and the emergency tie, an adequate and reliable water supply would be available for the project site. On site transmission mains would be sized in accordance with the overall ultimate system plan.

000378



↑  
 NO SCALE

FIGURE 44. EXISTING AND PROPOSED WATERLINES AND PUMP STATIONS

000379

073000

**b) Sewer**

The project site, as well as the 40 acres designated for the future town center, would be served by a new 15- to 18-inch trunk sewer (see Figure 44). The trunk would be constructed off-site, from the northwest corner of the precise plan area within the alignment of the proposed connection of Palm Avenue, and would connect with the existing Otay International Center (OIC) trunk sewer to the north of the project site, in Otay Valley. Connection to the OIC sewer involves payment of a surcharge fee to the City of San Diego in payment for reimbursements.

Based on current sewage generation rates for residential, school and park, and commercial uses, it is estimated that the project would create an average sewer flow of 1.21 mgd and a peak demand of approximately 2.10 mgd.

The portion of the plan area which lies south of SR-905 would eventually be sewered southwesterly into the City's gravity system at Beyer Boulevard and I-805. An off-site extension of this sewer would be needed within Otay Mesa Road, northeasterly of its present terminus. This extension is not practical until after extensive realignment and regrading of Otay Mesa Road. In the interim, the single-family residences proposed south of SR-905 would be served by a temporary pump station or gravity sewer. The temporary system would discharge effluent to the gravity sewer system north of SR-905. It would be abandoned when the ultimate gravity system to Beyer Boulevard has been provided. The California Terraces VTM proposes to install the temporary pump station along Otay Mesa Road south of SR-905, until such time as the necessary off-site improvements are required due to additional development. The temporary pump station would be adequate for the proposed VTM.

Ultimate necessary off-site improvements would include attaching the downstream end of the sewer main to the OIC sewer line. This off-site improvement area would be located near the northwestern corner of the project site and would consist of an approximately 0.5-mile-long corridor from the project area to the OIC sewer line. This line traverses the Gateway Fair project and the impacts have been previously addressed in that EIR.

## Significance of the Impacts

If development in the area occurs without upgrading the existing water pump station, potentially significant impacts would occur. In addition, because provisions of adequate sewer service cannot be assured without a sewer facilities study, sewer impacts are considered potentially significant.

## Mitigation, Monitoring, and Reporting Program

Water and sewer studies shall be submitted to the Water Utilities Department prior to approval of any final maps to mitigate the potentially significant impacts identified above. The water study shall include a study of reclaimed water transmission and on- and off-site distribution facilities. The Water Utilities Department director shall approve the studies and Clean Water Program staff shall review the reclaimed water study included as part of the water study. Approval of the studies may require subsequent environmental review of the project, if deemed necessary by the Development and Environmental Planning Division. Any significant impacts identified during subsequent environmental review shall be mitigated to reduce the impacts.

Prior to approval of any final map, off-site water and sewer improvements shall be designed and installed by the project applicant, as recommended in approved studies, to the satisfaction of the Water Utilities Department director. Additional environmental review will be necessary prior to construction of any off-site facilities.

Prior to issuance of any building permits, the project applicant shall design and install all on-site water and sewer facilities, as recommended in approved studies, including construction of a water storage reservoir approved by the Water Utilities Department, to the satisfaction of the Water Utilities Department director.

Prior to issuance of building permits, written verification shall be obtained from the Water Utilities Department to ensure that water and sewer service would be provided to the project (in the form of a "will-serve" letter addressed to the applicant and the Development and Environmental Planning Division).

The foregoing measures shall be implemented through conditions of approval for the proposed precise plan and VTM. All mitigation measures required as part of this EIR, and any mitigation measures required if subsequent environmental analysis of the water and sewer studies is considered necessary and significant impacts are identified, shall be noted on the grading plan (VTM). Prior to issuance of the grading permit, the Development and Environmental Planning Division, Water Utilities Department, and the Clean Water Program shall review the plan to ensure implementation of these measures. All facilities shall be in place prior to issuance of any building permits. The cost of implementing this mitigation shall be the responsibility of the project applicant.

## J. Safety

### Existing Conditions

#### a) Proximity to Brown Field

In 1970, the State of California enacted a law requiring the formation of an Airport Land Use Commission (ALUC) in each county containing a public airport. It was the commission's responsibility to formulate a comprehensive land use plan (CLUP) that would safeguard the general welfare of the inhabitants within the vicinity of the airport and the public in general. In 1981, SANDAG, the ALUC for the San Diego region, approved and adopted a CLUP for Brown Field. The CLUP addresses the impact on land uses resulting from aircraft operations at Brown Field. Restrictions on land uses within the vicinity of the airport are based on the noise levels and flight activity to which the land is exposed (SANDAG 1981:3).

An Airport Influence Area (AIA) is established for areas adjacent to airports which could be impacted by excessive noise levels or where height restrictions would be needed to prevent obstruction of airspace. The AIA is under the jurisdiction of ALUC. The City of San Diego, through its community planning process and zoning ordinance, retains land use control of the AIA (SANDAG 1981:8).

In California, the technique used for quantifying aircraft noise is CNEL, which describes the daily noise environment. The AIA for Brown Field was delineated by using the projected 60 CNEL contour. The term "CNEL contour" refers to the area exposed to a particular level of noise (e.g., a 60 CNEL contour means an area which is exposed to 60 decibels of noise). The 60 and 65 CNEL contours are significant because each is used to determine compatible land uses around an airport.

The Brown Field Master Plan is the document which establishes guidelines for uses and development of Brown Field. The master plan was adopted in 1981 and the preparation of a revised draft has been initiated. The Brown Field Master Plan and Otay Mesa Community Plan include delineation of a 65 CNEL aircraft noise contour, within which residential and other similar uses would not be compatible. Since the adoption of the Brown Field Master Plan, additional studies indicate that the area which will be impacted by future noise from Brown Field is further to the west than the one established in the Master Plan. Revised contours were developed by Landrum and Brown in 1986 (City of San Diego 1987) (see Figure 34). They show a noise impact area which extends 1.5 miles further to the west than that in the airport master plan. The western boundary of the 65 CNEL contour is approximately Dennery Canyon, as shown on Figure 33 (City of San Diego 1987). In response to the new contours, the City Council adopted Resolution 268976 in July 1987 that restricts residential development east of Dennery Canyon, due

to the noise impact from the airfield; residential land uses are not compatible with greater than 65 dBA noise levels. Proposed residences to the west of Dennery Canyon must be insulated to an interior noise level of 45 decibels (Stang, City of San Diego, 4/29/88).

A small portion of the east-central precise plan area does lie within the 65 CNEL dBA noise contour, as shown in Figure 34. This portion of the precise plan has been designated as open space; therefore, aircraft activity associated with Brown Field would not pose a significant noise impact to future residents of the California Terraces Precise Plan area.

The year 2000 projected 65 CNEL noise contour for Rodriguez Field (Tijuana Airport) is also shown on Figure 34 (City of San Diego 1981). As can be seen in the figure, noise from Rodriguez Field would not significantly impact the California Terraces Precise Plan area.

The City of San Diego is also considering the Otay Mesa area as a potential site for another major airport (known as TwinPort) to supplement operations at Lindbergh Field. The City Council passed Resolution R-278003, on May 28, 1991, which identified the TwinPort concept on Otay Mesa as the City's preferred option for a new airport. On the same day, the City Council also adopted Resolution R-278004 which identified the TwinPort study area and stated the council's determination not to approve any actions which could allow residential development in the study area. On May 12, 1992, the council resolved to not approve any specific plans or rezonings within the study area (City of San Diego 1992).

The study area identified in Resolution R-278004 was based on a possible 65 CNEL contour line from TwinPort and it includes most of the California Terraces Precise Plan area, with the exception of the northwest corner. If the TwinPort is approved, the residential area proposed for California Terraces may be incompatible with the noise levels generated by the new airport. If the TwinPort on Otay Mesa is approved, additional acoustical studies would be necessary to determine the airport's noise impacts to the project site.

Until a decision is made on the potential siting of an air carrier airport in the Brown Field/Rodriguez Field (Tijuana) area (TwinPort), efforts on the revised draft Master Plan for Brown Field have been postponed. In the interim, an immediate action program has been implemented for more urgent issues and a concept plan has been adopted for more general issues regarding Brown Field. The City Council is not expected to make a decision regarding the feasibility of the TwinPort before May 1993 (Roush, City of San Diego, 7/28/92). It should be noted that TwinPort is presently the City's preferred site for the airport relocation (Tanjuaquino, SANDAG, 7/28/92).

The CLUP identifies development in areas which are considered to be significant risk areas resulting from aircraft takeoff and landing patterns. These areas of risk are referred to as "Flight Activity Zones" (FAZ). Figure 45 shows the FAZ for Brown Field. Since the project site is not within the FAZ, the project site requires no FAZ-related restrictions on development.

#### **b) Proximity to Natural Open Space**

Due to San Diego's topography, climate, minimal rainfall, and frequent winds, any building with native vegetation (e.g., chaparral) growing around or near it is subject to brushfires. Coastal sage scrub (another type of native vegetation) is present on many of the canyon portions of the California Terraces Precise Plan project site area. The City of San Diego Planning Department has developed guidelines which balance the need to reduce the fire hazard to an acceptable level of risk without creating or aggravating other hazards such as soil erosion and slope failures.

In response to this potential hazard, the City of San Diego has developed a Landscape Technical Manual, which describes fire buffer zones. The California Terraces Precise Plan and California Terraces and South Palm Vista VTMs have developed brush management programs in compliance with the Landscape Technical Manual (City of San Diego 1989). The details of these plans and the proposed zones are discussed in detail in the Landform Alteration/Visual Quality section.

Plant fuel load reduction, as described in the brush management plans, is necessary for fire safety. Severe brush-clearing measures can, however, destroy vegetative cover and root systems, damaging habitat, eliminating sensitive plant species or wildlife habitat, and increasing soil erosion. The effects to biological resources of brush management are discussed in the Biological Resources section. There are numerous ways to remove brush to reduce subsequent environmental impacts associated with brush management, mainly in Zone 3. The preferred method is the use of hand tools, axes, and chain saws for cutting back, trimming, thinning, and pruning. The existing root systems of the natural brush are critical in the control of erosion. This method preserves the root systems of established plants and reduces the amount of destruction to the habitat. It also eliminates the possibility of accidentally undercutting the toe of a slope and causing slope failure. Implementation of a brush management program is an essential part of reducing the potential for fire in developed areas.

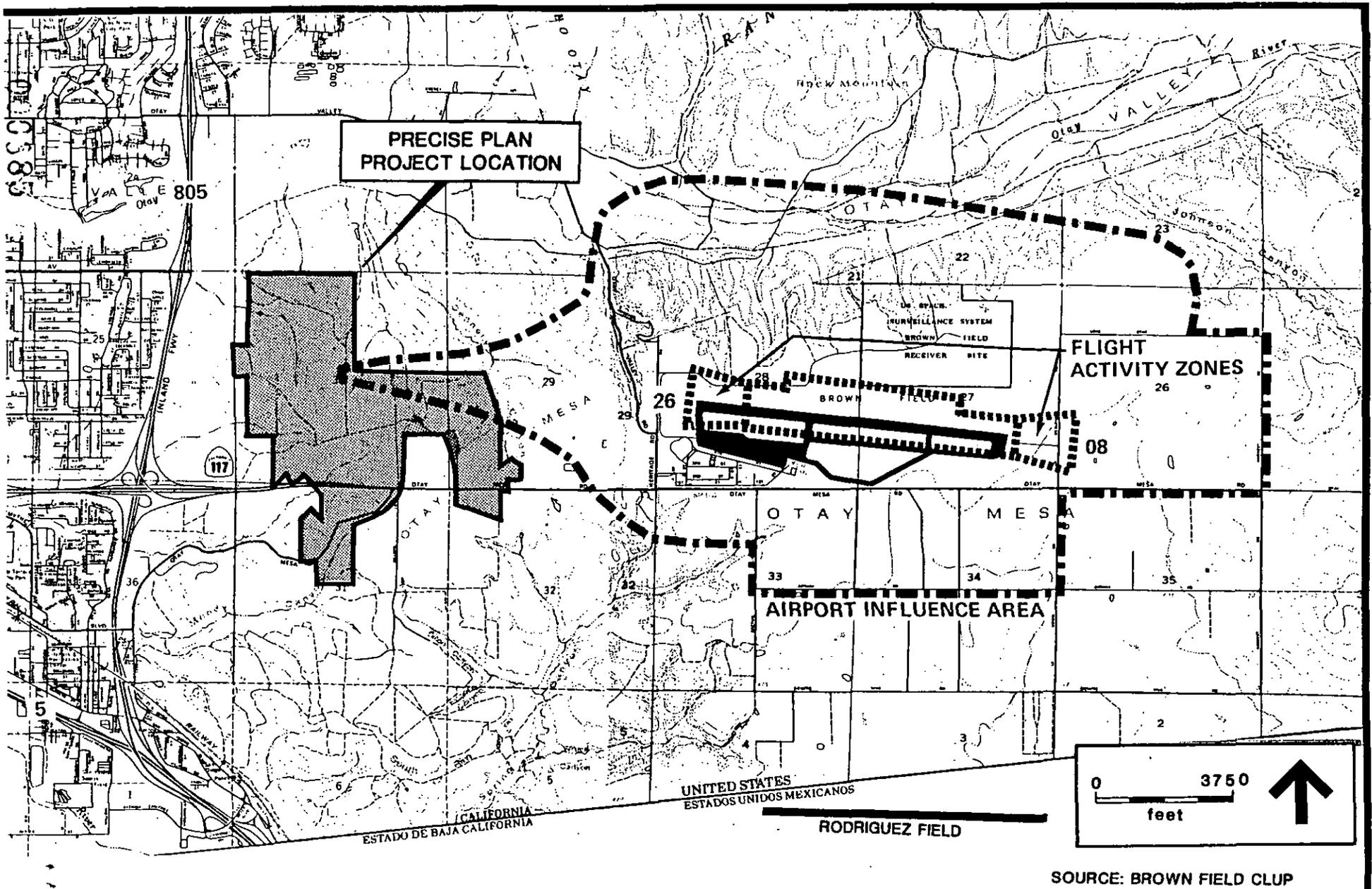


FIGURE 45. FLIGHT ACTIVITY ZONES

## 1) Issue

Would the proposed development expose people or property to safety hazards?

### Impacts

#### a) Proximity to Brown Field

Dennery Canyon represents both the western boundary of the 65 CNEL contour from Brown Field and the eastern boundary of the precise plan project site. The 65 CNEL contour for Rodriguez Field in Tijuana is roughly one mile from the project's southern border. Therefore, the proposed residential uses would not be subject to noise levels in excess of 65 CNEL from either Brown Field or Rodriguez Field. Noise impacts from Brown and Rodriguez fields are discussed in more detail in Chapter 4.F. of this EIR.

If the City Council eliminates the Otay Mesa area from consideration as a site for a new airport, then projected aircraft noise from Brown Field and Rodriguez Field would not pose a significant noise impact to future users of the precise plan area (see Figure 34). If the TwinPort on Otay Mesa is approved, noise generated by the new airport may be incompatible with the proposed residential development on the project site.

As noted above, the FAZ for Brown Field does not enter into the precise plan boundary. The project site then does not require any FAZ-related restrictions on development. Since no noise or safety constraints to residential development west of Dennery Canyon have been identified, development of the project site would not expose people or property to safety hazards associated with Brown Field or Rodriguez Field.

#### b) Proximity to Natural Open Space

In complying with the brush management program, the risk of fire hazard would be reduced. In addition, the proposed brush management plan includes brush management categories, brush removal during construction, selective thinning of existing plant material, plant material transition categories, and ongoing maintenance. Refer to the Landform Alteration/Visual Quality section of this EIR for a detailed discussion of the proposed fuel management plan. This would effectively reduce the risk of fire for the developed areas adjacent to natural vegetation areas. The potential for impacts associated with implementation of the brush management plan is discussed under the appropriate issue, such as visual quality, erosion, and biological resources.

---

## **Significance of the Impacts**

No significant effects associated with the proximity to Brown Field have been identified. With implementation of the brush management program, no significant impacts have been identified.

## **Mitigation, Monitoring, and Reporting Program**

No mitigation, other than implementation of the brush management program as described in the Landform Alteration/Visual Quality section, is required.

## K. Paleontology

### Existing Conditions

The California Terraces Precise Plan development on Otay Mesa is situated on the Coastal Plains physiographic province of San Diego County on wave-cut terraces with incised canyons that form the San Diego embayment. The embayment extends approximately 20 miles inland from the coast in the southern part of San Diego County and is composed of a series of relatively flat-lying marine and nonmarine sedimentary deposits.

Site topography is characterized by broad expanses of relatively flat-lying mesas. These mesas are transected by a number of northerly and westerly trending deep, steep-walled canyons and ravines. Elevations of these mesas generally range between 500 feet above MSL to 530 feet above MSL. The lowest point on the property, near the northwestern property boundary, lies at approximately 240 feet above MSL.

Three geologic formations and three surficial soil types are found within the California Terraces Precise Plan area. Formational units include Pleistocene terrace deposits, the Pleistocene/Pliocene San Diego Formation, and the Miocene Otay Member of the Rosarito Beach Formation (GEOCON 1984). Each of the geological formations and soil types are discussed below.

#### a) Terrace Deposits

Quaternary terrace deposits (Qt) consisting of fine to very coarse sandy gravels overlie the majority of the mesa tops. These deposits are characterized by loose to medium dense sandy and cobbly gravels with rounded and angular cobbles up to 24 inches in diameter. In general, the thickness of the terrace deposits decreases towards the west and south and the deposits are locally absent in the westernmost portions of the site where the San Diego Formation and associated topsoils are located at the ground surface (GEOCON 1984). There are no confirmed reports of fossils from the San Diego Formation in the Otay Mesa project area; therefore, paleontological sensitivity is considered to be low.

#### b) San Diego Formation

The Pliocene San Diego Formation (Tsd) immediately underlies the terrace deposits. The lithology of the San Diego Formation is locally similar to that of the marine terrace deposits, being characterized by silty, fine to medium sand with local gravel layers. However, strata with relatively clean silty sands typical of more northerly exposures of the San Diego Formation are interbedded with cobbly materials usually found in more

southern exposures (GEOCON 1984). The San Diego Formation has a long history of producing a large number and variety of invertebrate and marine vertebrate fossils throughout the Greater San Diego area. Thus, it is considered to have a high paleontological sensitivity, although there are no reports of fossils from the San Diego Formation in the Otay Mesa project area.

### c) Otay Member, Rosarito Beach Formation

The Otay Member of the Rosarito Beach Formation (To) outcrops at lower elevations underlying the San Diego Formation and terrace deposits within the deeper canyons at the site (GEOCON 1984). If exposed at the surface, the potential for finding fossils is high due to the recently collected fossils from this formation in the Otay Mesa area.

## 1) Issue

To what extent would the project impact paleontological resources on-site?

## Impacts

The limitations of field surveys prevent a precise determination of the potential for significant fossil finds in the project area prior to grading. In general, however, there is a potential for such finds in the San Diego and Miocene/Oligocene Otay formations on-site due to the high paleontological sensitivity. Personnel of the San Diego Natural History Museum have collected abundant and extremely important Oligocene vertebrate fossils from the Otay formation about six miles north of the project site. It is unlikely that fossils would be encountered during grading within the terrace deposits due to its low paleontological sensitivity. No grading for the project would occur until after the approval of tentative maps. The reliable detection of fossils requires the presence of a paleontologist when grading occurs.

## Significance of the Impacts

In implementing the proposed precise plan and tentative maps, including the proposed California Terraces and South Palm Vista VTMs, within the precise plan boundary, the potential for paleontological impacts exists. However, these potentially significant impacts can be reduced to below a level of significance by implementing the mitigation measures cited below.

## Mitigation, Monitoring, and Reporting Program

### a) California Terraces Precise Plan

The following mitigation measures shall be a condition of approval of tentative maps and land development permits within the precise plan boundary.

