

Lion's Gate Reserve
4039 Draft EIR Vol I

DRAFT

ENVIRONMENTAL IMPACT REPORT

LION'S GATE RESERVE

Lead Agency: County of Santa Clara

**File #4039-67-28-93
SCH #94043016**

March 1996

VOLUME I: EIR TEXT

PREFACE

Introduction

This document has been prepared by the County of Santa Clara as the Lead Agency in conformance with the California Environmental Quality Act (CEQA), to inform public decision makers and the public of the environmental effects of projects and plans that they propose to approve or carry out.

In accordance with CEQA, the EIR provides objective information regarding the environmental consequences of the proposed project to the decision makers for the review of a project. The following guidelines are included in CEQA to clarify the role of an EIR:

§ 15121(a). Informational Document. An EIR is an informational document which will inform public agency decision makers and the public of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. The public agency shall consider the information in the EIR, along with other information which may be presented to the agency.

§ 15151. Standards for Adequacy of an EIR. An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently considers environmental consequences. An evaluation of the environmental effects of the proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good-faith effort at full disclosure.

Previous Development Proposal

A golf course and residential project was originally proposed by Hix-Rubenstein Companies for the Hayes Valley site in 1989. At that time a much larger project was proposed, consisting of over 800 residential units and a championship golf course. That proposal included a 4.3 MGD wastewater treatment plant, to be built on the Hayes Valley site. This treatment facility was intended to serve the wastewater treatment and disposal needs of the project, as well as the City of Morgan Hill, to which the project was originally proposed to be annexed. In 1990, the Morgan Hill City Council voted not to participate in the wastewater treatment facility, and subsequently the development application filed with the County was withdrawn.

SUMMARY

A. PROJECT DESCRIPTION

The Lion's Gate site consists of a 1,676-acre site located west of the unincorporated community of San Martin in south Santa Clara County, approximately one mile south of Morgan Hill.

The proposed project consists of the following: 18-hole public access golf course with a clubhouse, a swim and tennis center, and 45 units of overnight accommodations; 41 lots for single-family dwellings; an equestrian center; and 1,265 acres to be maintained as permanent open space.

The discretionary approvals required for the project include: a General Plan Amendment to redesignate approximately 270 acres from "Agriculture-Medium Scale" to "Hillsides," along with the corresponding rezoning for this area; a Conditional Use Permit for the golf course and related facilities; two cluster subdivision approvals, one for 6 lots on a 32-acre Rural Residential parcel, and a second for a 35 lot Hillside cluster subdivision, and 1,265-acre permanent open space area.

B. SUMMARY OF IMPACTS AND MITIGATIONS

IMPACT

MITIGATION

A. LAND USE

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| 1. The project would result in a substantial alteration of the land use of the site.
(Less-than-Significant Impact) | 1. No mitigation required. |
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B. AGRICULTURE

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| 1. The development of the site would result in the loss of approximately 180 acres of Class II soils, including approximately 110 acres designated as "Prime Farmland" or "Farmland of Statewide Importance."
(Potential Significant Impact) | 1. The loss of approximately 110 acres of prime farmland would be offset by the planting of vineyards in areas not proposed for development, and by the fact that the site is not economically viable for cultivation.
(Less-than-Significant Impact with Mitigation) |
| 2. The residential lots proposed at the eastern end of the site would potentially create land use conflicts with nearby agricultural operations.
(Potential Significant Impact) | 2. The creation of buffer zones along the eastern edge of the site would minimize the interface conflicts with existing farming operations.
(Less-than-Significant Impact with Mitigation) |

IMPACTMITIGATION**C. PARKS, RECREATION AND OPEN SPACE**

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| <p>1. The conversion of portions of the site to golf course and residential uses would represent a substantial loss of semi-natural open space.
(Potential Significant Impact)</p> | <p>1a. The project would provide approximately 263 acres of managed recreational open space in the form of a golf course. The golf course would provide an added recreational opportunity in the County.</p> <p>b. The remaining 1,265 acres of natural and semi-natural area of the site would be preserved as permanent open space as a condition of the cluster development permit.</p> <p>c. A trail easement for the 2 to 3 mile segment of the proposed San Martin Cross-Valley Trail would be dedicated in conjunction with the project. Segments of two additional trails along the project frontages on Coolidge Avenue and Watsonville Road would be dedicated and improved in conjunction with required roadway dedications and improvements.
(Less-than-Significant Impact with Mitigation)</p> |
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D. GEOLOGY AND SOILS