A program for the recovery of paleontological resources during grading and earthwork shall be implemented. This program will include the following steps:

1. A qualified paleontologist and/or paleontological monitor shall be retained to implement the monitoring program. A qualified paleontologist is defined as an individual with a Ph.D. or master's degree in paleontology or geology who is a recognized expert in the application of paleontological procedures and techniques such as screen washing of materials and identification of fossil deposits. A paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil materials and who is working under the direction of a qualified paleontologist.
2. The qualified paleontologist shall attend any preconstruction meetings to consult with the excavation contractor. The requirement for paleontological monitoring shall be noted on the construction plans. The paleontologist's duties shall include monitoring, salvaging, preparing materials for deposit at a scientific institution that houses paleontological collections, and preparing a results report. These duties are defined as follows:
  - a. Monitoring. The paleontologist or paleontological monitor shall be on-site during the original cutting of previously undisturbed areas of the San Diego Formation and the Otay formation to inspect for well-preserved fossils. The paleontologist shall work with the contractor to determine the monitoring locations and the amount of time necessary to ensure adequate monitoring of the project.
  - b. Salvaging. In the event that well-preserved fossils are found, the paleontologist shall have the authority to divert, direct, or temporarily halt construction activities in the area of discovery to allow recovery of fossil remains in a timely manner. Recovery is anticipated to take from one hour to a maximum of two days. At the time of discovery, the paleontologist shall contact EAS. EAS must concur with the salvaging methods before construction is allowed to resume.

- c) **Preparation.** Fossil remains shall be cleaned, sorted, cataloged, and then deposited in a scientific institution that houses paleontological collections (such as the San Diego Natural History Museum).
  - d) **Monitoring Results Report.** A monitoring results report, with appropriate graphics, summarizing the results (even if negative), analysis, and conclusions of the above program shall be prepared and submitted to EAS within three months following the termination of the paleontological monitoring program.
3. The Project Manager shall notify EAS staff of any preconstruction meeting dates and of the start and end of construction.
  4. A report of findings, even if negative, shall be filed with the City of San Diego Environmental Analysis Section and the San Diego Natural History Museum prior to issuance of building permits.

It shall be a condition of approval of the precise plan that the above mitigation measures be conditions of all tentative maps within the precise plan. The City of San Diego Planning Department, Environmental Analysis Section, shall verify this is a condition of the precise plan approval prior to approval of the precise plan.

#### **b) California Terraces and South Palm Vista VTMs**

Measures to reduce potentially significant impacts to below a level of significance for the California Terraces and South Palm Vista VTMs as made a condition of approval of the maps shall be:

1. A qualified paleontologist and/or paleontological monitor shall be retained to implement the monitoring program. A qualified paleontologist is defined as an individual with a Ph.D. or master's degree in paleontology or geology who is a recognized expert in the application of paleontological procedures and techniques, such as screen washing of materials and identification of fossil deposits. A paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil materials and who is working under the direction of a qualified paleontologist.
2. The qualified paleontologist shall attend any preconstruction meetings to consult with the excavation contractor. The requirement for paleontological monitoring shall be noted on the construction plans. The paleontologist's duties shall include monitoring, salvaging, preparing materials for deposit at a scientific institution that houses paleontological collections, and preparing a results report. These duties are defined as follows:

- a. Monitoring. The paleontologist or paleontological monitor shall be on-site during the original cutting of previously undisturbed areas of the San Diego Formation and the Otay formation to inspect for well-preserved fossils. The paleontologist shall work with the contractor to determine the monitoring locations and the amount of time necessary to ensure adequate monitoring of the project.
  - b. Salvaging. In the event that well-preserved fossils are found, the paleontologist shall have the authority to divert, direct, or temporarily halt construction activities in the area of discovery to allow recovery of fossil remains in a timely manner. Recovery is anticipated to take from one hour to a maximum of two days. At the time of discovery, the paleontologist shall contact EAS. EAS must concur with the salvaging methods before construction is allowed to resume.
  - c. Preparation. Fossil remains shall be cleaned, sorted, cataloged, and then deposited in a scientific institution that houses paleontological collections (such as the San Diego Natural History Museum).
  - d. Monitoring Results Report. A monitoring results report, with appropriate graphics, summarizing the results (even if negative), analysis, and conclusions of the above program shall be prepared and submitted to EAS within three months following the termination of the paleontological monitoring program.
3. The Project Manager shall notify EAS staff of any preconstruction meeting dates and of the start and end of construction.
  4. A report of findings, even if negative, shall be filed with the City of San Diego Environmental Analysis Section and the San Diego Natural History Museum prior to issuance of building permits.

A note shall be included on the grading plans that the above measures are conditions of approval of the tentative map. The City of San Diego Planning Department, Environmental Analysis Section, shall ensure these measures are conditions of the tentative map prior to approval of the tentative map. Prior to issuance of grading permits, EAS and EDD shall review the grading plans to ensure that these measures are on the plans.

Prior to grading activities, verification that a qualified paleontologist and/or paleontological monitor has been retained to implement the monitoring program shall be provided.

## L. Cumulative Impacts

### Existing Conditions

Cumulative impacts are those impacts which by themselves are not significant but, when considered with other impacts occurring from other projects in the vicinity, would result in a total or cumulative impact. As defined in the CEQA Guidelines, a cumulative impact results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable projects. For the purposes of this analysis, cumulative effects can encompass the development of California Terraces Precise Plan with the approved Robinhood Ridge Precise Plan, Gateway Fair project, the proposed Otay Corporate Center North and Otay Corporate Center South industrial areas, and the following proposed but not yet approved precise plan areas: Dennery Ranch, Hidden Trails, South Palm, and Santee Investments (see Figure 11). The following discussions examine only those issues which have the potential to create significant cumulative impacts.

#### 1) Issue

What cumulative effects could result from the proposed development?

### Impacts

#### a) Land Use

In Chapter 4.A., Land Use, the proposed project's land uses were analyzed together with the land uses proposed or approved for surrounding properties and found to be compatible. However, the precise plan, along with other projects in the surrounding area, would not meet the environmental goals of the Otay Mesa Community Plan or the Hillside Review guidelines for landform alteration. This is considered a significant cumulative impact.

#### b) Biological Resources

Development of the project, along with other approved and proposed projects in the Otay Mesa area, would cause a significant cumulative impact to the sensitive habitats and sensitive plant and animal species which exist in the area. Table 18 lists the acreages of sensitive habitats which exist on the project site and surrounding proposed precise plan areas and the anticipated impacts to these habitats.

Due to the significant losses of much of southern California's native habitat, the loss of any coastal sage scrub and southern maritime chaparral would be significant. These

10000000

**TABLE 18  
BIOLOGICAL RESOURCES ON AND AROUND THE PRECISE PLAN PROJECT SITE**

Proposed Project	HABITAT																	
	Maritime <u>Succulent Scrub</u>		Diegan <u>Coastal Sage Scrub</u>		Southern <u>Mixed Chaparral</u>		<u>Wetland/Riparian</u>		Non-native/ <u>Disturbed Grassland</u>		<u>Vernal Pools</u>		<u>Baccharis Scrub</u>		<u>Lemonadeberry/ Toyon Scrub</u>		<u>Disturbed</u>	
	Existing	Impact	Existing	Impact	Existing	Impact	Existing	Impact	Existing	Impact	Existing	Impact	Existing	Impact	Existing	Impact	Existing	Impact
California Terraces Precise Plan	65.7	38.2	286.0	189.3	1.8	0.0	0.0	0.0	244.0	224.5	0.5	0.25	0.0	0.0	0.0	0.0	62.3	62.3
Santee Investments Precise Plan	22.6	14.5	-	-	-	-	0.06	0.06	-	-	0.04	0.0	-	-	-	-	102.5	102.5
Dennery Ranch Precise Plan	3.6	3.1	107.1	84.7	-	-	6.5	6.3	22.0	21.7	-	-	-	-	-	-	105.2	98.7
Robinhood Ridge Precise Plan	145.8	58.7	-	-	-	-	2.4	0.2	131.5	79.5	5.1	4.5	-	-	25.9	11.2	-	-
South Plan Precise Plan	41.7	28.0	29.2	21.1	3.3	2.7	-	-	58.9	58.9	-	-	0.5	0.5	-	-	-	-
Otay Corporate Center North TM	0.8	0.0	62.0	21.3	7.0	1.0	0.2	0.2	108.0	104.0	-	-	-	-	-	-	-	-
Otay Corporate Center South TM	2.8	1.1	6.2	6.2	-	-	2.1	1.7	-	-	-	-	-	-	-	-	8.6	2.1
Hidden Trails Precise Plan	178.5	112.2	0.0	0.0	1.0	0.0	1.5	0.3	45.8	43.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>	<b>461.5</b>	<b>255.8</b>	<b>490.5</b>	<b>322.6</b>	<b>13.1</b>	<b>3.7</b>	<b>12.76</b>	<b>8.76</b>	<b>610.2</b>	<b>532.3</b>	<b>6.0</b>	<b>4.75</b>	<b>0.5</b>	<b>0.5</b>	<b>25.9</b>	<b>11.2</b>	<b>278.6</b>	<b>265.6</b>

-not within plan area

habitats are used by the California gnatcatcher and the San Diego horned lizard. Cumulative losses of these habitats in the project area would amount to 65 percent of the Diegan coastal sage scrub and 36 percent of the southern maritime chaparral within the total area of the projects discussed.

Loss of large acreages of raptor foraging habitat (89 percent of non-native grassland), vernal pools, and sensitive plant species (San Diego button celery, coast barrel cactus, San Diego sunflower, small-leaved rose, cliff spurge, San Diego bur-sage, and ashy spikemoss) associated with the implementation of all of these projects would be considered significant cumulative impacts to biological resources in the Otay Mesa area.

### c) Traffic Circulation

The ultimate development proposed by the California Terraces Precise Plan would significantly contribute to the increase in traffic volumes on the roadways within the Otay Mesa area. However, the transportation impacts which would result from the build-out of California Terraces and the adjacent community would be accommodated by the street system recommended by Urban Systems (see Figure 38). This revised system was derived from the SANDAG-Otay Mesa/City travel forecast prepared by SANDAG and City staff. In addition, bikeways and pedestrian pathways are proposed to help reduce vehicle trips within the project site. The Metropolitan Transit Development Board has also planned a trolley line to be constructed within the next 20 years from the Iris Street station to SR-125 which would pass east/west through the project along the SR-905 and Otay Mesa Road alignments.

### d) Air Quality

Considered with other new development in the air basin, this project would contribute to nonattainment of clean air standards, and cumulative impacts to air quality would be considered significant. The resulting increase in emissions would be due to increased emissions from mobile sources, which would degrade existing air quality in the project area. However, emissions of particulate matter may decrease when dirt roads used for off-road-vehicle activity are replaced by paved roadways within the project area.

### e) Landform Alteration/Visual Quality

Grading and development of the proposed project site would significantly alter the existing landform. This project along with other projects proposed in the area would have a significant cumulative impact on landforms and visual quality in the region because of the widespread changes from undeveloped open space to urban and suburban environments which would occur if all proposed projects in the areas were built out.

**f) Water Quality**

The potential for significant cumulative water quality and erosion impacts from the development of western Otay Mesa would be reduced by implementing grading and erosion control techniques consistent with City requirements and the use of sedimentation basins where feasible.

**g) Public Services, Schools**

Because the developer fees are insufficient to provide permanent school facilities for students generated from residential developments, and because there is inadequate high school space for additional students in the Sweetwater Union High School District, this project is expected to add a significant cumulative impact to schools and educational services to students. This cumulative impact could be mitigated by the development of a Mello-Roos District. Once established, this district could issue bonds or levy special taxes to finance school construction. New school space would alleviate the crowded conditions at the existing high schools. This cumulative contribution from the precise plan would occur as long the precise plan is being implemented and the current overcrowding conditions exist.

**Significance of the Impacts**

Cumulative impacts concerning land use, biology, air quality, landform alteration/visual quality, and schools are considered significant and unmitigated.

## **Chapter Five**

# **CEQA Mandatory Discussion Sections**

### **A. The Relationship Between Local Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity**

The majority of the precise plan area is undeveloped and large portions of the site are covered with native vegetation. The exceptions include the SDG&E easement and the eastern portion of the site, which was previously in agricultural production. Currently, there is no agricultural activity on the project site. The mesa supports a mixture of annual grasses and weeds on previously cultivated and grazed land. Due to off-road activity, many dirt roads and trails have developed on the property. In addition to the off-road vehicle use, the site also provides several nonactive uses, such as wildlife habitat, habitat for sensitive plant populations, and aesthetic values. If the proposed precise plan and tentative map is approved, or similar development is pursued, then the off-road-activity areas and natural habitats containing sensitive biological resources would be replaced by predominantly residential land use. This conversion in land use is considered permanent.

The open space areas included in the precise plan would continue to provide some habitat values, although these would be substantially reduced from their present condition due to isolation, fire control clearing, and human and domestic pet disturbance. Approximately 202 acres (70 percent) of high-quality undisturbed Diegan coastal sage scrub would be lost, as well as 40 acres (61 percent) of maritime succulent scrub. These habitat types are used by California gnatcatchers and San Diego horned lizards, two sensitive species which have been observed on the project site. In addition, 25 of 32 vernal pools on-site would be impacted by the proposed project.

The canyon areas would continue to provide aesthetic values from areas to the north, west, and south, although at some locations residential units would be visible. On the mesa top, native vegetation would be replaced by landscaping, roads, and homes.

The short-term effects of project implementation are those associated with the construction of the project. Construction would affect the immediate area in the form of noise, vehicular emissions, and airborne particles (dust). However, these impacts are considered temporary and can be mitigated to a less than significant level.

The long-term effects of project implementation would be the conversion of approximately 511.4 acres of undeveloped land to commercial, residential, and public uses. This land use conversion is consistent with the Otay Mesa Community Plan, which has designated the project site for commercial, residential, and public land uses. However, development of the project site would result in increased traffic volumes, a further degradation in regional air quality, additional noise, changes in visual character, and an increase in demands on public services.

The precise plan would also provide 153.4 acres of open space, 132.5 of which would be undisturbed and natural. The remainder would be disturbed by development activities, then revegetated and preserved. Implementation of the precise plan would likely decrease or eliminate the current off-road-vehicle activity on the site, which is further denuding the mesa tops.

The project has been proposed at this time to provide housing and public facilities (schools, parks, and open space) according to the Otay Mesa Community Plan in the Otay Mesa community. The beneficial effects of the proposed project would be the provision of a wide range of housing products, needed public improvements, and an increased tax base for the City of San Diego with which to pay for government services. The provision of roads and services in the area has been identified in the planning documents for this area.

## **B. Any Significant Irreversible Environmental Changes Which Would Be Involved in the Proposed Action Should It Be Implemented**

The most apparent irreversible environmental change associated with the precise plan and its implementation would be the commitment of a major portion of the site to residential, education, recreation, commercial, and open space uses. This conversion of land for these uses is a permanent change. Implementation of the precise plan would result in other permanent changes which have been recognized in this EIR. These include significant changes to the existing landform, land use, visual, noise, archaeological, and biological resources. The existing landform would be altered by grading operations that include cutting the mesa top areas and filling canyon heads to provide development areas. These alterations in the existing landform would be irreversible.

Implementation of the project as proposed would cause significant irreversible impacts to biological resources that exist on the property. Approximately 511.4 acres (77 percent) of the existing precise plan land area would be affected as the result of the proposed project. The remainder would be preserved as open space.

Because of the commitment of land to these uses, implementation of the precise plan would result in the consumption of energy derived from nonrenewable sources, such as fossil and nuclear fuels. Building materials would be considered permanently used.

## C. Growth Inducing Impacts of the Proposed Project

Implementation of the California Terraces Precise Plan would result in residential and neighborhood- and area-oriented commercial development in an area that is presently undeveloped. Development would include extension of new, and expansion of existing utilities and roads into this area. The precise plan area and most of the land surrounding the project site is undeveloped, but several projects have been proposed. The only two which have been approved is Gateway Fair, a regional shopping center to the northeast, and construction of I-905, which bisects the southern portion of the project area. A building moratorium has been established by the City Council for the Otay Mesa area (City of San Diego 1992) for one year or until studies regarding TwinPort have been completed, whichever is first.

Other proposed projects surrounding the California Terraces Precise Plan area are primarily residential. These proposed residential developments include South Palm Precise Plan to the west; Robinhood Ridge, Denney Ranch, and Hidden Trails to the north; and El Mirador and Santee Investments to the south. The proposed Otay Corporate Center North and Otay Corporate Center South projects are located to the east of the proposed project and are proposed industrial and commercial uses.

A project is considered growth inducing when it directly or indirectly fosters additional economic growth, population growth, or additional housing; when it removes obstacles to growth; when it taxes public facilities and services; and/or when it encourages or facilitates other activities that could significantly affect the environment. Growth inducement is generally dependent on the presence or lack of existing utilities and municipal or public services. The provision of such necessities in an unserved area can induce growth between newly serviced areas and the community from which the facilities are obtained. In addition, growth inducement can also be defined as growth that makes it more feasible to increase the density of development in surrounding areas.

Implementation of the proposed precise plan would extend Circulation Element roads from developed areas to the west and provide Circulation Element roads on-site. This would potentially improve access to the other undeveloped properties to the south, west, and north. However, SR-905 will already provide access to these properties, and to the proposed project, from I-805 and the developed areas to the east.

Water and sewer lines would also be extended from existing lines as planned for in the Otay Mesa Community Plan. A new water zone would need to be created to handle the development proposed on the mesa tops. The water lines proposed for the project would be sized to meet the City's overall ultimate system for Otay Mesa. This type of infrastructure could facilitate growth in the surrounding properties.

Other services which would be constructed as part of the project, including schools and parks, would be sized to serve the residents of the precise plan area and implement the Otay Mesa Community Plan. The proposed commercial areas would primarily serve the precise plan area and the immediate surrounding areas and would not attract customers from an extended region. These commercial areas could facilitate growth by providing a needed service for those in the immediate vicinity of the project. However, the approved Gateway Fair regional shopping center would also provide this type of service on an expanded level.

The proposed project is consistent with the growth planned for the site in the Otay Mesa Community Plan. Areas surrounding the project site have also been planned for similar development. Therefore, any growth-inducing effects the project may have through provision of utilities, roads, and commercial services would impact surrounding areas which have also been designated for development in the community plan. The project would not promote development of a significantly different type or a greater density than that already planned for in the community plan, nor would it induce growth in areas which have been planned to remain undeveloped.

000402



FIGURE 54. SCHOOL RELOCATION STUDY ALTERNATIVE 1

000403

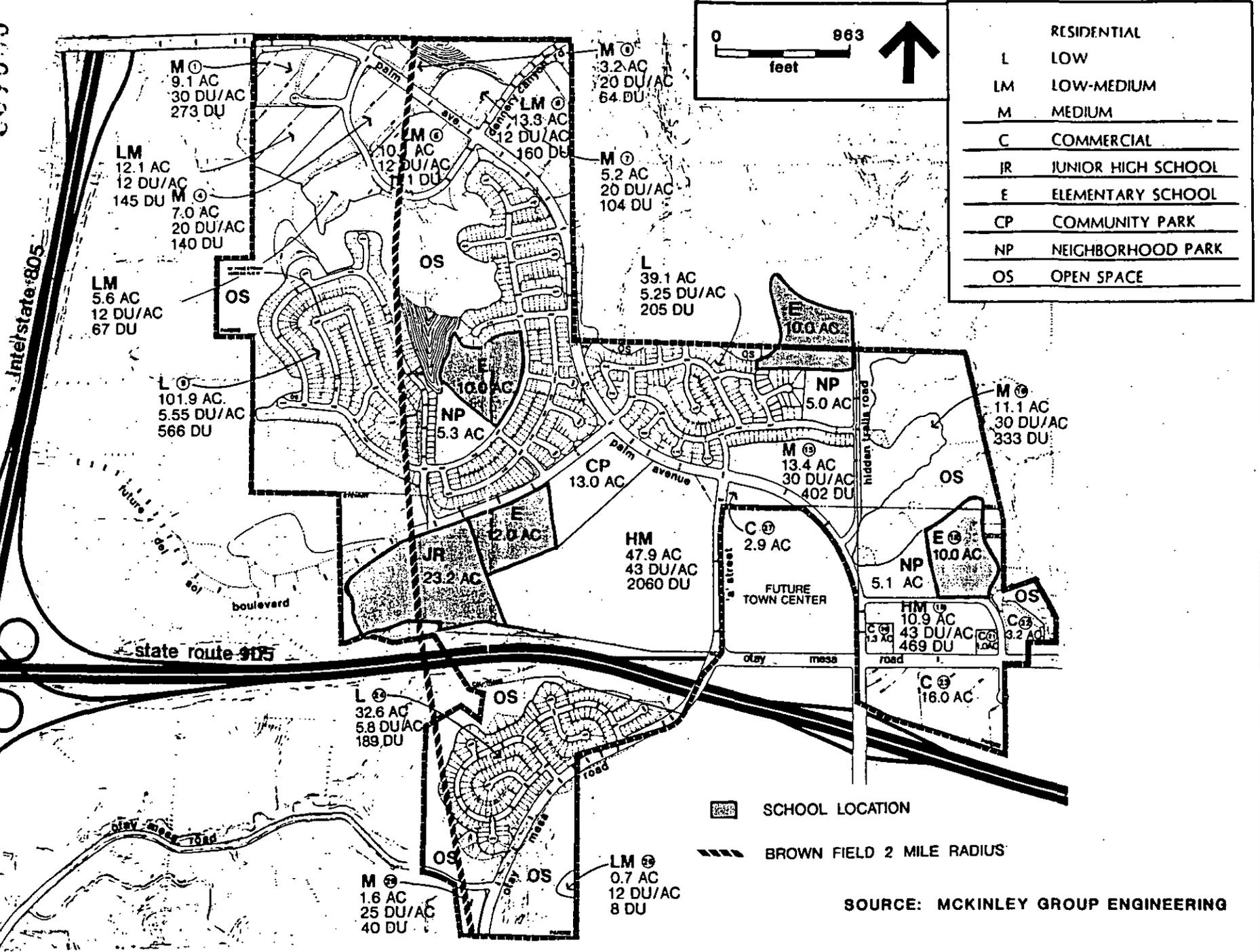


FIGURE 55. SAN YSIDRO SCHOOL DISTRICT ALTERNATIVES

## Chapter Six

# Project Alternatives

### A. Alternatives Considered But Rejected

The California Terraces Precise Plan has been in process in the City of San Diego since 1983. The precise plan was originally initiated by the City's Planning Commission in 1983 and the first formal submittal was made to the Planning Department in 1985. Since this time, the precise plan has undergone five revisions and formal resubmittals. The following discussion describes the previous alternative versions of the precise plan which have been considered by the applicant and the City of San Diego, but have been replaced by the currently proposed project to reduce environmental impacts.

The second submittal, made in September, 1985, eliminated or substantially reduced many of the large cut and fill slopes proposed under the original submittal. This modification reduced grading and visual impacts. In addition, the second submittal added a second neighborhood park and a portion of a third elementary school.

Under the third submittal, made in May, 1987, 718 single-family lots proposed east of Dennery Canyon were deleted to accommodate the Brown Field Master Plan and eliminate land use conflicts. Because of this modification, the total project area was reduced from 777 acres to 647 acres. The third elementary school was relocated entirely within the project boundaries. In addition, Palm Avenue was realigned along the new eastern boundary of the site, extended off-site to the northwest, and then extended along the northern boundary of the site to link to I-805. The roadway was realigned to provide higher capacity and more direct linkage between I-805, SR-905, and the eastern Otay Mesa industrial centers. Palm Avenue, as it is labeled in the current proposed project, functioned as a collector street in the third submittal.

Under the fourth submittal, in November, 1987, a 9-acre vernal pool preserve was created east of Dennery Canyon to mitigate on-site impacts to vernal pools. Commercial areas along Otay Mesa Road were reconfigured to avoid the "strip commercial" concept. Planned Residential Development requirements and Planned Commercial Development requirements were added to two multi-family areas and three commercial areas.

The fifth submittal was made in March, 1990. Under this submittal, the alignment of Palm Avenue described under the third submittal was completely eliminated. Instead, the collector street described under the third submittal was renamed Palm Avenue and slightly realigned to provide the direct connection between I-805 and SR-905. This was done in response to financing and environmental concerns associated with the alignment of Palm Avenue proposed in the third submittal. The segment of Caliente Boulevard proposed to be constructed for future extension across Dennery Canyon was eliminated, along with its associated 90-foot-high fill slope. Land uses in the southeast portion of the site were replanned to preserve an entire finger of Dennery Canyon for open space. Also in this area, a 2-acre vernal pool preserve was created adjacent to the neighborhood park. In the northern portion of the site, a 13-acre commercial site was eliminated to avoid land use conflicts associated with a rezone of the Gateway Fair project. Also in this area, the elementary school and neighborhood park were relocated away from Palm Avenue to avoid traffic safety concerns and noise impacts.

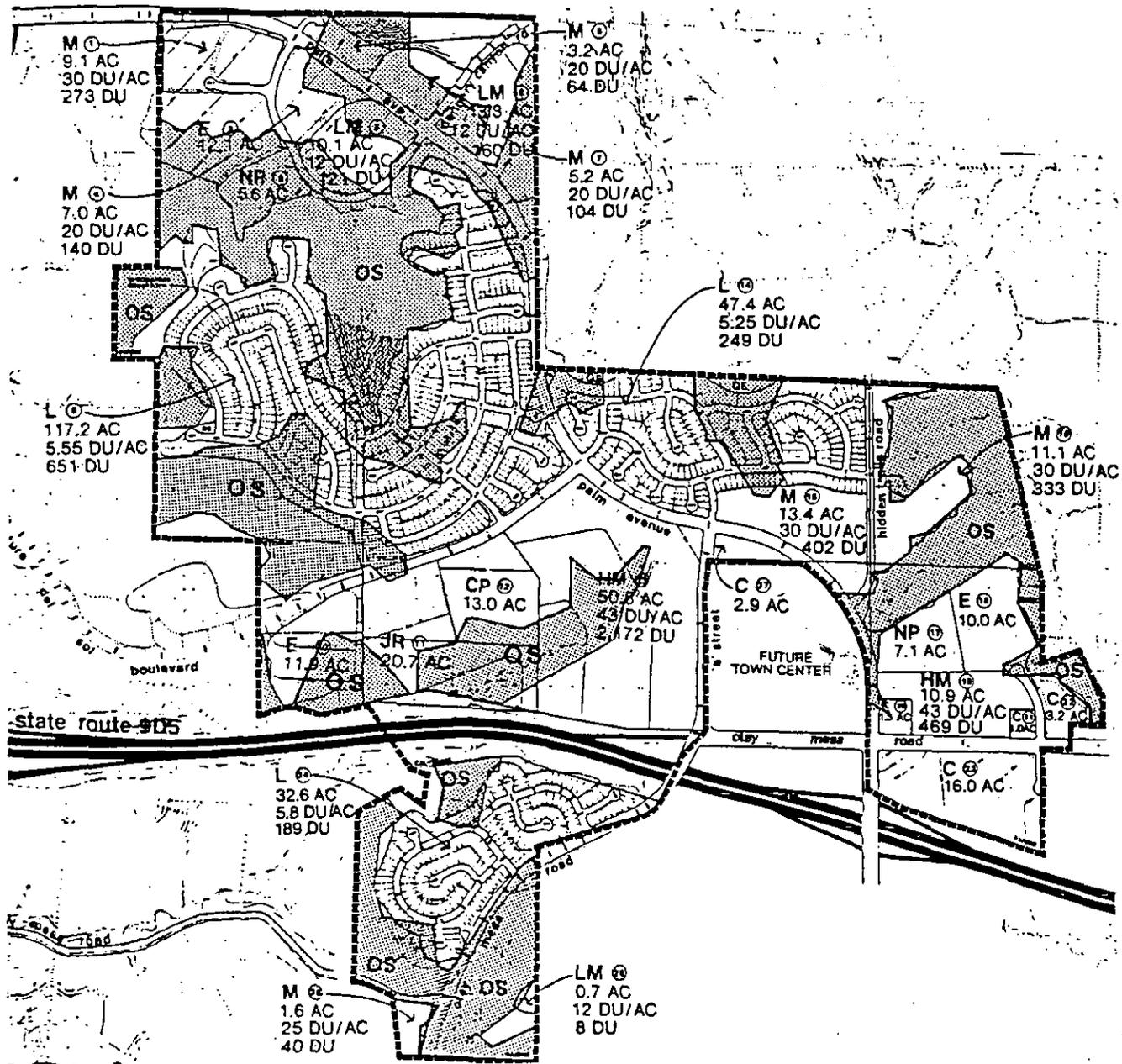
Finally, the sixth submittal was made in April, 1991. This is the proposed project. The modifications which were made to arrive at this current version of the precise plan were accomplished in cooperation with the City of San Diego Engineering and Planning Departments in a series of open space workshops for western Otay Mesa. The project is consistent with the Draft Agreement of Open Space and Planning Issues" which was mutually agreed upon during the workshop process of November 1990.

## **B. No Project**

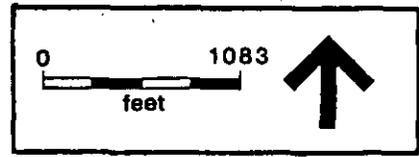
The "no project" alternative typically implies no use of the project site. This approach would result in the retention of the property, at least temporarily, in its present natural undeveloped condition. However, the destruction of biological habitats associated with the off-road-vehicle use of the site would continue to occur. The impacts associated with the proposed precise plan and tentative map would be eliminated. The potential for impacts relating to biological resources, landform alteration, visual quality, archaeological resources, and public facilities would be eliminated. The underlying zone is agricultural; and no agricultural uses would be allowed without the approval of a permit through the City, which would create similar impacts to the proposed project. The permanent retention of the site as open space would not implement the goals of the community plan and would require reevaluation of the community plan.

## **C. Reduced Grading Alternative**

The project redesign alternative to reduce the landform alteration impacts to below a level of significance is conceptually depicted in Figure 46. This alternative would avoid the HR Overlay Zone and reduce all the manufactured slope heights to less than 60 feet.



 **ADDITIONAL OPEN SPACE**



**FIGURE 46. REDUCED GRADING ALTERNATIVE**

000406

This figure illustrates what planning areas would be affected if development within the HR zone were eliminated. In doing so, the amount of developable land would be altered and the number of residential units would be reduced by approximately 56 percent to 2,360 units (Figure 4 shows the proposed precise plan). Accordingly, the amount of open space would be increased by approximately 130 acres, and extent of manufactured slopes would be reduced. The commercial, park, and school acreage south of Del Sol Boulevard would also be reduced. However, the school sites would need to be redesigned to meet minimum standards as set forth by the respective school districts, while parks would also need to be redesigned to meet standards outlined in the General Plan. Under this alternative, the major manufactured slopes (e.g., Planning Area 9) would not be created as currently planned. However, some of these manufactured slopes are within canyon heads and would still be necessary to support land uses and roadways (e.g., Palm Avenue). Additionally, the alignments of Palm Avenue and Otay Valley Road would need to be modified.

Since reduced grading would avoid the steep slopes and retain more of the natural landform, this alternative would result in reduced visual impact. Successful revegetation of the fill slopes would reduce the visual contrast as the revegetated slopes would blend in with the adjacent natural habitat and would eventually reduce the visual impact to below a level of significance. Impacts to biological resources, while reduced due to the increase in natural open space, would remain significant and unmitigated due to the loss of sensitive habitats under this alternative. Impacts to vernal pool habitat would remain the same as with the proposed project because development would occur on the flat portions of the site where the vernal pools are located. All remaining issues would be similar to the proposed and would be mitigated by the same means. Cumulative air quality impacts would remain significant and unmitigated.

## D. Increased Open Space Alternative

Another redesign of the land use plan which would reduce the identified biological impacts as well as the amount of grading into steep slopes is conceptually shown in Figure 47. This alternative is considered the environmentally preferable alternative and would reduce the developable acreage by approximately 115 acres and reduce the number of dwelling units by approximately 1,885 (a 35 percent reduction). The modifications to the developable acreage areas shown for Planning Areas 9, 8, 11, 12, 14, 22, and 26 would substantially reduce biology impacts to sensitive plant species and vegetation communities. Landform alteration impacts would also be substantially lessened under the redesign but not to a level below significance. The changes which would be required at the affected planning areas are described below.

As Figure 47 indicates, the redesign indicated for Planning Area 9 would increase the coastal sage scrub acreage in open space to approximately 107 acres, thereby preserving

803008

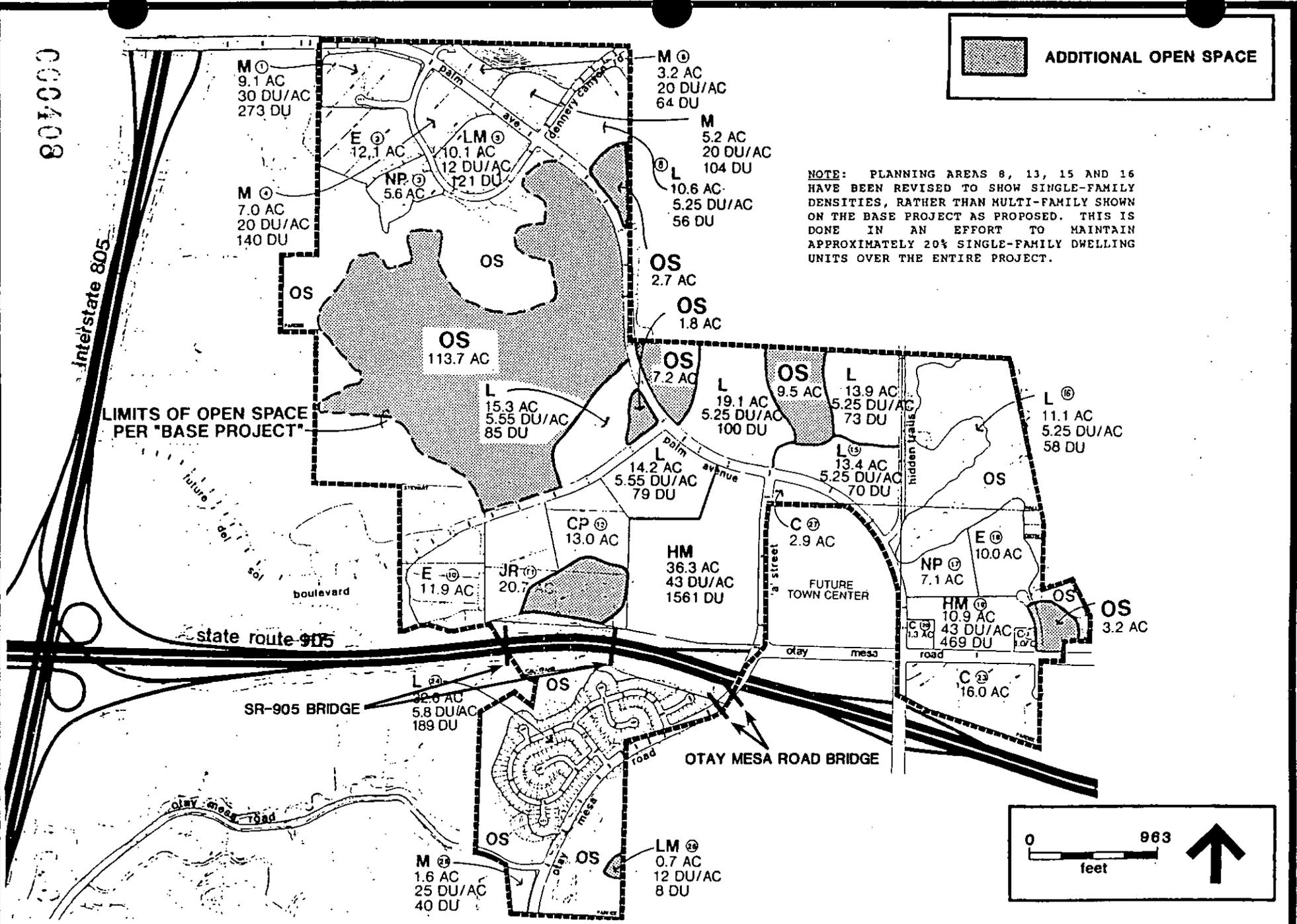


FIGURE 47. INCREASED OPEN SPACE TO REDUCE BIOLOGY IMPACTS

additional habitat for the California gnatcatcher. Two additional vernal pools (pools 35 and 36 as described in the vernal pool plan) would also be preserved, as well as populations of other sensitive plant species. This alternative would result in the elimination of 566 of the proposed 651 single-family units at Planning Area 9. Open space (2.7 acres) would also be added at Planning Area 8 on the east side of Palm Avenue and further reduce impacts to coastal sage scrub vegetation. The number of units at this location would be reduced by approximately 100 units.

Under this alternative, the canyon area just north of I-905, currently proposed as part of the junior high and community park complex (Planning Areas 11 and 12), would be preserved as open space. To further reduce biological impacts and create an enhanced open space system, SR-905 would have to be reconstructed to bridge approximately 800 feet of the already filled canyon area, thereby linking open space north and south of the freeway. Additionally, future Otay Mesa Road just south of SR-905 would bridge (approximately 200 feet) a small finger canyon to provide an open space linkage. These improvements would reduce direct impacts to biological resources in this canyon area and reduce indirect and direct impacts to wildlife using these resources.

The reduced biology impact alternative would also permit the in situ preservation of the small-leaved rose population, a state-listed endangered species, in Planning Area 14. In order to preserve the rose, Palm Avenue would have to be realigned. Additional coastal sage scrub acreage (approximately 10 acres) would also be retained by realigning the road. Single-family development in the canyon immediately to the east would also be eliminated, and 9.5 acres of coastal sage scrub would be preserved. The manufactured slopes at the head of both of these canyons would be reduced under this concept. However, the increased open space at these canyons would be isolated by the proposed development to the north (Hidden Trails). The number of dwelling units in Planning Area 14 would be reduced from 249 to 173.

This alternative would also eliminate the proposed 3.2-acre commercial development at Planning Area 22, which could be relocated to another area of the project. A redesign in this location would preserve approximately 11 additional vernal pools on the mesa top adjacent to open space in Dennery Canyon, increase open space, and reduce visual and grading impacts. Planning area 26, south of SR-905 would also be eliminated.

As with the above alternatives, the applicant has also rejected this alternative because it achieves less units than the proposed project. Additionally, this alternative would not implement all of the goals and objectives of the community plan in terms of density and land use.

## E. Alternative Grading/Product Type

Possible reductions to the landform alteration and visual quality impacts could be achieved by proposing a different housing product type which accommodates smaller graded pads and/or stepped grading. The layout of the proposed development could be redesigned to reduce the amount of slope grading. The locations within the precise plan where this concept could be applied are shown on Figure 48. This could be accomplished without a loss in the number of units by increasing the densities at these locations.

The distribution of residential unit types could be changed so that single-family detached, duplexes, and multi-family units are intermixed more to allow for sensitive grading and to reduce impacts to visually sensitive areas. For example, multi-family and duplex units, designed in a creative (i.e., topographically sensitive) manner, can be utilized on steeper slope portions of the site in a "step down" or terraced design which follows the existing grade much more closely than the flat pads currently proposed. As illustrated in Figures 49-51, more custom-type units could be designed to retain some of the existing topographical features on-site. In addition, multi-family units do not necessarily require extensive level pad areas around them. This would reduce the extent of grading, possibly allowing for more open space and preserving additional biological habitat. This alternative would also conform with the Otay Mesa Community Plan goal for developing a distinctive and sensitive project while creating a balance of housing types and while applying the Hillside Review Guidelines.

For a distinctive, sensitive development to occur under the stepped grading approach proposed by this alternative, buildings must be designed which terrace from one to two stories from front to back in order to more closely follow existing grade. Site retaining walls and walk-out basement living areas can be employed to take up the slope. This could be done without significantly reducing useable pad area, number of building units, or building square footage. This approach combined with creative design solutions for driveways, roadways, and building locations can reduce the project impacts. In addition, this type of design would meet the goals and intent of the Land Use Element of the Otay Mesa Community Plan. However, residential houses and multi-family buildings would have to be designed to a less conventional, more custom design fashion to accommodate such grading approaches, resulting in significant increases to building costs.

The size of pads around single-family units and other land uses (i.e., the park, commercial, and school sites) can be reduced by creating pad areas that slope at accepted engineering gradients for lawn and outdoor use areas of up to and including 3:1 slopes. Developed areas should be graded so that they retain the natural landform character rather than creating very flat, uniformly sloped pad areas.