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| <p>1. Potential secondary ground rupture or sympathetic movement along inactive faults crossing the site may result in minor damage to structures, roadways and utility lines located directly over such features.
(Potential Significant Impact)</p> | <p>1a. Where proposed structures for human occupancy are determined to be underlain by an inactive fault trace, appropriate setback distances for those structures may be required.</p> <p>b. Potential for rupture of water, wastewater or utility lines would be reduced by measures such as the use of pipes with flexible or telescoping couplings, double pipe and other measures.
(Less-than-Significant Impact with Mitigation)</p> |
| <p>2. Strong ground shaking during an earthquake may damage buildings, bridges and other structures.
(Potential Significant Impact)</p> | <p>2. Structural damage to buildings would be largely prevented by following the Uniform Building Code, as required. Bridges and other structures would be designed in accordance with seismic design loads, as determined by the project geologist.
(Less-than-Significant Impact with Mitigation)</p> |

IMPACTMITIGATION**D. GEOLOGY AND SOILS (CONT'D)**

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| <p>3. Seismic shaking could induce ground failure resulting from liquefaction, potentially causing damage to buildings and other structures.
(Potential Significant Impact)</p> | <p>3. If liquefiable material is found at building sites, mitigation would involve subexcavation of the liquefiable material and replacement with engineered fill, or alternative measures as recommended by the project geologic engineer.
(Less-than-Significant Impact with Mitigation)</p> |
| <p>4. Seismic ground shaking could induce lateral spreading, potentially causing damage to buildings and other structures.
(Potential Significant Impact)</p> | <p>4. The risk of damage from lateral spreading would be minimized by setting planned structures back a safe distance from stream banks, in accordance with the recommendations of the project geologist and geotechnical engineer.
(Less-than-Significant Impact with Mitigation)</p> |
| <p>5. The presence of unstable slopes and landslide deposits on the project site may pose a hazard to some proposed structures, and may be affected by project grading, construction, and spray irrigation of treated effluent.
(Potential Significant Impact)</p> | <p>5. Potential damage from landslides would be avoided by setting structures back from known landslide deposits, by repairing landslides, or by implementing other slope stabilization measures.
(Less-than-Significant Impact with Mitigation)</p> |
| <p>6. Potential debris flows originating in the hillside areas of the site could cause damage to proposed structures and the golf course.
(Potential Significant Impact)</p> | <p>6. Where a potential for debris flow is present, the hazard would be mitigated by removing accumulations of soil from the potential source areas, or by constructing debris deflection, channeling and containment facilities at the mouths of the potentially affected ravines.
(Less-than-Significant Impact with Mitigation)</p> |
| <p>7. Expansive soils present on the site may cause movement or heaving, potentially resulting in damage to foundations, concrete slabs and pavements.
(Potential Significant Impact)</p> | <p>7. Potential damage to foundations and pavements would be avoided or mitigated by following the requirements of the Uniform Building Code, and may necessitate removal of the expansive soils from areas where buildings, slabs-on-grade or pavements are planned to be constructed.
(Less-than-Significant Impact with Mitigation)</p> |
| <p>8. Areas with potential soil creep may cause damage to foundations, concrete pads and pavements.
(Potential Significant Impact)</p> | <p>8. Protection from potential surface sliding and soil creep would be provided by preventing surface water from draining onto potentially unstable slopes, through subsurface drainage control, and by providing for resistance to higher lateral pressures in the design of footings and walls.
(Less-than-Significant Impact with Mitigation)</p> |

IMPACTMITIGATION**D. GEOLOGY AND SOILS (CONT'D)**

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| <p>9. Project grading and vegetation removal may result in erosion and sedimentation of downstream waterbodies.
(Potential Significant Impact)</p> | <p>9. Erosion control practices would be implemented during grading and construction. (See text in Section III. F. <i>Water Quality</i> for details.)
(Less-than-Significant Impact with Mitigation)</p> |
| <p>10. Shallow groundwater conditions in areas of the site may adversely affect below-ground structures and utilities.
(Potential Significant Impact)</p> | <p>10. Groundwater problems would be minimized by avoiding construction during or just after the rainy season, and through implementation of grading and drainage measures to improve surface and subsurface drainage.
(Less-than-Significant Impact with Mitigation)</p> |
| <p>11. Any unplanned grading or construction activity that encroaches upon the on-site serpentine hillsides could result in the release of airborne particulates of naturally-occurring chrysotile asbestos previously bound in the rock, potentially causing a public health hazard in the form of inhalation.
(Potential Significant Impact)</p> | <p>11. The disturbance of the serpentine bedrock area, would be avoided by ensuring that no development or grading is planned for this area. In addition, the edge of this area would be flagged, fenced or roped-off to prevent inadvertent encroachment by construction equipment.
(Less-than-Significant Impact with Mitigation)</p> |