000412

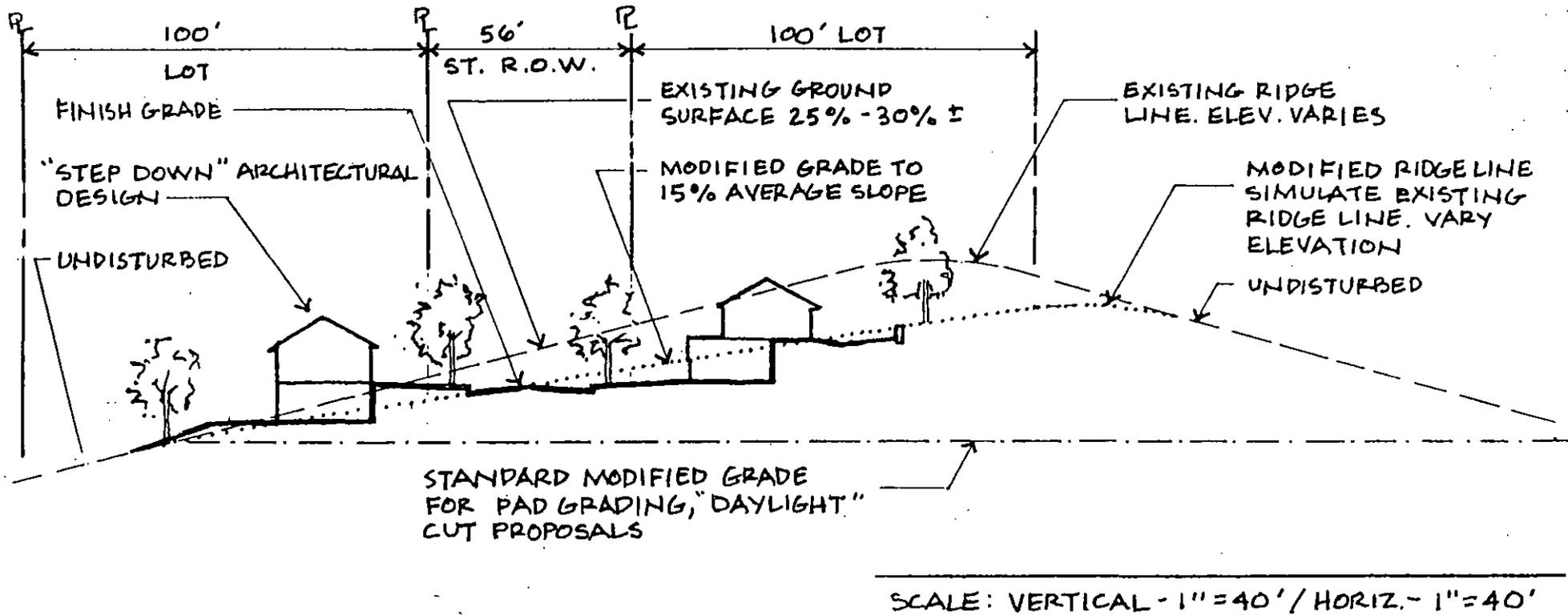
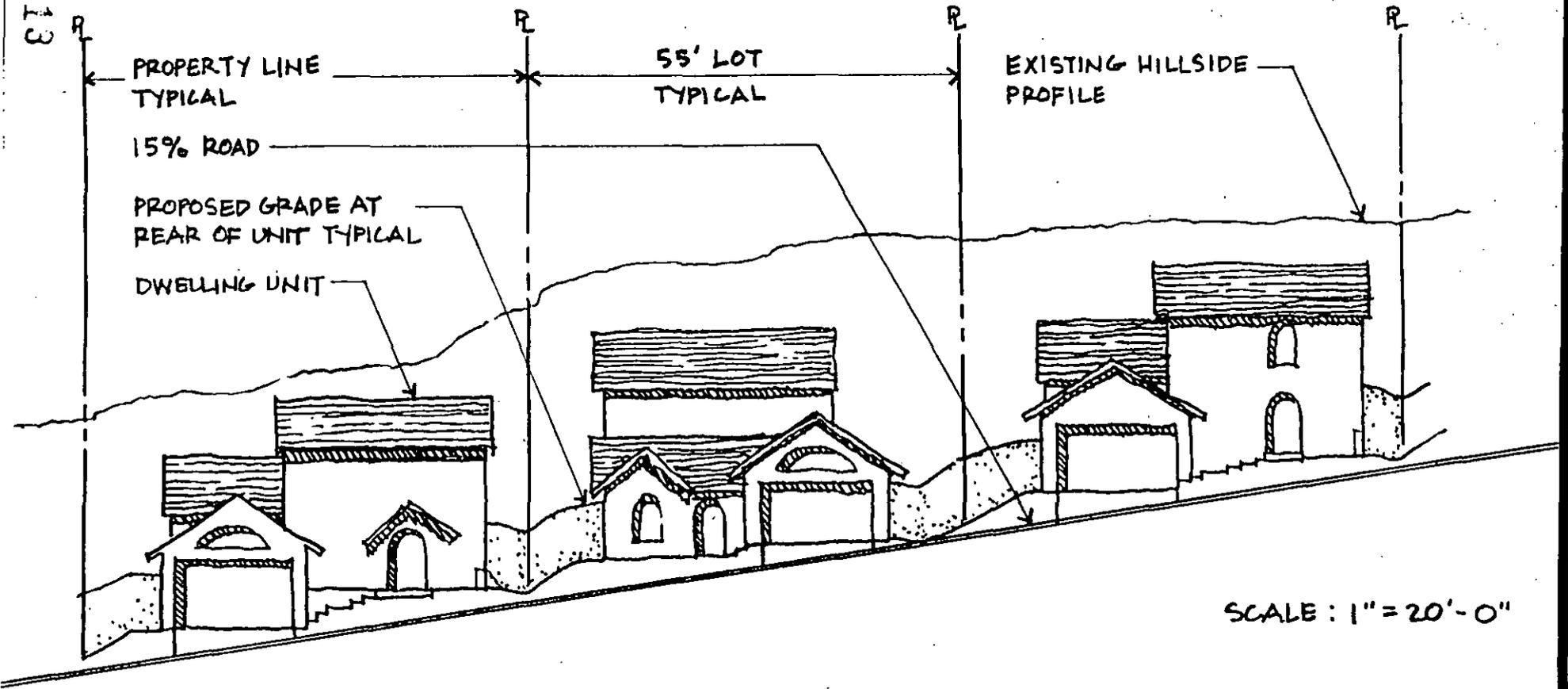


FIGURE 49. RESIDENTIAL GRADING CONCEPT - CROSS SECTION

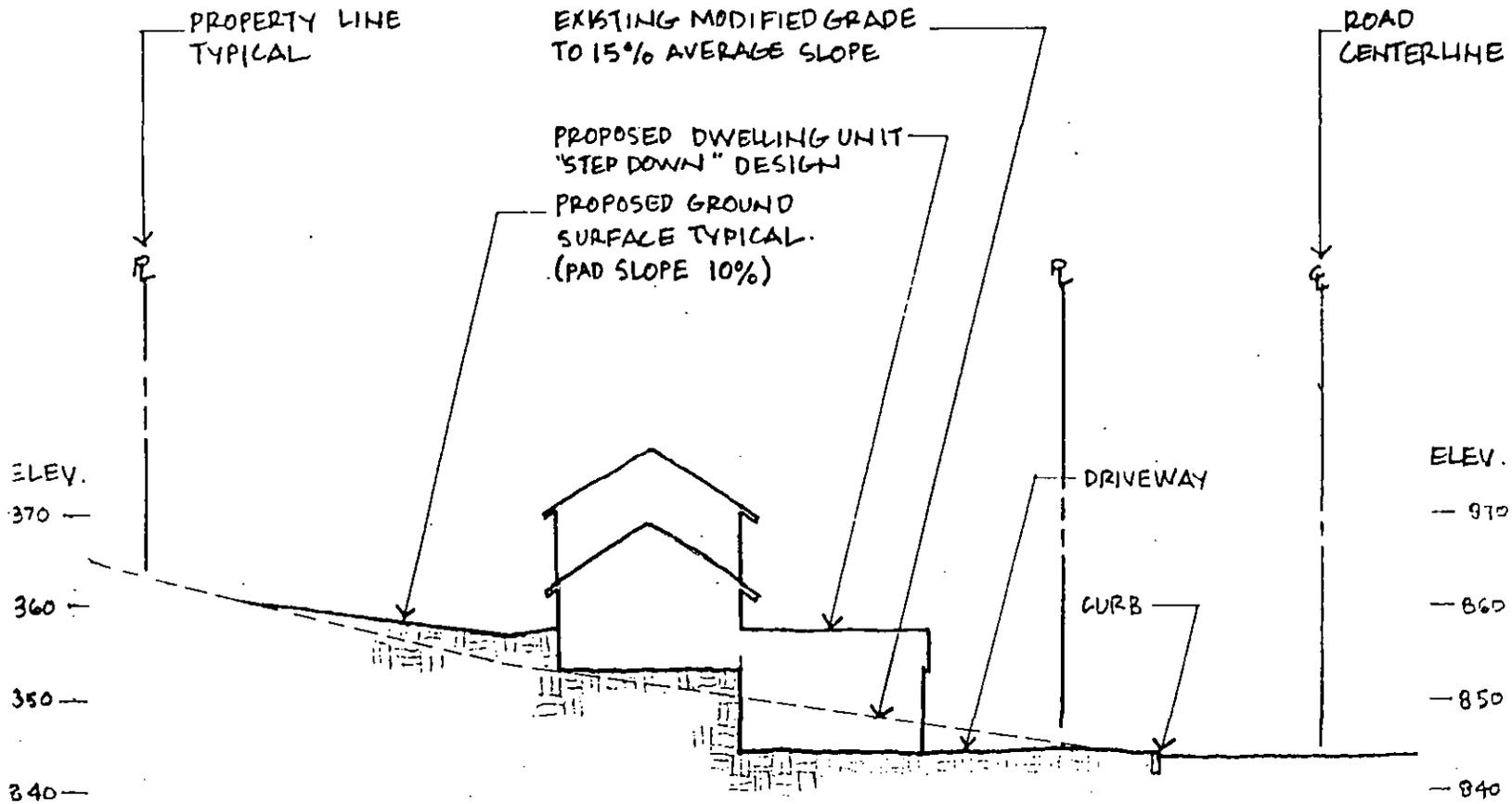
000413



000413

FIGURE 50. TYPICAL RESIDENTIAL ROAD ELEVATION

000414



SCALE: VERTICAL - 1" = 20' / HORIZ. - 1" = 20'

FIGURE 51. TYPICAL RESIDENTIAL AREA SECTION

The street pattern should follow the existing topography more closely by utilizing the maximum curve and gradient design guidelines allowed by the City's Street Design Manual, which the proposed project does not do in all areas. Most residential road widths could be reduced to the minimum in sensitive areas, with sidewalks on only one side and reduced on-street parking. Single-family residential blocks of streets could be stepped from block to block in order to create more grade separation between streets. Such an approach would further reduce landform alteration, although fewer linking cross streets could be built, which would reduce neighborhood circulation for both vehicles and pedestrians.

It should, however, be noted that the natural landforms associated with the California Terraces site are not the most conducive for utilizing the "stepped building" concepts described above. These concepts work most effectively at reducing landform alteration where the natural slope gradients are in the 10-25 percent range. By contrast, the demarcation between the existing nearly flat land on the mesa tops and the steep canyon (slopes greater than 50 percent) is distinct and well defined on the project site. Since the majority of the proposed development has been situated for the flatter mesa top areas, the potential for significant reductions in landform alteration impact benefits which could accrue from this alternative is limited.

In summary, the proposed grading for the development, including all of the proposed land uses, could be redesigned through the use of layout and custom-type architectural methods to utilize steeper and more sensitive grading approaches which would retain more of the existing landform, protect additional visual and biological resources, and possibly help achieve the goals of the Otay Mesa Community Plan without a loss of units. Further, in order to accommodate these grading concepts, this alternative proposes redefining of the single-family and multi-family housing product types with stepped, cascading, or split-level architectural designs to fit the more sensitive landform areas. While partially reducing the landform alteration impact associated with the project, impacts would still remain and housing costs would increase.

## **F. Conversion of School Sites to Other Land Uses**

Three elementary schools and a junior high school are currently proposed as part of the project. It is the responsibility of the school district to select the sites and reserve them under the Subdivision Map Act (Section 66480).

Under this alternative, the effects of the school district declining the need for one or more sites are analyzed. Specifically, two situations are considered, (1) the school district declines the use of all three elementary school sites and (2) the school district declines the use of the junior high school site. The analysis assumes that the schools would not be

relocated to another location on California Terraces. However, it is likely that the schools would be sited at some other location on Otay Mesa, and the impacts associated with school development would continue to occur.

Under the Subdivision Map Act, if the school district does not wish to utilize a proposed school site, then the site may be developed consistent with the adjacent land uses designated by the community plan. The alternative land uses proposed if the elementary school sites or the junior high school site are not used by the school district are shown in Figures 52 and 53, respectively. Table 19 summarizes the changes which would occur in land use, number of residential units, and traffic generation within the project site.

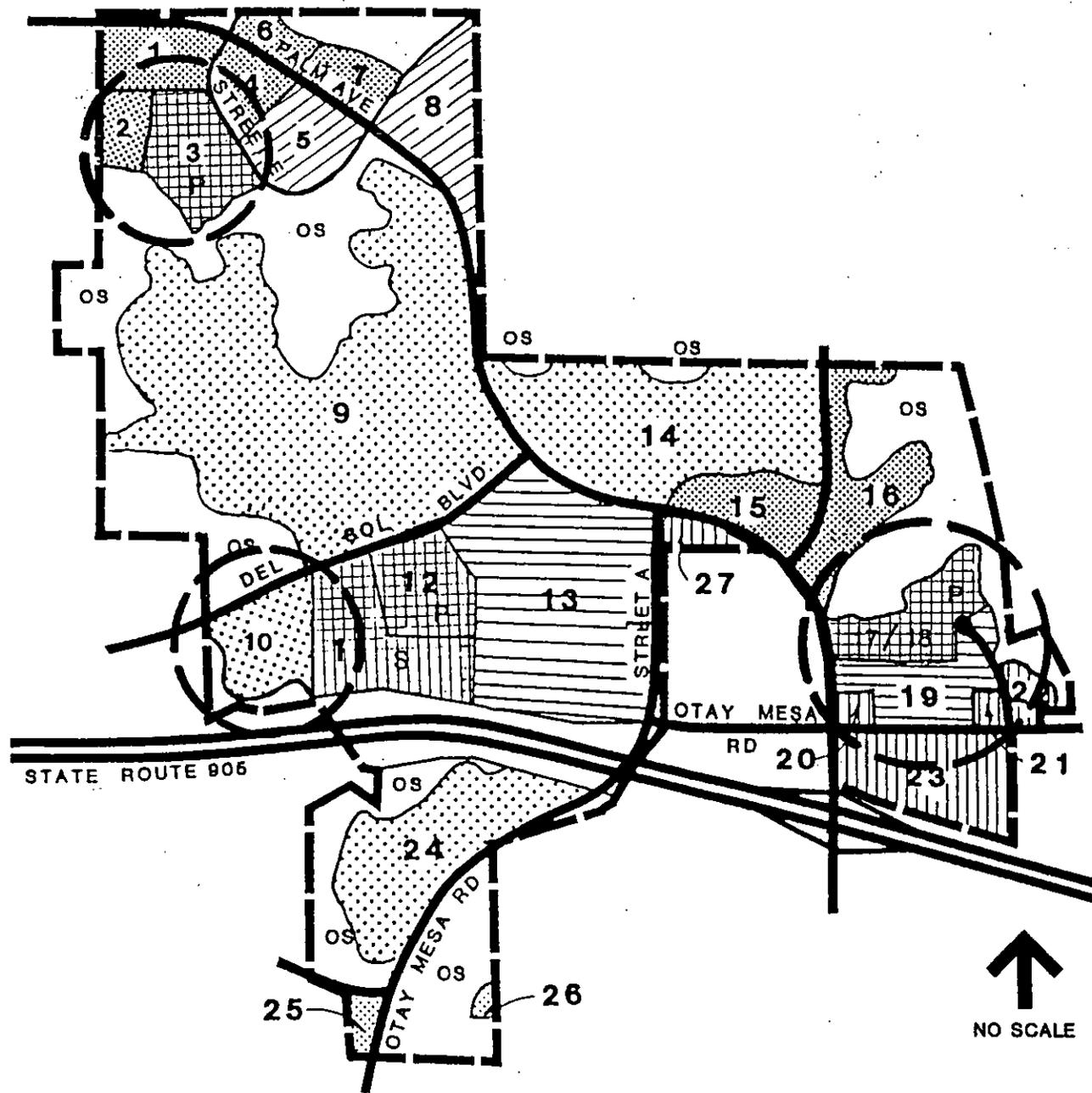
If the elementary school sites are redesignated, both neighborhood parks would increase to 10 acres. The community park would remain at 13 acres and continue to function as a shared use with the junior high school. As shown in Table 19, the number of residential units would increase by 257, which is an increase of 4.8 percent over the proposed project's 5,375 units. Traffic generation would increase by 916 ADT, or 1.8 percent.

If the junior high school site is redesignated, the community park would expand from 13 acres to 20 acres. As shown in Table 19, residential units would increase by 82 units, or 1.5 percent. Traffic generation would increase by 272 ADT, or 0.5 percent.

Based on the projected number of dwelling units above, neither conversion situation would significantly increase traffic on the surrounding roadways, nor would either situation increase noise levels. The amount of grading would be similar to the proposed project and biological impacts would remain the same.

Cumulative air quality impacts would be slightly greater under these alternative situations because of the incremental increase in traffic, but the conclusion that cumulative impacts are significant reached under the proposed project would not change. Because the San Diego Air Basin has not attained air quality standards for ozone and particulates, any increase in emissions would contribute to continuing nonattainment of the standards. It is the responsibility of the San Diego Air Pollution Control District to implement and enforce programs and regulations to achieve air quality standards across the basin.

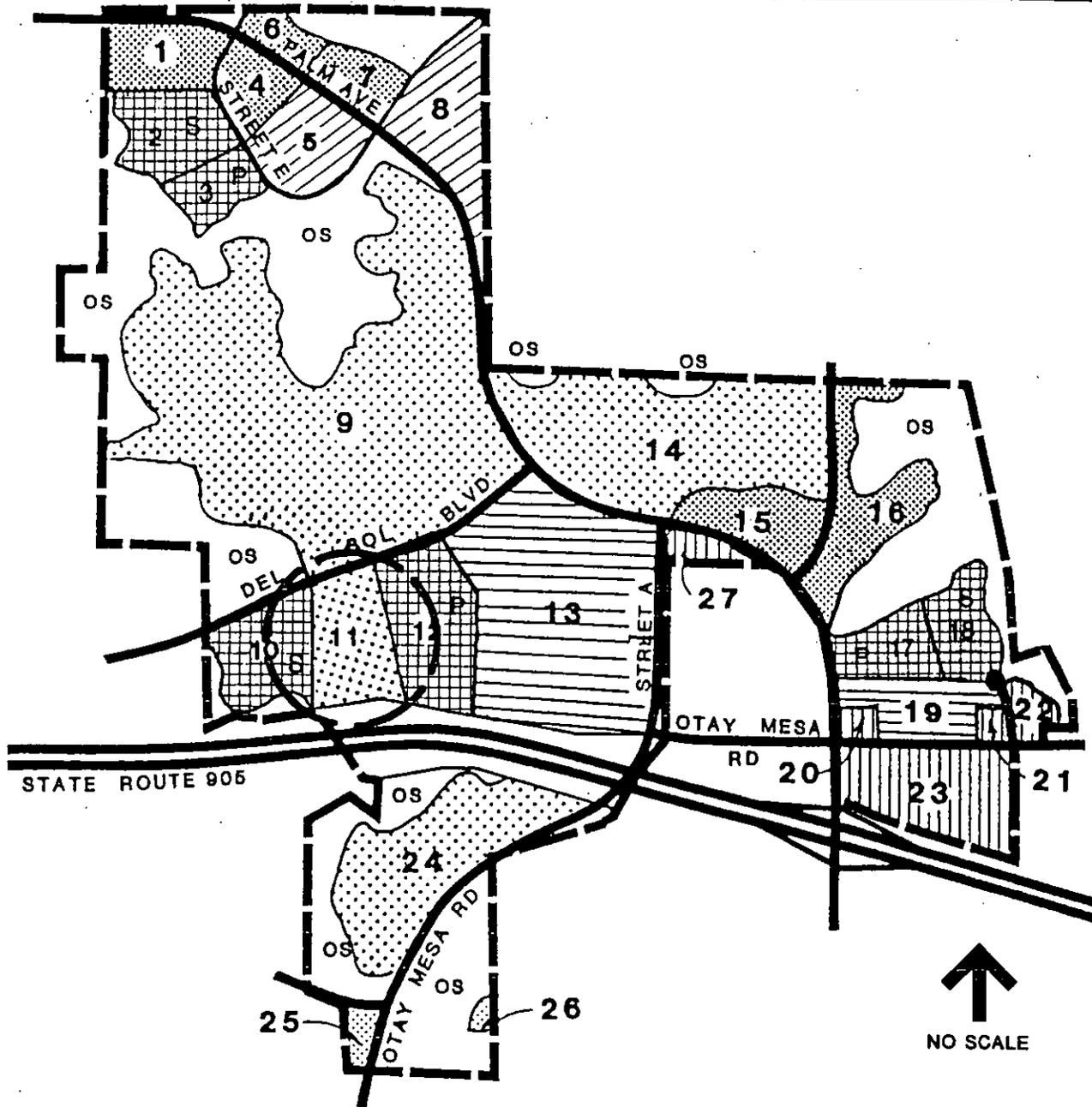
The demand for public services would also be slightly greater due to the small increase in the number of residential units on the project site. However, because the increase in numbers of residential units is so small under either school site conversion scenario, major design changes to streets, utilities, drainage, water, and sewer facilities would not be required. The existing water pump station would still be required to be upgraded as under the proposed project, and a second water pump station would still need to be constructed for later phases of development. New sewer mains required under the proposed project would still be required with the redesignation of the school sites.



- |  |                   |
|--|-------------------|
| LOW DENSITY RESIDENTIAL (5-10 DU/AC)         | COMMERCIAL SITE   |
| LOW-MEDIUM DENSITY RESIDENTIAL (10-15 DU/AC) | OPEN SPACE        |
| MEDIUM DENSITY RESIDENTIAL (15-30 DU/AC)     | MAJOR/MINOR ROADS |
| HIGH MEDIUM (30-43 DU/AC)                    | PLANNING AREA     |
| SCHOOL/PARK                                  |                   |

000417

FIGURE 52. CONVERSION OF ELEMENTARY SCHOOLS TO RESIDENTIAL USE



- |  |                   |
|--|-------------------|
| LOW DENSITY RESIDENTIAL (5-10 DU/AC)         | COMMERCIAL SITE   |
| LOW-MEDIUM DENSITY RESIDENTIAL (10-15 DU/AC) | OPEN SPACE        |
| MEDIUM DENSITY RESIDENTIAL (15-30 DU/AC)     | MAJOR/MINOR ROADS |
| HIGH MEDIUM (30-43 DU/AC)                    | PLANNING AREA     |
| SCHOOL/PARK                                  |                   |

↑  
NO SCALE

FIGURE 53. CONVERSION OF JUNIOR HIGH SCHOOLS TO RESIDENTIAL USE

**TABLE 19**  
**COMPARISON OF PROPOSED PROJECT WITH ALTERNATIVE 7.F.**

School	Planning Area	Proposed Project		Alternative Land Use		Change in Traffic Generation (ADT)	Traffic Volumes (ADT)
		Land Use	Traffic Generation (ADT)*	Land Use**	Number of Residential Units		
Elementary	2	Elementary school (12.1 ac.)	484	R-2000 (22 du/ac) (4.7 ac.)	103	824	+340
	3	Neighborhood park (5.6 ac.)	224	Neighborhood park (10.0 ac.)	--	400	+176
	10	Elementary school (11.9 ac.)	476	R-5000 (6 du/ac) (9.9 ac.)	59	590	+114
	12	Community park (13.0 ac.)	520	Community park (13.0 ac.)	--	520	0
	18	Elementary school (10.0 ac.)	400	R-1250 (35 du/ac) (2.7 ac.)	95	570	+170
	17	Neighborhood park (7.1 ac.)	284	Neighborhood park (10.0 ac.)	--	400	+116
	Elementary Total					257	

600419

811011

C00420

**TABLE 19**  
**COMPARISON OF PROPOSED PROJECT WITH ALTERNATIVE 7.F.**  
 (continued)

School	Planning Area	Proposed Project		Alternative Land Use		Change in Traffic Generation (ADT)	Traffic Volumes (ADT)
		Land Use	Traffic Generation (ADT)*	Land Use**	Number of Residential Units		
Junior High	11	Junior high school (20.7 ac.)	828	R-5000 (6 du/ac) (13.7 ac.)	82	820	-8
	12	Community park (13.0 ac.)	520	Community park (20.0 ac.)	--	800	<u>+280</u>
Junior High Total					82		+272

\*Traffic volumes calculated using the following generation rates: parks = 40 trips/acre; elementary school = 40 trips/acre; junior high school = 40 trips/acre; single-family residential = 10 trips/unit; multi-family (under 30 du/ac) = 8 trips/unit; and multi-family (over 30 du/ac) = 6 trips/unit.

\*\*Residential acreages are net acreages.

## G. Alternative School Sites

As indicated in Figure 4, the precise plan proposes four school facilities, three elementary schools (serving grades K-6) and a junior high school (serving grades 7-8). A 10.8-acre elementary school site would be provided in the northern portion of the project site, near Palm Avenue, and another 10-acre elementary school site would be provided to the east of the future town center. A 12-acre elementary school is also planned along the western portion of the project boundary, to the north of SR-905. This school site would be located adjacent to a junior high school site. The precise plan would provide a 20-acre junior high school site in the west-central portion of the project area, to the south of Del Sol Boulevard.

A majority of the precise plan falls within a two-mile radius of Brown Field runways. Education Code 39005, 39006, 39007, and 81036 and Government Code 15854.5 establish a requirement of the State of California to investigate and make recommendations on the acquisition of property for a new school site or for an addition to a present school site located within two miles of an airport/heliport runway. Such an investigation has not been done for the California Terraces property.

In response to this state code requirement, and also the San Ysidro School District's review of the site, two project designs which relocate the school sites are included as project alternatives. Figures 54 and 55 illustrate these school alternatives.

The first alternative (see Figure 54) represents an alternate site design which would locate all schools outside the two-mile Brown Field radius line. A 20-acre junior high site would be located in the northwest corner of the precise plan area adjacent to a 13-acre community park. A 10-acre elementary school site would be located on the central western boundary of the precise plan area. A second 12-acre elementary school site adjacent to a 5.8-acre neighborhood park site would be located in the west-central corner of the precise plan area.

This alternative would result in approximately 300 fewer dwelling units than is currently proposed. Since this alternative would require aligning all the schools along the western border of the site, the elementary school sites would not provide easy access for students from the eastern portions of the precise plan area. Other impacts (e.g., landform alteration and visual quality and biology) would remain similar to the proposed project. Impacts would be similar to the proposed project because no significant additional grading would occur, only the land uses would be shifted to move the schools outside the two-mile radius for Brown Field.

The second school site alternative is recommended by the San Ysidro School District. It provides for an additional school within the precise plan area, none of which would be located outside of the two-mile radius from the Brown Field runways. Under this alternative, four elementary school sites and one junior high school site (see Figure 55) would be built.

One 10-acre elementary school site would be located in the eastern portion of the precise plan area adjacent to a 5-acre neighborhood park. This is consistent with the proposed precise plan, but it reverses the school and park site placement. A second 10-acre elementary school site would be located on the northeastern boundary of the proposed precise plan, falling partially within the Hidden Trails Precise Plan area. The proposed California Terraces Precise Plan does not provide this school site. A third 10-acre elementary school site would be located in the west-central portion of the precise plan area adjacent to a 3.5-acre neighborhood park site. The California Terraces Precise Plan proposes a slightly larger school and park site to the northwest of the alternative sites. A fourth 10-acre elementary school site would be located adjacent to the 22-acre junior high school site located in the east-central portion of the precise plan area. The California Terraces Precise Plan proposes reversing the location of the two school sites but in the same area. None of the school sites would lie outside the two-mile radius from the Brown Field runways. Four elementary school sites and one junior high school site is more than adequate for the projected enrollment (see above discussion). As with the above alternative, other impacts (e.g., landform alteration and visual quality and biology) would remain similar to the proposed project.

# Chapter Seven

## EIR Preparation

This Environmental Impact Report was prepared by the City of San Diego Planning Department, Environmental Analysis Section, located at 202 C Street, Fourth Floor, San Diego, California. The following professional staff participated in its preparation.

### City of San Diego, Environmental Analysis Section

Ann Hix, Principal Planner  
Ellen Mosley, Senior Planner  
Paul O'Boyle, Associate Planner  
Cathy Winterrowd, Senior Planner

### RECON (Job Number R-1785)

Karen L. Bowling, Assistant Analyst  
Dayle M. Cheever, Project Archaeologist  
Sandra Fayette, Assistant Analyst  
Scott Fulmer, Environmental Analyst  
Loretta L. Gross, Production Supervisor  
Jill Gurak, Assistant Analyst  
Donald E. Haines, Associate Analyst  
Stacey Higgins, Production Specialist  
Jerry Hittleman, Environmental Planner  
John P. Larson, Vice President  
Cameron Patterson, Director, Resources Group  
Janet M. Peters, Associate Analyst  
Harry J. Price, Senior Technical Illustrator  
Lee A. Sherwood, Project Manager  
Bobbie Stephenson, Manager, Biological Resources

# Chapter Eight

## Persons and Agencies Consulted

Estrada Land Planning  
Steve Estrada

The McKinley Group  
Laurie J. McKinley

Metropolitan Transit Development Board  
Tony Mendoza

Otay Municipal Water District  
Charly Cassens

Pardee Construction Company  
Michael Madigan  
David Poole

Project Design Consultants  
Bill Dick  
Keith Keeter  
Rich Miller  
Doug Paul

RBR and Associates, Inc.  
Royce B. Riggan, Jr.

San Diego Association of Governments  
Eunice Tanjuaquino

San Diego, City of  
Airport Division  
Mary Roush  
Planning Department  
Howard Greenstein  
Mike Stang  
Water Utilities Department  
Norm Pierce  
Sarah Sandbeck

San Ysidro School District  
Gilberto Anzaldua  
Margo Lamb  
Alicia Perez

Sholders & Sanford  
Carol Chase

Sweetwater Union High School District  
Andrew Campbell  
Tom Silva  
Mr. Young

Urban Systems Associates  
Sam Kab

## Chapter Nine

# References Cited

Bauder, E. T.

- 1986 San Diego Vernal Pools, Recent and Projected Losses; Their Condition; and Threats to Their Existence, 1979-1990. Endangered Plant Project, California Department of Fish and Game.

California, State of

- 1987 *Annual Summary of Air Quality Data, Gaseous and Particulate Pollutants, California* (Vol. XIX). Air Resources Board.
- 1988 *Annual Summary of Air Quality Data, Gaseous and Particulate Pollutants, California* (Vol. XX). Air Resources Board.
- 1989a *Annual Summary of Air Quality Data, Gaseous and Particulate Pollutants, California* (Vol. XXI). Air Resources Board.
- 1989b Guidelines for Air Quality Impact Assessments for General Development and Transportation-Related Projects. Air Resources Board. June.
- 1990 *Annual Summary of Air Quality Data, Gaseous and Particulate Pollutants, California* (Vol. XXII). Air Resources Board.

Davis, MacMillin, and Sue A. Wade

- 1990 Archaeology Data Recovery at SDi-6941, Locus D, Otay Mesa.

Everett, William T.

- 1979 Threatened, Declining and Sensitive Bird Species in San Diego County. *Sketches* 29(10):2-3.

GEOCON, Inc.

- 1984 Preliminary Soil Investigation and Geologic Reconnaissance for Otay Mesa Property, San Diego, California.

- 1990 Preliminary Soil and Geologic Reconnaissance for South Palm Vista Vesting Tentative Map, San Diego, California.
- Greene, H. G., K. A. Bailey, S. H. Clarke, J. I. Ziony, and M. P. Kennedy  
1979 Implications of Fault Patterns of the Inter-California Continental Border Land Between San Pedro and San Diego. In *Earthquakes and Other Perils: San Diego Region*, edited by Patrick L. Abbott and William J. Elliott, pp. 21-27. San Diego Association of Geologists.
- Holland, Robert F.  
1986 Preliminary Descriptions of the Terrestrial Natural Communities of California. Nongame-Heritage Program, California Department of Fish and Game. October.
- Kennedy, Michael P., and Gary L. Peterson  
1975 *Geology of the San Diego Metropolitan Area, California*. Bulletin 200, California Division of Mines and Geology, Sacramento.
- Oberbauer, Tom, and Julie Vanderwier  
1991 The Vegetation and Geologic Substrate Association and Its Effect on Development in Southern California. In *1991 Environmental Perils, San Diego Region*, edited by Abbott, P. L., and W. J. Elliott, pp. 203-212. San Diego Association of Geologists, October.
- Project Design Consultants  
1991 California Terraces Precise Plan. Updated October, 1992.
- RBR and Associates  
1988 Cultural Resource Inventory and Assessment: California Terraces.
- RECON  
1980 Otay Mesa East Feasibility Study. RECON Number R-1121.
- Remsen, Jan  
1979 Species of Special Concern: California's Imperiled Birds. *Western Tanager* 45(8):1-8.
- San Diego, City of  
1979 Progress Guide and General Plan.  
1981 Otay Mesa Community Plan.



- 1983 Hillside Review Overlay Zone.
- 1987 Brown Field Municipal Airport Noise Contour Study. Prepared by Landrum and Brown. City Manager's Report 86-599. April.
- 1989 Landscape Technical Manual, Section 6 (Brush Management). Planning Department. October.
- 1991 Significance Determination Guidelines.
- 1992 City Council Resolution No. 279939. May 12.
- San Diego, County of
- 1982 State Implementation Plan for the San Diego Air Basin.
- 1992 Five-Year Annual Air Quality Summary. Air Pollution Control District. May.
- San Diego Association of Governments (formerly Comprehensive Planning Organization)
- 1981 Comprehensive Land Use Plan, Brown Field, San Diego, California. September.
- 1990 San Diego Air Carrier. Airport Site Selection Study. January.
- San Diego Herpetological Society
- 1980 Survey and Status of Endangered and Threatened Species of Reptiles Natively Occurring in San Diego County. Prepared for the Fish and Wildlife Committee, San Diego County, Department of Agriculture.
- Soule, Michael E., D. Bolger, A. Alberts, J. Wright, M. Sorice, and S. Hill
- 1988 Reconstructed Dynamics of Rapid Extinctions of Chaparral-Requiring Birds in Urban Habitat Island. *Conservation Biology* 2(1). March.
- Unitt, P. A.
- 1984 Birds of San Diego County. *Memoir* 13, San Diego Society of Natural History.
- University of California Agricultural Extension Service
- 1967 *Climates of San Diego County: Agricultural Relationships*.
- Urban System Associates
- 1990 Revised Transportation Analysis for California Terraces.

Westman, Walter E.

- 1987 Implications of Ecological Theory for Rare Plant Conservation in Coastal Sage Scrub. In *Conservation and Management of Rare and Endangered Plants: Proceedings from a Conference of the California Native Plant Society*, edited by T. S. Elias, pp. 133-140. Sacramento.

Zedler, Joy B.

- 1989 The Ecology of Southern California Vernal Pools: A Community Profile. *U.S. Fish and Wildlife Service Biological Report* 85(7,11).



THE CITY OF SAN DIEGO  
MAYOR JERRY SANDERS

M E M O R A N D U M

DATE: April 24, 2008  
TO: Cecilia Gallardo, Assistant Deputy Director, Development Services Department  
FROM: Marsi A. Steirer, Deputy Water Department Director, Water Resources and Planning Division  
SUBJECT: Water Supply Assessment and Verification Report – Ocean View Hills – Planning Area 6 (Project No. 4925)

---

In response to your request, please find attached, the approved Water Supply Assessment (WSA) and Water Supply Verification (WSV) Report for Ocean View Hills, Planning Area 6.

The Water Department prepared this WSA and WSV Report to assess whether sufficient water supplies are or will be available to meet the projected water demands of the project. The findings verify that there is sufficient water supply to serve existing demands, projected demands, and future water demands of the project within the Water Department's service area in normal and dry year forecasts during a 20-year projection.

Should there be any comments on this Report at the conclusion of the public review process of the EIR, please forward them for our review and comment.

If you have any questions, please call George Adrian at (619) 533-4680.

  
Marsi A. Steirer

MAS/gja

Attachment

cc: Ray Palmucci, Deputy City Attorney  
Bob McCullough, Principal Water Resources Specialist  
George Adrian, Associate Engineer  
John Minhas, Junior Engineer  
Jeffrey Szymanski, Associate Planner  
RMS 6.8.4



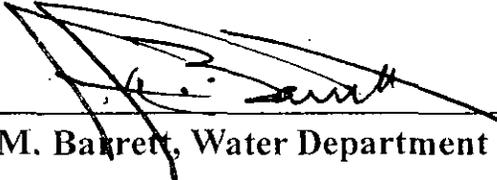
# WATER SUPPLY ASSESSMENT and VERIFICATION REPORT

## OCEAN VIEW HILLS – PLANNING AREA 6 (Project No. 4925)

Prepared by:

City of San Diego Water Department

Approved by:

*NAS*  
*4/21/08*  
  
\_\_\_\_\_  
J. M. Barrett, Water Department Director

*4/21/08*  
\_\_\_\_\_  
Date

Prepared: April 2008

**City of San Diego Water Department  
Water Supply Assessment and Verification Report**

**Ocean View Hills - Planning Area 6  
(Project No. 4925)**

**Table of Contents**

---

Section 1 - Purpose .....	1
Section 2 - Findings .....	3
Section 3 - Project Description .....	5
Section 4 - City of San Diego Water Department.....	9
4.1 Overview of Potable System Facilities .....	9
4.2 Overview of Recycled System Facilities .....	10
Section 5 - Existing and Projected Supplies .....	12
5.1 Metropolitan Water District of Southern California.....	12
5.1.1 Impacts of Global Climate Change on Metropolitan's Water Supply 13	
5.1.2 Delta Decision.....	14
5.1.3 Lake Mead Agreements .....	16
5.1.4 Capital Investments.....	16
5.2 San Diego County Water Authority.....	16
5.3 Water Department.....	17
5.3.1 Demonstrating the Availability of Sufficient Supplies.....	17
5.3.2 Plans for Acquiring Additional Supplies .....	22
Section 6 - Projected Demands .....	25
6.1 Sales to other Agencies.....	27
6.2 Projected Single-Dry-Year Water Supply and Demand .....	30
6.3 Projected MULTIPLE-Dry-Year Water Supply and Demand.....	30
Section 7 - Conclusion - Availability of Sufficient Supplies.....	31
Source Documents .....	33

## Section 1 - Purpose

---

On January 1, 2002, Senate Bill 610 (SB 610) and Senate Bill 221 (SB 221) took effect. The intent of SB 610 and SB 221 was to improve the link between information on water supply availability and certain land-use decisions made by cities and counties. SB 610, which has been codified in the Water Code beginning at Section 10910, requires the preparation of water supply assessments (WSA Report) for projects (defined in the Water Code) within cities and counties that propose to construct 500 or more residential units or that will use an amount of water equivalent to what would be used by 500 residential units. In addition, under SB 610, the WSA Report must be furnished to cities and counties for inclusion in any environmental documentation for projects subject to the California Environmental Quality Act (CEQA). Under SB 221, approval by a city or county of certain residential subdivisions requires an affirmative written verification of sufficient water supply or water supply verification (WSV). SB 221 is intended as a mechanism to ensure that collaboration finding the needed water supplies to serve a new large subdivision occurs before construction begins.

Not every project that is subject to the requirements of SB 610 is also subject to the mandatory water verification of SB 221 (*e.g.*, if there is no subdivision map approval). Conversely, not every project that is subject to the requirements of SB 221 must also obtain a SB 610 water supply assessment.

A foundational document for compliance for both SB 610 and SB 221 is the Urban Water Management Plan (UWMP) of the relevant water agency. Both of these statutes repeatedly identify the UWMP as a planning document that can be used by a water supplier to meet the standards set forth in both statutes. Thorough and complete UWMPs will allow water suppliers to use UWMPs as a foundation to fulfill the specific requirements of these two statutes. Cities, counties, water districts, property owners, and developers will all be able to utilize this document when planning for and proposing new projects. UWMPs serve as important source documents for cities and counties as they update their General Plan. Conversely General Plans are source documents as water suppliers update their UWMPs. These planning documents are linked and their accuracy and usefulness are interdependent. It is crucial that cities, counties and water suppliers work closely when developing and updating these planning documents.

The Water Department's 2005 UWMP was adopted by the City Council on September 11, 2006, and was filed with the California Department of Water Resources (DWR).

The City of San Diego Development Services Department (DSD) requested that the City of San Diego Water Department (Water Department) prepare the WSA and WSV Report as part of the environmental review of the Ocean View Hills - Planning Area 6 (Project). The WSA and WSV Report was required since the Project proposes to construct 500 or more residential units (or equivalent to 500 units of water use or more). A more detailed description of the Project is provided in Section 3 of this WSA and WSV Report. This WSA and WSV Report evaluates water supplies that are or will be available during normal, single-dry year, and multiple dry water years during a 20-year projection to meet existing demands, projected demands of the Project, and future water demands served by the Water Department. This WSA and WSV Report

provides an assessment of the availability of sufficient water supplies for the Project only and does not constitute approval of the Project.

This WSA and WSV Report includes, among other information, an identification of existing water supply entitlements, water rights, water service contracts, or agreements relevant to the identified water supply for the Project and quantities of water received in prior years pursuant to those entitlements, rights, contracts, and agreements. This Report has been prepared in compliance with the requirements under SB 610 and SB 221 by the Water Department in consultation with DSD, the San Diego County Water Authority (Water Authority), and the Metropolitan Water District of Southern California (Metropolitan).

## Section 2 - Findings

---

### Water Assessment

The WSA and WSV Report identifies that the water demand projections for the proposed Project are included in the water demand forecasts within the UWMP and other water resources planning documents of the Water Department, the Authority, and Metropolitan. Water supplies necessary to serve existing demands, projected demands of the Project, and future water demands within the Water Department's service area, as well as the actions necessary to develop these supplies, have been identified in the water supply planning documents of the Water Department, the Water Authority, and Metropolitan. This WSA and WSV Report demonstrates that with implementation of the identified supply projects, there are sufficient water supplies over a 20-year planning horizon to serve the existing demands, projected demands of the Project, and future water demands.

This WSA and WSV Report includes, among other information, an identification of existing water supply entitlements, water rights, water service contracts, or agreements relevant to the identified water supply for the proposed Project.

As requested by DSD, the Water Department has prepared this WSA and WSV to assess whether sufficient water supplies are or will be available to meet projected water demands of the Project and the Water Department service area for normal, single-dry year, and multiple dry water years during a 20-year projection

Water use associated with the PA 6 Project was included as part of the original master planned California Terraces Water Study approved by the City in June 1998. The construction of the backbone supply, delivery and storage facilities, as well as most of the distribution system for the California Terraces/Ocean View Hills service area, occurred prior to the January 2002 requirement for preparation of a WSA or WSV on any new development with a potential water demand equivalent to 500 single-family residential dwelling units or more (>225 acre-feet annually) under SB 210. Although the PA 6 Project represents one of the final planning areas within the California Terraces Precise Plan to be developed, the fact that it is more than 500 dwelling units and a new tentative subdivision map is mandated for approval, means both a WSA and WSV are needed as part of CEQA documentation.

Based on a normal water supply year, the estimated water supply projected in five-year increments for a 20-year projection will meet the estimated water demand of 227,456 acre-feet<sup>1</sup> (AF) in 2005 and 275,925 AF in 2030 (Table 6-6). Based on dry year forecasts, the estimated water supply will also meet the projected water demand during single and multiple-dry year scenarios. For a single-dry year a projected supply of 295,240 AF (in 2030) within the Water Department service area is available, and for multiple-dry years (2026-2030) a projected supply

---

<sup>1</sup> An acre-foot of water equals approximately 325,000 gallons, which is enough water for two average families of four for a year

of 287,119 AF, 289,149 AF, 291,179 AF, 293,210 AF, and, 295,240 AF respectively is available (**Table 6-9**).

## **Water Verification**

Verification, per SB 221, involves provision of substantial evidence that adequate water supplies will be available to meet projected demands based on the following: a) written contracts or agreements containing specifications and conditions under which future supply becomes available; b) capital outlay programs for financing delivery systems if needed; c) securing applicable agency permits for construction of infrastructure; and, d) necessary regulatory approvals to convey or deliver water to the subdivision.

Substantial evidence verifying local, regional, and state water supplies available for the proposed Project, the California Terraces Precise Plan, plus existing and projected demands within the San Diego City service area is provided in Section 5 of this report. The WSV findings presented in Section 5 substantiate that there will be sufficient water supply available to serve existing demands, demands of the Project, and projected future demands within the Water Department's service area under normal and dry year forecasts.

## **Conclusion**

An adequate supply is further confirmed by the following from the Water Authority's UWMP, "If the Water Authority and member agency supplies are developed as planned, along with implementation of Metropolitan's IRP, no shortages are anticipated within the Water Authority's service area under single-dry year or multiple dry water years through 2030." (UWMP Section 8.3).

*Therefore, this WSA and WSV Report concludes that the proposed level of water use at the Project site is within the water demand forecasts in the 2005 UWMP and other water resources planning documents of the Water Department, the Water Authority, and Metropolitan. Water supplies necessary to serve existing demands, and future water demands within the Water Department's service area, as well as the actions necessary to develop these supplies have been identified in the water supply planning documents of the Water Department, the Water Authority, and Metropolitan.*

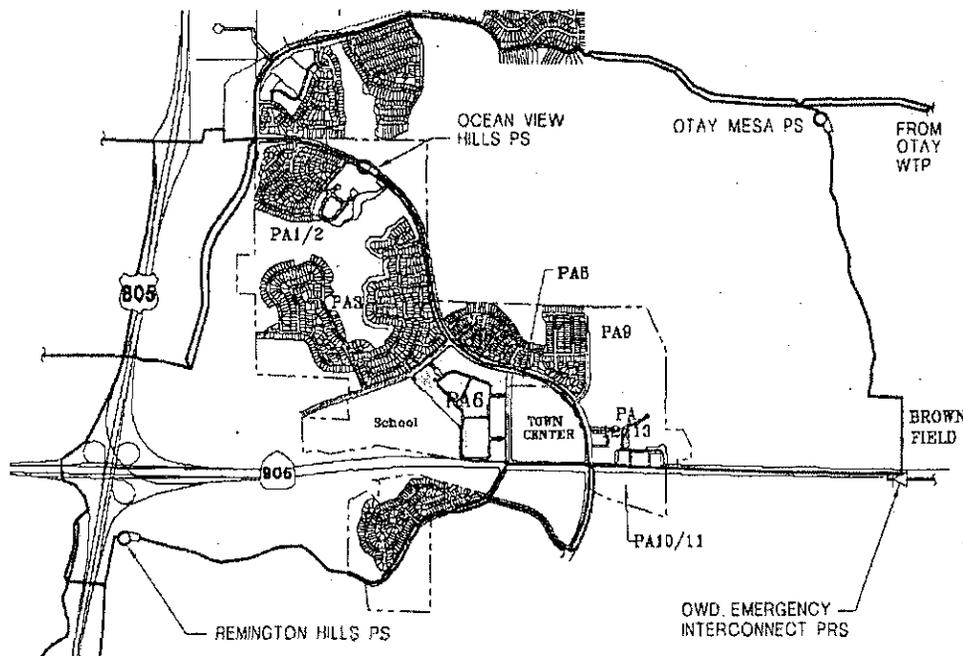
### Section 3 - Project Description

The PA 6 Project is a phased component of the overall California Terraces Precise Plan.

The proposed project site is located within the Otay Mesa Community Planning area and the California Terraces Precise Plan. The site is bounded on the north by Ocean View Hills Parkway, on the south by Otay Mesa Road, on the west by Ocean View Hills K-8 School and a future park, and on the east side by future Street A. Access to the project would be provided from Otay Mesa Road (at Street A), from Ocean View Hills Parkway, and from Del Sol Boulevard.

The 46-acre PA 6 Project, comprising a portion of the original PA 5 (Las Casitas) and the 35.8-acre PA 6 site, was initially planned (in 2003) to contain a mix of 110 proposed single-family residential units (identified as PA 5 SFR – Las Casitas) and 1,388 proposed multiple-family residential units (identified as PA 6 MFR) for a total of 1,498 residential dwelling units. Design changes that occurred since then eliminated the single-family units and replaced them with additional multi-family units. The combined PA 6, along with the unchanged PA 13/14 sites, were updated and addressed in a *California Terraces Water Study Amendment No. 3* report approved by the City, August 16, 2006. A total of 1,732 proposed multi-family residential dwelling units were envisioned for the revised PA 6 area. The total number of residential dwellings for the PA 6 Project was reduced from 1,732 to 1,578 multi-family units in 2007.

Figure 2-1  
Project Location Map



**Table 3-1  
 Water Use Planning Parameters and Land Use Metrics**

		PA 6 Project
<b>Land Use Metrics</b>		
Area Gross, acre		46
Area Net, acre		42
Population		4,103
Residential DUs, Total		1,578
	Single Family, percent	0%
	Multiple Family, percent	100%
Densities:	Pop/RDU	2.6
	Population/acre	98
	RDU/acre	37.9
<b>Water Use Metrics</b>		
Equivalencies:	gpcd	150
	gpd/DU	390

### Cal Terraces and PA 6 Water Demands

Land and water use planning metrics for the California Terraces Precise Plan and the specific PA 6 Project area are listed in Table 3-2. Presented are City approved Precise Plan metrics, breakdown between PA 6 and other planning areas, and the overall Precise Plan project at Build-out. The PA 6 values, all multi-family residential dwelling units, are presented in bold face type. Net change (differences) between the present development plan, inclusive of the PA 6 Project, and the approved 1998 Precise Plan are also presented; metrics that have decreased in value are expressed in parentheses.

**Table 3-2.  
 California Terraces Land and Water Use Project Planning Metrics**

	98 Precise Plan	PA 6 Project	All Other PAs	Precise Plan At Build-out	Net Change
Yr Planned/Approved	1997/98	Present	Present	Total	
Zoning	R1-5/R-2A	<b>RM-3-7</b>	R-1-5/R-2A	R1-5/R-3-7	
Planning Areas	(1-16)	<b>5&amp;6</b>	(1-4 & 7-16)	(1-16)	0
<b>Land Use Metrics</b>					
Gross Area, acres	506	<b>46</b>	460	506	0
Net Area, acres	405	<b>42</b>	363	405	0
Residential Dwellings	4,118	<b>1,578</b>	2,523	4,101	(17)
Single Family Units	1,215	<b>0</b>	1,155	1,155	(60)
Multi-Family Units	2,903	<b>1,578</b>	1,368	2,946	43
RDU/net acre <sup>(1)</sup>	10.2	<b>38</b>	7.0	10.1	(0.1)
Population	12,230	<b>4,103</b>	8,080	12,180	(50)
Pop./net acre <sup>(1)</sup>	30.2	<b>98</b>	22.3	30.1	(0.1)
Pop./RDU	2.97	<b>2.60</b>	3.20	2.97	0
<b>Water Use</b>					
Water Demand, MGD	2.30	<b>0.62</b>	1.685	2.29	(0.01)
Annual Demand, AFY	2,575	<b>690</b>	1,875	2,565	(10)
Water Demand, MGD		<b>0.62</b>			
Maximum Day DF <sup>(2)</sup>	1.8	<b>1.8</b>	1.8	1.8	
Max. Day Demand, MGD	4.1	<b>1.1</b>	3.0	4.1	0
Peak Hour DF <sup>(3)</sup>	3.7	<b>3.7</b>	3.7	3.7	
Peak Hr Demand, GPM	5,900	<b>1,580</b>	4,310	5,890	(10)

<sup>(1)</sup> In conformity with Table 2-1 of City CIP Guidelines and Standards - Land Use and Residential Population Water Demands and Service Criteria (Chap. 2).

<sup>(2)</sup> Maximum Day Demand Factor from Figure 2-2 of City CIP Guidelines and Standards, Chapter 2.5 Peak Water Demands (Book 2)

<sup>(3)</sup> Peak Hour Demand Factor from Figure 2-1 of City CIP Guidelines and Standards (Chap. 2.5)

Water demands for the proposed PA 6 Project, as well as the entire 405-acre California Terraces Precise Plan, as approved by the City in 1998 and as amended over the past nine years, are presented in Table 3-3. Based on existing development and the revised planning areas, the total build-out of California Terraces now consists of 4,101 residential dwelling units, a school, a

community park, two neighborhood parks, a number of commercial areas, roadways and open spaces. The revised average annual water demand for the project is projected at 2,565 acre-feet (2.29 MGD) based on demand criteria provided in the July 1999 "City of San Diego Water/Wastewater Design Guidelines" (Design Guide). The updated Precise Plan represents an overall decrease of 17 residential dwelling units from the original Concept Plan (4,101 vs 4,118) and a net decrease of 10 acre-feet per year (9,000 gallons/day) in projected water demand at build-out. The PA 6 Project area values, all multi-family residential dwelling units, are presented in bold face type.

**Table 3-3.  
 Project Water Demands (Cal Terrace and PA 6)**

	Net Area acres	RDUs (1)	Unit, gpd/DU	Average Annual Demand		
				GPM	MGD	AFY
1999 Cal. Ter. Precise Plan	405	4,118	560	1,600	2.30	2,575
<b>PA 6 Project (2007)</b>	<b>42</b>	<b>1,578</b>	<b>390</b>	<b>428</b>	<b>0.62</b>	<b>690</b>
Updated Cal. Ter. Precise Plan	405	4,101	560	1,590	2.29	2,565
Net Change <sup>(2)</sup>	0	(17)	0	(10)	(0.01)	(10)

(1) Includes all single and multiple family residential dwelling units

(2) Difference between Updated Precise Plan and 1999 Plan, with lower (decreased) values expressed within parentheses

## **Section 4 - City of San Diego Water Department**

---

The City of San Diego (City) purchased its initial water system in 1901 from the privately owned San Diego Water & Telephone Company. Since then, continual expansion of the water system has been required to meet the demands of the growing population of the City. To meet the demand, the Water Department purchased a number of reservoirs between 1913 and 1935 to supplement local water supplies. Despite low annual precipitation for the area (approximately 10 inches per year), these reservoirs supplied the City's growing demands until 1940.

The need to import water emerged with the increased demand generated by the presence of the United States Navy before and up to World War II, and the ensuing population boom. As a result, the Water Department and other local retail water distributors formed the Water Authority in 1944 for the purpose of purchasing Colorado River water from Metropolitan. The Water Department and other local retail water distributors began receiving imported water from the Colorado River in 1947.

Today, the Water Department treats and delivers more than 200,000 AFY of water to nearly 1.3 million residents. Its service area is generally located within the south central portion of San Diego County and is approximately 330 square miles. The Water Department potable water system serves the City of San Diego and certain surrounding areas, including both retail and wholesale customers. The Project is located within the Water Department service area.

In addition to delivering potable water the City has a recycled water program. Its objectives are to optimize the use of local water supplies, lessen the reliance on imported water and free up capacity in the potable system. Recycled water gives the City a dependable, year-round, locally produced, and controlled water resource.

### **4.1 Overview of Potable System Facilities**

The water system consists primarily of nine raw water storage facilities with 416,000 AF of storage capacity, three water treatment plants, 32 treated water storage facilities, and more than 3,460 miles of transmission and distribution lines.

The Water Department maintains and operates nine local surface raw water storage facilities, eight of which are directly connected to water treatment operations. The Lower Otay, Barrett and Morena Reservoirs (137,700 AF total capacity) service the Otay Water Treatment Plant in south San Diego; the El Capitan, San Vicente, Sutherland and Lake Murray Reservoirs (237,500 AF total capacity) service the Alvarado Water Treatment Plant in central San Diego; and the Miramar Reservoir (7,200 AF total capacity) services the Miramar Water Treatment Plant in north San Diego. Lake Hodges Reservoir has a total capacity of 33,600 AF.

The Water Department maintains and operates three water treatment plants with a combined total rated capacity of 294 million gallons per day (MGD). The Miramar Water Treatment Plant (Miramar WTP), originally constructed in 1962, has a current rated capacity of 140 MGD. The Miramar WTP generally serves the City's geographical area north of the San Diego River (north San Diego). Construction is underway to increase the rated capacity of the Miramar WTP to

215 MGD by 2010. The Alvarado Water Treatment Plant (Alvarado WTP), operational since 1951, had an initial capacity rating of 66 MGD. Several hydraulic improvements to the Alvarado WTP were constructed in the mid-1970s to increase the plant's capacity to 120 MGD. Recent improvements at the plant increased the rated capacity to 150 MGD (interim). With completion of ongoing construction the rated capacity of the Alvarado WTP will increase to 200 MGD by 2010. The Alvarado WTP generally serves the geographical area from National City to the San Diego River (central San Diego). The Otay Water Treatment Plant (Otay WTP) was originally constructed in 1940, and has a current rated capacity of 34 MGD. The Otay WTP generally serves the geographical area bordering Mexico (south San Diego) and parts of the southeastern portion of central San Diego. Currently, the Otay WTP is in the process of being upgraded to include a third set of flocculation and sedimentation basins, filter piping and media improvements, and two 6.9 MGD clearwells. It is anticipated once the upgrades are completed that the rated capacity of the Otay WTP will increase to 43.3 MGD by 2010.

The Water Department maintains and operates 32 treated water storage facilities, including steel tanks, standpipes, concrete tanks and rectangular concrete reservoirs, with capacities varying from less than 1 to 35 million gallons.

The water system consists of approximately 3,460 miles of pipelines, including transmission lines up to 84 inches in diameter and distribution lines as small as 4 inches in diameter. Transmission lines are pipelines with larger diameters that convey raw water to the water treatment plants and convey treated water from the water treatment plants to the treated water storage facilities. Distribution lines are pipelines with smaller diameters that directly service the retail users connected to a meter. In addition, the Water Department maintains and operates over 50 water pump stations that deliver treated water from the water treatment plants to over 273,000 metered service connections in over 90 different pressure zones. The Water Department also maintains several emergency connections to and from neighboring water agencies, including the Santa Fe Irrigation District (Miramar WTP), the City of Poway, Olivenhain Municipal Water District (Miramar WTP), the Cal-American Water Company (Alvarado and Otay WTP's), the Sweetwater Authority (Otay WTP), and the Otay Water District (Otay WTP).

#### **4.2 Overview of Recycled System Facilities**

The City of San Diego built the North City Water Reclamation Plant (NCWRP) and the South Bay Water Reclamation Plant (SBWRP) to treat wastewater to a level approved for irrigation, manufacturing, and other non-potable purposes.

The NCWRP currently treats 22.5 MGD of wastewater, although the Plant has an ultimate treatment capability of 30 MGD. On average, 28% or 6.5 MGD of the current wastewater flows are treated to a tertiary level and beneficially reused. During the summer months, the beneficial reuse increases to 45% or 10.1 MGD of the wastewater flows. The Water Department maintains and operates the North City recycled water distribution system which consists of 80 miles of recycled water pipeline, two reservoirs and two pump stations.

SBWRP production of recycled water commenced in July 2006, with service to the International Boundary and Water Commission (IBWC). Recycled water production at South Bay expanded

in May 2007 when the Otay Water District began taking deliveries. SBWRP's wastewater treatment capacity is 15 MGD. The plant is presently treating a maximum of 9 MGD to tertiary level due to the current volume of wastewater flows to the plant. During the summer months, 100% of the wastewater flows to the South Bay Plant are treated to a tertiary level and beneficially reused. Wintertime beneficial reuse from SBWRP is approximately 3 MGD. The Water Department maintains and operates the South Bay recycled water distribution system which consists of 7,700 feet of recycled water pipeline, one storage tank, and one pump station.

## **Section 5 - Existing and Projected Supplies**

---

The Water Department relies on imported water as its major water supply source. The Water Department is a member public agency of the Water Authority. The Water Authority is a member public agency of Metropolitan. The statutory relationships between the Water Authority and its member agencies, and Metropolitan and its member agencies, respectively, establish the scope of Water Department's entitlements to water from these two agencies. Due to the Water Department's reliance on these two agencies, this WSA and WSV Report relies and includes information on the existing and projected supplies, supply programs, and related projects of the Water Authority and Metropolitan.

The City of San Diego relies in part on the Water Authority's 2005 Updated Urban Water Management Plan and Metropolitan's 2005 Regional Urban Water Management Plan (RUWMP) in their entirety to support the work on this WSA and WSV. These documents are available at the following websites and contacts;

### **San Diego County Water Authority**

<http://www.sdcwa.org/manage/2005UWMP.phtml>

Dana Frieauf, Principal Water Resources Specialist (858) 522-6749

### **Metropolitan Water District of Southern California**

[http://www.mwdh2o.com/mwdh2o/pages/yourwater/RUWMP/RUWMP\\_2005.pdf](http://www.mwdh2o.com/mwdh2o/pages/yourwater/RUWMP/RUWMP_2005.pdf)

MWD staff, (213) 217-6000

The Water Authority and Metropolitan are actively pursuing programs and projects to diversify their water supply resources. This information along with a description of local surface and local recycled water supplies available to the Water Department are discussed below.

#### **5.1 Metropolitan Water District of Southern California**

Metropolitan was formed in 1928 to develop, store, and distribute supplemental water in Southern California for domestic and municipal purposes. Metropolitan is a wholesale supplier of water to its member public agencies. It obtains supplies from local sources, as well as the Colorado River, via the Colorado River Aqueduct (CRA) which it owns and operates, and the Sacramento-San Joaquin Delta, via the State Water Project (SWP). The Metropolitan RUWMP documents the availability of these existing supplies and additional supplies necessary to meet future demands.

The Water Authority, one of 27 Metropolitan member agencies, is the largest of Metropolitan's member agencies in terms of deliveries, purchasing about 25 percent of all the water Metropolitan delivered in fiscal year 2007.

Metropolitan's Integrated Water Resources Plan (IRP) identifies a mix of resources (imported and local) that, when implemented, will provide 100 percent reliability for full-service demands through the attainment of regional targets set for conservation, local supplies, SWP supplies, Colorado River supplies, groundwater banking and water transfers. The 2004 update to the IRP includes a planning buffer to mitigate against the risks associated with implementation of local and imported supply programs. The planning buffer identifies an additional increment of water that could potentially be developed if other supplies are not implemented as planned. As part of implementation of the planning buffer, Metropolitan periodically evaluates supply development to ensure that the region is not over-developing supplies. If managed properly, the planning buffer will help ensure that the southern California region, including San Diego County, will have adequate supplies to meet future demands.

LINK to Metropolitan's Integrated Resources Plan (IRP)

<http://www.mwdh2o.com/mwdh2o/pages/yourwater/irp/IRPupdate.pdf>

In November 2005, Metropolitan adopted its 2005 RUWMP, in accordance with state law. The resource targets included in the 2004 IRP Update, serve as the foundation for the planning assumptions used in the 2005 RUWMP. Metropolitan's 2005 RUWMP contains a water supply reliability assessment that includes a detailed evaluation of the supplies necessary to meet demands over a 25-year period in average, single-dry year and multiple-dry year periods. As part of this process, Metropolitan also uses SANDAG's regional growth forecast in calculating regional water demands for the Water Authority's service area.

As stated in Metropolitan's 2005 RUWMP, the document may be used as a source document for meeting the requirements of SB 610 and 221 until the next scheduled update is completed in 2010. In addition, the 2005 RUWMP includes a "Justification for Supplies" in Appendix A.3 that details the planning, legal, financial and regulatory basis for including each source of supply in the plan.

### **5.1.1 Impacts of Global Climate Change on Metropolitan's Water Supply**

Metropolitan's sources of water supply could be impacted negatively by global climate change. There is a broad consensus that there is a warming trend due to global climate change and that this warming trend could affect California's water supplies. The predicted impacts of global climate change that could affect Metropolitan's water supply include, but are not limited to: (1) reduction in the average annual snowpack; (2) changes in the timing, intensity, location, amount, and variability in precipitation; (3) long-term changes in watershed vegetation and increased incidence of wildfires; (4) rise in sea level; (5) increased water temperatures; and (6) changes in urban and agricultural water demand. (Source: California Department of Water Resources (DWR), Progress on Incorporating Climate Change into Management of California's Water Resources, July 2006).

Governmental entities in California, including the DWR, have issued numerous reports evaluating the impacts of global climate change on California. (See: California Climate Change

Center, 2006 Biennial Report: Our Changing Climate: Assessing the Risks to California, 2006). Given the complexity of global climate change and the uncertainty of the evidence of the potential impacts of global climate change, the impacts of global climate change on Metropolitan's water supply cannot be meaningfully quantified at this time.

Moreover, Metropolitan has taken actions to decrease the potential impacts of climate change on the reliability of its water supplies. In 2002, Metropolitan adopted policy principles regarding global climate change, which are reflected in IRP. The IRP's water resource portfolio emphasized diversification and adaptability of supply sources to manage uncertainties created by climate change. The IRP also stressed local water supplies that are arguably less affected by global climate change including conservation, water reclamation, groundwater recharge and additional reservoir capacity to store water when it is plentiful for times of drought. Metropolitan has also entered into agreements to store water in groundwater reservoirs within and outside of Southern California. While not eliminating the risks created by global climate change, these actions should decrease the adverse impacts on Metropolitan's water supplies upon which the Project would rely.

### 5.1.2 Delta Decision

The amount of water that MWD will be able to supply to Southern California in the near future is unclear given the recent decision in *Natural Resources Defense Council, et al. v. Kempthorne, et al. (NRDC)*, currently pending in the United States District Court for the Eastern District of California, Judge Oliver Wanger presiding. In May 2007, Judge Wanger invalidated the Biological Opinion issued by the U.S. Fish & Wildlife Service (USFWS) for operations of the SWP and Central Valley Project (CVP) with regard to the Delta smelt, a federally- and state-listed threatened fish species that inhabits the estuaries of the Bay-Delta region. Later that month, the DWR voluntarily shut down SWP pumps in the Sacramento-San Joaquin River Delta (Delta) for 17 days in an effort to protect the endangered Delta smelt.

In June 2007, after the DWR restarted the SWP pumps, various environmental groups sought to halt the operation of the SWP pumps in the Delta to protect the Delta smelt and other endangered fish. Metropolitan currently receives approximately 60% of its water from the Delta. In December 2007, Judge Wanger issued an interim remedial order that requires the USFWS to prepare a new Biological Opinion by September 15, 2008. It is likely there will be significant conservation measures put into place on a permanent basis after this opinion is issued. The interim remedial order also specifies "Flow Restrictions," which ensure that flows in the Old and Middle Rivers (which are part of the Delta) do not exceed certain levels to prevent the Delta smelt from becoming trapped near the SWP and CVP pumps. The interim remedial order allows the SWP and CVP operators to take good faith measures that are reasonably necessary and appropriate for the protection of human health and safety, which presumably include but are not limited to supply for emergency water services, as well as actions that protect the structural integrity of any CVP and SWP facility. Therefore, the full extent of NRDC's impact on Metropolitan's ability to supply water to Southern California is uncertain.

This decision should not significantly impact the Project's water supply. Restoring the Delta's water delivery capacity is of great importance to the Governor and the California Legislature.

Prior to the decision, plans were underway for improving the operation of the Delta's water pumps while also protecting the Delta smelt and other endangered fish species. The Governor has made the Delta and statewide water policy high priorities by establishing the Delta Vision Process and the Bay-Delta Conservation Plan. The California Legislature enacted SB 27 to find a long-term water supply solution for the Delta.

Metropolitan is similarly focused on the challenges relating to the reliability of the Delta water supply. In May 2007, its Board adopted a Delta Action Plan as a framework to address water supply risks in the Delta both for the near-, mid-, and long-term. The near- and mid-term actions outlined in the Delta Action Plan are intended to implement measures to reduce fishery and earthquake-related risks, such as aggressive monitoring, ecosystem restoration, local water supply projects, and emergency preparedness and response plans. The long-term actions are intended to create a global, comprehensive approach to the fundamental environmental issues facing the Delta to create a sustainable ecological environment through Delta ecosystem restoration, improved water supply conveyance, flood control protection, and development of storage facilities.

In the near-term, Metropolitan will continue to rely on the plans and policies outlined in its RUWMP and IRP to address water supply shortages and interruptions (including potential shut downs of SWP pumps) to meet water demands. Campaigns for voluntary conservation, curtailment of replenishment water, and agricultural water delivery are some of the actions outlined in the RUWMP. If necessary, reduction in municipal and industrial water-use and mandatory water allocation could be implemented, but is unlikely to be in effect in the long-term. Finally, as mentioned above, Metropolitan recently entered into a series of agreements that ensure the stability of its Colorado River supplies and provide Metropolitan with substantial storage capacity at Lake Mead in years with surplus water supplies. As a result of these plans, Metropolitan's water supply may be restored to previous levels in the future.

On a local level, the Water Authority is in the process of minimizing the amount of water it purchases from Metropolitan by diversifying its water supply portfolio as discussed in detail below. Prompted by a 30% cutback in its water supply from Metropolitan due to a six-year drought that began in 1987, the Water Authority began to diversify its portfolio. Significantly, with the implementation of the Quantification Settlement Agreement (QSA) and the Imperial Irrigation District (IID) water conservation and transfer agreement in 2003, the Water Authority is reducing its reliance on Metropolitan water supplies. Moreover, the Water Authority seeks to increase its local water supplies to 40% of the region's water supply by 2020 through conservation programs, local reservoirs, recycling, and groundwater.

In light of the Governor's, the California Legislature's, and Metropolitan's ongoing efforts to rehabilitate the Delta and stabilize the Delta's water supply, the NRDC decision is not expected to impact the Project's short-term water supply. Moreover, any possible impact would be short-lived in light of the Water Authority's efforts to minimize its reliance on Metropolitan water supplies in favor of increased local water supplies and conservation efforts.

### **5.1.3 Lake Mead Agreements**

Metropolitan authorized four agreements in December 2007 that allows local agencies to develop and store new water supplies from the Colorado River. The agreements coincide with U.S. Interior Secretary's signing of a federal conservation and reservoir operations plan for the Colorado River. When adopted, the federal plan will be in effect until 2026. Metropolitan is granted the opportunity to store nearly 1.5 million acre feet (MAF) of conserved water in Lake Mead. The additional storage is equivalent to building a reservoir nearly twice the size of Diamond Valley Lake, Metropolitan's largest reservoir located near Hemet in southwest Riverside County. The plan, furthermore, calls for storage levels in Lake Mead and Lake Powell to be closely coordinated in order to more efficiently manage water and reduce the risk of shortages to all upper and lower Colorado River Basin states.

Under these agreements, California will not be targeted for cutbacks until water levels at Lake Mead reach 16 percent of capacity. Lake Mead, with a capacity of 25.9 MAF, is (after eight years of drought) 48 percent full. The compromise, protecting California's 4.4 MAF water allotments, also has implications beyond CRA supply as it ends the prior "use it or lose it" storage approach. Previously, the three lower basin states (California, Arizona and Nevada) were forced to abandon remaining supplies in Lake Mead at year's end. Metropolitan is now permitted to bank up to an extra 400,000 AF of unused water annually in Lake Mead, providing a greater degree of certainty during periods of prolonged drought or to offset possible reductions in other sources of supply.

### **5.1.4 Capital Investments**

Metropolitan's annual budget approval process, included preparation of a Capital Investment Plan (CIP). The cost, status, and progress of each of Metropolitan's approved infrastructure projects to deliver present and future water supplies, are fully documented within this CIP Plan. Project-financing is approved through the annual budget approval process. The CIP Plan is available on their website (<http://www.mwdh2o.com/>).

## **5.2 San Diego County Water Authority**

The Water Authority was formed in 1944 to provide a supplemental supply of water to the San Diego region. The Water Authority's 24 member agencies purchase water from the Water Authority for retail distribution within their service areas. The Water Authority purchases water from Metropolitan and conserved agricultural water transferred from the IID. These supplies are delivered to its member agencies through two aqueducts containing five large-diameter pipelines.

In November 2005, the Water Authority Board adopted its 2005 Urban Water Management Plan (2005 Plan) in accordance with state law. The Urban Water Management Plan was updated in April 2007. Section 8 of the Updated 2005 Plan (April 2007) contains a water supply reliability assessment that identifies a diverse mix of imported and local supplies necessary to meet demands over the next 25 years in average, single-dry year and multiple-dry year periods. As stated in Section 8, if projected Water Authority and member agency supplies are developed as

planned, along with implementation of Metropolitan's IRP, no shortages are anticipated within the Water Authority's service area. Section 4 and Appendix E of the Updated 2005 Plan (April 2007) contains documentation on the existing and planned water supplies being developed by the Water Authority. This documentation was prepared for use by the Water Authority's member agencies to facilitate preparation of the water supply assessments and written verifications required under state law.

In accordance with the Water Authority's Administrative Code, the Water Authority also prepares, for use by its member agencies, cities and county in complying with SB 610/221, an annual water supply report. The supply report provides updated documentation on existing and projected supplies. The Water Authority plans to have a 2008 Water Supply Report completed by June that would document the current restriction of deliveries from the State Water Project. Metropolitan Water District is also developing a water supply reliability report, taking into account supplies currently available from the SWP and actions being taken to ensure a reliable water supply, which should also be completed by June 2008.

### **5.3 Water Department**

The Water Department currently purchases approximately 75-90% of its water from the Water Authority, which supplies the water (raw and treated) through two aqueducts consisting of five pipelines. While the Water Department imports a majority of its water, it uses three local supply sources to meet or offset potable demands: local surface water, conservation and recycled water.

The availability of sufficient imported and regional water supplies to serve existing and planned uses within the Water Department service area is demonstrated in the above discussion on Metropolitan and the Water Authority's water supply reliability. The City has been receiving water from the Water Authority since 1947 and during the last 20 years the City has purchased between 100,000 and 228,000 AFY. For Fiscal Year 2007, water purchases totaled approximately 227,300 AF, representing 92 percent of the City's total water needs. Depending upon the success of local water supply initiatives this could remain somewhat constant or increase up to a projected maximum of 231,725 AFY in 2030 during normal years. For the purpose of this analysis the maximum is used.

#### **5.3.1 Demonstrating the Availability of Sufficient Supplies**

##### **Imported Supplies**

Section 5, subdivision 11 of the County Water Authority Act states that the Water Authority "as far as practicable, shall provide each of its member agencies with adequate supplies of water to meet their expanding and increasing needs." The Water Authority provides between 75 to 95 percent of the total supplies used by its 24 member agencies, depending on local weather and supply conditions.

As mentioned in Section 4, the Water Department and other local retail water distributors formed the Water Authority in 1944 for the purpose of purchasing Colorado River water from the Metropolitan Water District of Southern California.

## **Local Surface Water Supplies**

The Water Department maintains and operates nine local surface raw water storage facilities, eight of which are connected to water treatment operations. In the San Diego region, on average, about 13 percent of the local precipitation produces surface runoff to streams and Water Department reservoirs. About half of the runoff is used for the municipal water supply, while the remaining runoff evaporates during reservoir storage, or spills over the dams and returns to the Pacific Ocean in very wet years. Average rainfall produces less than half of the average runoff in San Diego. The local climate requires about average rainfall to saturate the soils sufficiently for significant surface runoff to occur. Therefore, most of the runoff to reservoirs is produced in years with much greater than average rainfall. Some flooding may occur even during average or below average rainfall years if the annual rainfall is concentrated in a few intense storms.

Use of local water by the Water Department to meet water demand is affected by availability, and water resource management policies. The Water Department's policy is to use local water first, when available, to reduce imported water purchases and costs. The Water Department also operates emergency and seasonal storage programs in conjunction with its policy.

The purpose of emergency storage is to increase the reliability of the imported water aqueduct system. This is accomplished by maintaining a sufficient amount of water in accessible storage to ensure an uninterrupted supply of water to water treatment plants and customers should earthquakes or other events interrupt the supply of imported water. The management of reservoirs is guided by Council Policy 400-04, which outlines the City's Emergency Storage Program. The policy mandates the Water Department to store sufficient water in active, available storage to meet six-tenths of the annual (7.2 months) City normal water demand requirements (conservation is not included). Active, available storage is that portion of the water that is above the lowest usable outlet of each reservoir.

The monthly emergency storage requirement changes from month to month and is based on the upcoming seven months water demand. This results in a seasonally fluctuating emergency storage requirement generally peaking in May and reaching its minimum in October. This seasonally fluctuating requirement makes a portion of the required emergency storage capacity available for impounding or seasonal storage.

The purpose of seasonal storage is to increase imported water supply. This is done by storing surplus imported water in the wet winter season for use during the dry summer season. This may also be accomplished by increased use of imported water in lieu of local water in the winter when local water may be saved in reservoirs or groundwater basins for summer use. In addition to increased water yield, this type of seasonal operation also reduces summer peaking on the imported water delivery system.

## **Conservation**

The Water Department's Water Conservation Program is effective in promoting permanent water savings. Established by the City Council in 1985, the Water Conservation Program now accounts for approximately 32,000 AF of potable water savings per year. This savings has been achieved by creating a water conservation ethic, adopting programs, policies and ordinances

designed to promote water conservation practices, and implementing comprehensive public information and education campaigns.

The City offers a broad range of conservation methods to help meet the needs of our residential and commercial water customers. These include:

- Voucher programs for low-flush toilets and water conserving washing machines
- Survey programs
- Regulations
- Landscape and irrigation efficiency
- Park & Recreation partnerships
- Public Education and Outreach

Research conducted by the City, the Water Authority and the American Water Works Association Research Foundation (AWWARF) has shown that more than half of residential water-use is outdoors. Therefore, the City has added outdoor conservation programs to focus on water efficient landscaping and irrigation management which provide the best opportunity to achieve significant water savings.

Tools and services available and being developed for customers include:

- Commercial and Residential Water-Use Survey Programs — account for all water-use, determine leaks, and check irrigation systems for proper function and uniform coverage. Residential surveys average 15% water savings, while commercial surveys, depending on type of facility, can achieve 15% to 25% water savings.
- Nationally recognized Landscape Watering Calculator — an on-line tool that creates watering schedules based on landscaping features, soil type and weather data. The Calculator is very popular and those who have used it are impressed with its ease of use. MWD has adapted this tool and made it available throughout Southern California. The Landscape Watering Calculator has produced enough schedules to account for water savings of more than one million GPD in fiscal year (FY) 2007.
- Water Resources Landscape Database — another tool used to create water budgets and manage irrigation using aerial photographs, GIS maps, weather data, etc. This service has generated significant water savings in City parks, freeway landscapes, schools and homeowner associations.
- New programs being developed include incentives to install water efficient irrigation equipment and evapo-transpiration controllers (smart irrigation clocks that use weather data to set watering schedules).

In addition to offering landscape water conservation programs to existing customers, the Water Department is also working closely with the City's Planning and Development Services Departments to incorporate water conservation requirements in the City's General Plan and permitting process. This ensures that new communities and properties will also have water efficient landscapes.

Planning to increase water conservation is an ongoing process. The aforementioned water conservation programs undergo periodic reevaluation to ensure the realization of forecasted savings. Additionally, changes in water conservation technologies may require reassessment of long-range plans. Nevertheless, the Water Department continues to work with proven water conservation programs, while also including irrigation management programs to maximize water savings. The Water Department regularly examines new technologies and annually checks progress towards conservation goals. The Water Department continues to work collaboratively with Metropolitan and the Water Authority to formulate new conservation initiatives.

### **Recycled Water Supplies**

Recycled water is produced from wastewater processed at two water reclamation plants owned and operated by the City of San Diego: North City and South Bay. The recycled water is of high quality and suitable for irrigation, industrial and non-potable uses.

The City's beneficial reuse goals were established by the U.S. Environmental Protection Agency (EPA) as a grant condition for the North City Water Reclamation Plant (NCWRP) which provides recycled water to businesses, golf courses, homeowner associations and other users in the northern service area of the City, as well as the City of Poway and Olivenhain Municipal Water District. The EPA's grant goal is to reuse 50% of treated wastewater flows at NCWRP by December 31, 2010 (12 MGD). In order to meet the EPA reuse goal, a Beneficial Reuse Study was conducted in 2000, and is now being implemented by the Water Department. The study's objective was to develop a long-term cost-effective strategy to meet the EPA goal for the North City plant.

As of December 2007, the City provides recycled water to 419 retail meters and three wholesale meters: Poway, Olivenhan, and Otay. In CY 2007 the City produced and distributed over 10,800 acre-feet of recycled water for beneficial reuse. Landscaping is the single largest use for recycled water in the City. Major customers include Caltrans, University of California at San Diego, Black Mountain Ranch HOA, Santa Luz Golf Course, the City of San Diego Metro Biosolids Center, La Jolla Colony HOA, Miramar Marine Corps Air Station Golf Course, and the IBWC.

Recycled water rates were lowered from \$1.34 to \$0.80 per hundred cubic feet (HCF) on July 1, 2001, following the completion of a detailed rate study. Although it was anticipated that the reduction in rates would provide an economic incentive for customers to switch from potable to recycled water, this incentive did not prove to entice a significant number of customers due to the high cost of retrofit construction. The City of San Diego is currently conducting a recycled water pricing study and will use the analysis to make recommendations on future recycled water rates.

### **Water Department's Capital Improvement Program**

In May 1996, the Mayor and the City Council appointed 30 city residents to serve on a Public Advisory Group to develop a long-term plan for addressing the City's future water supply. The Public Advisory Group attended monthly workshops, with each workshop building upon information presented at the previous sessions. A subcommittee was formed to renew and

evaluated proposed capital improvement projects. At the final workshop the Public Advisory Group prepared, and unanimously approved, a statement calling for the Water Department to make significant capital improvements to its water system to ensure that San Diego has a cost-effective, safe and reliable water supply. In addition, the Strategic Plan identified the projects that the Public Advisory Group felt should be included in the Capital Improvement Program (CIP) 1997 to 2006. In August 1997, the City Council approved the CIP as contained in the Strategic Plan and approved three annual 6 percent rate increases.

The Water Department reevaluates the projects contained in the CIP and the timing thereof periodically. Changes to the CIP are made to reflect changing priorities within the water system and occur as a result of project scope changes, date revisions, project sequencing and operational considerations. The Water Department expended approximately \$777 million from July 1, 1998 through June 30, 2007 on CIP projects. Improvements included projects to upgrade and expand water treatment plants, rehabilitate raw and treated water storage facilities, construct major transmission pipelines, replace and/or upgrade existing pump stations, replace cast iron water mains citywide, expand the recycled water system, and other new supply initiatives. In February 2007, the City Council adopted increases for the next four fiscal years of 6% per year. These rate increases will provide needed revenue to continue funding the upgrade and expansion of the water system through the CIP in order to ensure a reliable water supply for all City residents. For the Fiscal Years ending June 30, 2008 through June 30, 2011, the Water Department plans to expend approximately \$585 million on such improvements. After that time, additional expenditures will be made to complete certain improvements which had begun during the current phase of the CIP, additional projects that are now in preliminary planning, and other projects that are not yet identified.

**Summary of Supplies**

Historic imported water deliveries from the Water Authority to the Water Department and local surface water, conservation savings and recycled water deliveries are shown in **Table 5-1**.

**Table 5-1  
 Historic Imported, Local and Recycled Water Deliveries  
 Water Department**

<b>Calendar Year</b>	<b>Imported Water (acre-feet)</b>	<b>Local Surface Water (acre-feet)</b>	<b>Conservation<sup>1</sup> (acre-feet)</b>	<b>Recycled Water (acre-feet)</b>	<b>Total<sup>2</sup> (acre-feet)</b>
<b>1980</b>	101,547	75,290	-	-	176,837
<b>1985</b>	167,430	48,602	-	-	216,032
<b>1990</b>	212,399	9,727	-	-	222,126
<b>1995</b>	158,172	40,985	8,914	-	208,071
<b>2000</b>	201,881	25,194	17,410	3,250	247,735
<b>2005</b>	204,200 <sup>3</sup>	26,425	29,410	4,800	264,835

<sup>1</sup> Conserved water results in a savings and is not a direct supply.

<sup>2</sup> Total includes water supplied and conserved.

<sup>3</sup> Fiscal Year

**5.3.2 Plans for Acquiring Additional Supplies**

**Future Supplies**

In 2002, the City of San Diego City Council adopted the Long-Range Water Resources Plan 2002-2030 (Long-Range Plan) which provided a decision-making framework for evaluating water supply options. The Long-Range Plan identified water conservation, water recycling, groundwater desalination, groundwater storage, ocean desalination, marine transport, water transfers, and imported supply from the Water Authority and Metropolitan as potential near-term and long-term supplies. The Long-Range Plan concluded that no single supply source would be sufficient to meet the future water demands, but a portfolio of supply options would reduce the Water Department's dependence upon imported water over time.

The Long-Range Plan identified priority supplies for implementation by 2010. The supply options included water conservation and recycled water, groundwater storage, brackish groundwater desalination, and water transfers. Conservation and recycled water have been implemented and will be increased. The Water Department is currently investigating the development of groundwater. Once these supplies are developed, and contracts, permits and approvals obtained, these new supplies will be included in the WSA and WSV Report.

Efforts are ongoing to identify longer range opportunities (2020 and 2030) such as further increasing conservation and recycled water, ocean desalination, marine transport, and other supply sources.

### **Conservation**

Future conservation supply development programs and technologies that may be pursued include:

- 1) Hot water circulating pump. This emerging water-savings technology saves water by reducing “warm-up” time for showers and other fixtures throughout the home. This system can save the average family approximately 2 gallons per use at the fixture.
- 2) “ShowerStart™”. ShowerStart™ is an innovative device designed to be installed at the shower. This device has an internal temperature sensor and valve that works to stop the flow of water to a trickle once hot water has arrived at the fixture.
- 3) Cash for Grass Incentive. City staff is working with other water agencies in the county to initiate an incentive program for residential customers who remove/reduce existing turf areas and replace them with low-water use plants. The initial plan is to offer an incentive of up to \$1.00 per square foot of turf replaced by water efficient use plantings.

#### **“Other” potential programs**

- Special programs for dedicated landscape meters
- Landscape requirements and budgets
- Tiered water rates to encourage water savings
- Monetary rebate/credit for use below allocation
- Artificial turf

For the purposes of this WSA and WSV, these enhanced conservation programs are not included as a resource to meet demands.

### **Recycled Water Supplies**

Future Recycled Water supply development plans could include satellite water reclamation plants using membrane bioreactors (MBRs). MBRs are most practical when there is a large demand for recycled water in an area remote from existing reclamation facilities. Close proximity to customers saves on pumping and piping costs. MBRs require less space and produce a higher quality recycled water product than conventional water reclamation plants.

The City participated with the SDCWA in the “Regional Membrane Bioreactor System Study – November 2005.” The study provided preliminary economic analysis on 11 potential sites for MBRs in San Diego County. Three of these sites are in the City of San Diego: Balboa Park; Mission Bay, and Rancho Bernardo. An MBR at any of these sites would be an alternative to extending NCWRP pipelines to the area. Two other locations evaluated by staff are Mission Valley and Point Loma Wastewater Treatment Plant. For the purposes of this WSA and WSV, MBRs are not included as a resource to meet demands.

### **Groundwater**

Over the past several years, the Water Department has studied numerous potential groundwater supply options and has a CIP project to continue the quest to develop potential groundwater resources. The Long-Range Plan contained brief descriptions of the development of potential groundwater supplies. The Water Department is currently pursuing groundwater studies in the San Pasqual Basin, and has drilled several monitoring wells in the San Diego Formation. The results of these efforts are not yet complete. For the purposes of this WSA and WSV, groundwater is not included as a resource to meet demands.

### **Water Transfers**

Water transfers are agreements in which water supplies are transferred from the original point of origin or control to a new place of use. Transfers can offer flexibility and help ensure that the state's water resources are used effectively. While a myriad of rules surround transfers in California, water transfers are not currently considered as a supply resource as defined in SB 610 to meet projected demands. The Water Department is relying upon the Water Authority and Metropolitan to pursue water transfers.

## **Section 6 - Projected Demands**

---

Approximately every three years the Water Department calculates projected water demands within its service area for planning purposes. A computer model is used (IWR-Municipal and Industrial Needs) to break down water-use by major water-use sectors: Commercial, Industrial, Residential, and Public uses. Using past water-use data from the Water Department and past demographic data provided by SANDAG, the model is able to correlate the data to determine sector water demands. Using this correlated data, future demographic data is used to project water demands. The model also accounts for water conservation, weather, and water rate changes. The updated demands from the 2005 UWMP are used throughout this WSA/WSV.

In addition to the Water Department, the Water Authority and Metropolitan use regional growth forecasts to calculate projected water demands within their respective service areas. This provides for consistency between the retail and wholesale agencies projected water demands, thereby ensuring that adequate supplies are being planned for the Water Department's existing and future water users.

The historical and projected water demands for a normal year are shown in **Table 6-1** using the computer model discussed previously.

As part of the requirement for complying with SB 610, **Table 6-8** and **Table 6-9** show the single highest normal, dry, and consecutive multiple dry year demands.

**TABLE 6-1**  
**PAST, CURRENT, AND PROJECTED WATER DELIVERIES**  
 (AFY)

Sector	Fiscal 2000 (Actual)		Fiscal 2005 (Actual)		2010		2015	
	Metered		Metered		Metered		Metered	
Water-Use by Sector	# of accounts	Deliveries (AFY)	# of accounts	Deliveries (AFY)	# of accounts	Deliveries (AFY)	# of accounts	Deliveries (AFY)
Single Family	208,377	77,801	217,893	76,529		77,398		78,899
Multi Family	27,832	41,729	28,102	40,271		41,781		42,591
Commercial	15,381	38,694	15,300	35,277		37,118		37,838
Industrial	356	4,350	247	3,617		3,714		3,786
Institutional 1*	1,392	14,487	1,845	10,905		11,648		11,874
Institutional 2**	1,715	13,528	1,822	11,596		13,070		13,324
Landscape	4,550	21,334	5,254	20,882		21,618		22,037
Other (Outside City)	57	1,124	57	1,383		1,088		1,109
<b>TOTAL</b>	<b>259,666</b>	<b>213,047</b>	<b>270,526</b>	<b>200,460</b>	<b>277,700</b>	<b>207,436</b>	<b>289,500</b>	<b>211,458</b>

\* Military, University, and School

\*\* City, Public, and Government

Sector	2020		2025		2030	
	Metered		Metered		Metered	
Water-Use by Sector	# of accounts	Deliveries (AFY)	# of accounts	Deliveries (AFY)	# of accounts	Deliveries (AFY)
Single Family		80,923		84,400		87,702
Multi Family		43,684		45,561		47,343
Commercial		38,808		40,476		42,059
Industrial		3,883		4,050		4,208
Institutional 1*		12,179		12,702		13,199
Institutional 2**		13,666		14,253		14,810
Landscape		22,603		23,574		24,496
Other		1,137		1,186		1,233
<b>TOTAL</b>	<b>297,100</b>	<b>216,882</b>	<b>306,500</b>	<b>226,201</b>	<b>317,800</b>	<b>235,050</b>

\* Military, University, and School

\*\* City, Public, and Government

Table 6-2 summarizes the current and planned water sources the City is relying on to meet future demands.

**TABLE 6-2**  
**PLANNED WATER SUPPLY SOURCES**  
 (AFY)

Water Supply Sources	2010	2015	2020	2025	2030
San Diego County Water Authority (Purchased)	201,901	205,178	212,260	222,238	231,725
Local Surface Water	29,000	29,000	29,000	29,000	29,000
Recycled Water	8,525	12,200	15,200	15,200	15,200
<b>TOTAL</b>	<b>239,426</b>	<b>246,378</b>	<b>256,460</b>	<b>266,438</b>	<b>275,925</b>

**6.1 Sales to other Agencies**

**Potable**

In addition to the water-use shown in **Table 6-1**, the City, through past agreements, sells water to two other companies/agencies: the California American Water Company (Cal-Am), and the City of Del Mar (Del Mar). Per the agreement between the City and Cal-Am, water is sold to Cal-Am to provide water to supply Cal-Am customers. A portion of City residents in the south bay area are also served by Cal-Am. Per the agreement between the City and Del Mar, the City takes deliveries of water, which Del Mar purchases from the Water Authority, through the Second Aqueduct Connection at Miramar. This water is then treated at the City's Miramar Water Treatment Plant and transported to Del Mar.

The past and projected water sales uses (2000 and 2005) to Cal-Am and Del Mar are shown in **Table 6-3**.

**TABLE 6-3**  
**SALES TO OTHER AGENCIES-POTABLE**  
 (AFY)

Potable Water Distributed	2000	2005	2010	2015	2020	2025	2030
Cal American	13,700	11,620	13,170	12,125	13,350	13,580	13,810
Del Mar	1,556	1,301	1,417	1,494	1,533	1,572	1,561
<b>TOTAL</b>	<b>15,256</b>	<b>12,921</b>	<b>14,587</b>	<b>13,619</b>	<b>14,883</b>	<b>15,152</b>	<b>15,371</b>

**Recycled**

The City has three separate agreements to sell recycled water. Olivenhain Municipal Water District and the City of Poway are provided recycled water from the City's North City Water Reclamation Plant while Otay Water District receives recycled water from the City's South Bay Water Reclamation Plant. Their respective projections for 2010 through 2030 are shown in **Table 6-4** and were taken from the Water Authority's 2005 UWMP.

**TABLE 6-4**  
**SALES TO OTHER AGENCIES-RECYCLED**  
 (AFY)

Recycled Water Distributed	2000	2005	2010	2015	2020	2025	2030
Olivenhain	-	-	400	100	100	100	100
Poway	280	375	425	425	425	425	425
Otay	-	-	2,584	3,228	3,974	4,838	5,840
<b>TOTAL</b>	<b>280</b>	<b>375</b>	<b>3,409</b>	<b>3,753</b>	<b>4,499</b>	<b>5,363</b>	<b>6,365</b>

\* These projections are not included as part of the City's overall demands.

Lastly, **Table 6-5** shows the City's additional water-uses (recycled water) and potable system losses. The City's past and current recycled use is shown for 2000 and 2005 with projected use shown for 2010 through 2030. Losses were calculated by multiplying the total potable water-use by 4.3%. The factor was calculated by averaging the annual losses from 1998 to 2004.

**TABLE 6-5**  
**ADDITIONAL WATER USES AND LOSSES**  
 (AFY)

Water-Use	2000	2005	2010	2015	2020	2025	2030
Recycled	3,250	4,294	8,525	12,200	15,200	15,200	15,200
Potable System losses	10,404	9,781	10,295	10,594	11,028	11,457	11,865
<b>TOTAL</b>	<b>13,654</b>	<b>14,075</b>	<b>18,820</b>	<b>22,794</b>	<b>26,228</b>	<b>26,657</b>	<b>27,065</b>

**Table 6-6** is a summary of the previous two tables and displays City's past and current use for 2000 and 2005 with projected use shown for 2010 thru 2030. Projections correlate with those provided by the Water Authority.

**TABLE 6-6**  
**TOTAL WATER-USE**  
 (AFY)

Water-Use*	2000	2005	2010	2015	2020	2025	2030
<b>TOTAL</b> of Tables 6-1, 6-3 & 6-5	<b>241,957</b>	<b>227,456</b>	<b>239,426</b>	<b>246,378</b>	<b>256,460</b>	<b>266,438</b>	<b>275,925</b>

\* Does not include demands from Del Mar since their demands are accounted for by the Water Authority.

**Table 6-7** shows supply and demand totals for the normal year assessment in five year increments for a twenty-five year period. In addition the table shows the percentage increase as compared to 2005 demands.

**TABLE 6-7**  
**PROJECTED SUPPLY AND DEMAND COMPARISON**  
 (AFY)

Water-Use	2010	2015	2020	2025	2030
<b>Local Surface Water</b>	29,000	29,000	29,000	29,000	29,000
<b>Recycled Water</b>	8,525	12,200	15,200	15,200	15,200
<b>Imported Water</b> (Water Authority)	201,901	205,178	212,260	222,238	231,725
<b>Supply totals (from Table 6-2)</b>	<b>239,426</b>	<b>246,378</b>	<b>256,460</b>	<b>266,438</b>	<b>275,925</b>
<b>Demand totals (from Table 6-6)</b>	<b>239,426</b>	<b>246,378</b>	<b>256,460</b>	<b>266,438</b>	<b>275,925</b>
% of year 2005	105%	108%	113%	117%	121%

## 6.2 Projected Single-Dry-Year Water Supply and Demand

Table 6-8 shows supply and demand totals for the dry-year assessment in five year increments for a twenty-five year period. In addition the table shows the percentage increase as compared to normal demands.

**TABLE 6-8**  
**PROJECTED SINGLE DRY YEAR SUPPLY AND DEMAND COMPARISON**  
 (AFY)

Water-Use	2010	2015	2020	2025	2030
Local Surface Water	4,500	4,500	4,500	4,500	4,500
Recycled Water	8,525	12,200	15,200	15,200	15,200
Imported Water (Water Authority)	243,161	246,924	254,712	265,389	275,540
Supply totals	256,186	263,624	274,412	285,089	295,240
Demand totals	256,186	263,624	274,412	285,089	295,240
% of projected normal*	7.0%	7.0%	7.0%	7.0%	7.0%

\* The 7% (approximate) increase was taken from the Water Authority's projections.

## 6.3 Projected MULTIPLE-Dry-Year Water Supply and Demand

Table 6-9 shows supply and demand totals for the multi-dry year assessment in one year increments for the twenty year period. In addition the table shows the percentage increase as compared to normal demands.

**TABLE 6-9**  
**PROJECTED SUPPLY AND DEMAND COMPARISON DURING MULTIPLE**  
**DRY YEAR PERIOD ENDING IN 2030**  
 (AFY)

Water-Use	2026	2027	2028	2029	2030
Local Surface Water	7,500	8,100	5,900	4,500	4,900
Recycled Water	15,200	15,200	15,200	15,200	15,200
Imported Water (Water Authority)	264,419	265,849	270,079	273,510	275,140
Supply totals	287,119	289,149	291,179	293,210	295,240
Demand totals	287,119	289,149	291,179	293,210	295,240
% of projected normal*	7.0%	7.0%	7.0%	7.0%	7.0%

\*The 7% (approximate) increase was taken from the Water Authority's projections.

## **Section 7 - Conclusion - Availability of Sufficient Supplies**

The Project is consistent with water demand assumptions in the UWMPs of Metropolitan, Water Authority, and Water Department. The Water Department receives the majority of its water supply from Metropolitan through the Water Authority. In addition, Metropolitan and the Water Authority have developed water supply plans to improve reliability and reduce dependence upon existing imported supplies. Metropolitan's RUWMP/IRP and the Water Authority's 2005 Updated UWMP and annual water supply report include projects that meet long-term supply needs through securing water from the Colorado River, local water supply development, and recycled water. With existing supplies from Metropolitan and the Water Authority, these planned water supply projects will provide a secure long-term water supply for the Water Department and the Project.

The forecasted normal year water demands compared with projected supplies for the Water Department are shown in **Table 7-1**. This demonstrates that with existing supplies and implementation of the projects discussed in the three agencies planning documents there will be adequate water supplies to serve the Project development along with existing and other future planned uses.

**TABLE 7-1**  
**PROJECTED SUPPLY AND DEMAND COMPARISON – NORMAL YEAR**  
 (AFY)

<b>Water-Use</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>
<b>Local Surface Water</b>	29,000	29,000	29,000	29,000	29,000
<b>Recycled Water</b>	8,525	12,200	15,200	15,200	15,200
<b>Imported Water (Water Authority)</b>	201,901	205,178	212,260	222,238	231,725
<b>Supply totals (from Table 6-2)</b>	<b>239,426</b>	<b>246,378</b>	<b>256,460</b>	<b>266,438</b>	<b>275,925</b>
<b>Demand totals (from Table 6-5)</b>	<b>239,426</b>	<b>246,378</b>	<b>256,460</b>	<b>266,438</b>	<b>275,925</b>
<b>% of year 2005</b>	105%	108%	113%	117%	121%

The normal, single, and multiple-dry year scenarios, within a 20-year projection, are shown in **Table 7-2**. This demonstrates that supplies will be adequate to meet future demands in dry year periods for the Water Department. Multiple-dry year scenarios represent hot, dry weather periods which may generate urban water demands that are greater than normal. No extraordinary conservation measures are reflected in the demand projections. The recycled water supplies are assumed to experience no reduction in a dry year.

**TABLE 7-2**  
**PROJECTED SUPPLY AND DEMAND COMPARISON DURING MULTIPLE**  
**DRY YEAR PERIOD ENDING IN 2030**  
 (AFY)

Water-Use	2026	2027	2028	2029	2030
Local Surface Water	7,500	8,100	5,900	4,500	4,900
Recycled Water	15,200	15,200	15,200	15,200	15,200
Imported Water (Water Authority)	264,419	265,849	270,079	273,510	275,140
Supply totals	287,119	289,149	291,179	293,210	295,240
Demand totals	287,119	289,149	291,179	293,210	295,240
% of projected normal*	7.0%	7.0%	7.0%	7.0%	7.0%

\*The 7% (approximate) increase was taken from the Water Authority's projections.

This WSA and WSV Report demonstrates that there are sufficient water supplies over a 20-year planning horizon to meet the projected demand of the Project, as well as the existing and other planned development projects within the Water Department service area.

## Source Documents

---

- California Department of Water Resources (DWR), Progress on Incorporating Climate Change into Management of California's Water Resources, July 2006 Report
- California Climate Change Center, 2006 Biennial Report: Our Changing Climate: Assessing the Risks to California, 2006
- California Department of Water Resources Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001, October 2003
- Development Services Department, City Memorandum, Request for assessment and project description, December 2007
- Metropolitan Regional Urban Water Management Plan, 2005
- Metropolitan Report on Metropolitan's Water Supplies. A Blueprint for Water Reliability, March 2003
- Metropolitan 2003 Integrated Resources Plan Update, July 2004
- Water Authority 2005 Updated Urban Water Management Plan, 2007
- Water Authority Regional Water Facilities Master Plan, December 2002
- Water Authority 2004 Annual Water Supply Report, June 2004
- Water Department Long-Range Water Resources Plan (2002-2030), December 2002
- Water Department Urban Water Management Plan, 2005
- Water Department The City of San Diego Subordinated Water Revenue Bonds, Series 2002, October 2002