E. HYDROLOGY AND DRAINAGE

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| <p>1. The project would potentially result in increased downstream flooding during the 100-year and 10-year storms.
(Potential Significant Impact)</p> | <p>1. The on-site lake proposed for the southern residential cluster subdivision would be designed to provide sufficient detention storage for increased peak runoff resulting from site development. With this pond, the peak flow rates leaving the project site during the 100-year and the 10-year storms would be lower than under existing conditions.
(Less-than-Significant Impact with Mitigation)</p> |
| <p>2. Portions of the residential cluster subdivisions would be subject to shallow flooding (one-foot average depth) during a 100-year event, and the proposed structures could also partially obstruct this sheet flow through the site.
(Potential Significant Impact)</p> | <p>2. Potential impacts to the residential subdivisions from shallow flooding would be mitigated by constructing building pads on fills raised above flood elevations. The partial obstruction of shallow overland sheet flows by the proposed development would be mitigated by balancing fills with cuts within the flood-prone areas.
(Less-than-Significant Impact with Mitigation)</p> |

IMPACTMITIGATION**F. WATER QUALITY**

1. During grading and construction, erosion from exposed slopes, and pollutants from equipment may result in water quality impacts to downstream water bodies.
(Potential Significant Impact)
2. After project completion, concentrated runoff from paved surfaces may result in isolated areas of erosion.
(Potential Significant Impact)
3. The project would generate nonpoint urban pollutants which may be carried in stormwater runoff from paved surfaces to downstream waterbodies.
(Potential Significant Impact)
4. The project may result in water quality impacts to groundwater due to the use of fertilizers and pesticides on the golf course.
(Potential Significant Impact)
5. The project may result in water quality impacts to surface water from fertilizers and pesticides used on the golf course.
(Potential Significant Impact)
1. The final golf course grading plan would be required to conform to all drainage and erosion control standards adopted by Santa Clara County and would require approval by the County. A comprehensive erosion control program and Storm Water Pollution Prevention Plan (SWPPP) would be required to be implemented during grading and construction (see text for details).
(Less-than-Significant Impact with Mitigation)
2. Stormwater would be collected and dispersed in a manner to prevent concentrated flows, or outfall areas would be protected with channel armoring to prevent erosion and scouring.
(Less-than-Significant Impact with Mitigation)
3. The project would include stormwater controls at the parking lots and maintenance facility.
(Less-than-Significant Impact with Mitigation)
4. The project would follow irrigation and chemical management practices under which application of water, fertilizers and chemicals would precisely meet plant needs, thus minimizing potential for leaching into the groundwater table. Monitoring wells would be installed to sample for the presence of golf course chemicals, with corrective action taken if necessary.
(Less-than-Significant Impact with Mitigation)
5. The potential for surface water quality impacts from golf course chemicals would be mitigated by infiltration into turf and rough areas, the use of grass filter strips, maintenance of setbacks for streams, and strategic installation of subdrains and retention basins. Surface water quality would be sampled and tested periodically, with corrective action taken if necessary.
(Less-than-Significant Impact with Mitigation)

IMPACTMITIGATION**F. WATER QUALITY (CONT'D)**

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| <p>6. The equestrian center could result in impacts to groundwater and surface water quality if manure or stall sweepings accumulate in stormwater runoff.
(Potential Significant Impact)</p> | <p>6. The equestrian center would be operated in accordance with a manure management plan and an erosion control plan; and runoff from the facility would be directed to an on-site retention pond.
(Less-than-Significant Impact with Mitigation)</p> |
| <p>7. The soils in the existing livestock corrals may contain accumulated nitrogenous compounds which could result in impacts to surface and groundwater quality.
(Potential Significant Impact)</p> | <p>7. The potentially affected soils would be sampled for nitrogen content and incorporated into the grading of the golf course in a manner that makes maximum benefit of the fertilizer value of the soil.
(Less-than-Significant Impact with Mitigation)</p> |

[NOTE: The potential water quality impacts associated with wastewater disposal are discussed under *Q. Wastewater Treatment and Disposal*]

G. BIOLOGICAL RESOURCES

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| <p>1. The project would involve the removal of 246 acres of non-native grasslands, orchards, cropland and residential landscaping.
(Less-than-Significant Impact)</p> | <p>1. No mitigation required. (Approximately 482 acres of grasslands would be included in the area to remain as permanent open space.)</p> |
| <p>2. Development of the two partially wooded lots (Lots 24 & 25) in the residential cluster subdivision in the southeastern portion of the site may result in the limited removal of valley oak woodland.
(Potential Significant Impact)</p> | <p>2. The removal of valley oak woodland within Lots 24 & 25 would be avoided to the extent feasible by placing the building envelopes in areas with relatively little tree cover. Any valley oaks which cannot be avoided by the future residential construction would be replaced at a ratio of 5:1.
(Less-than-Significant Impact with Mitigation)</p> |
| <p>3. The project would result in the loss of 1.7 acres of riparian vegetation or in the reduction of habitat quality in the riparian zone.
(Potential Significant Impact)</p> | <p>3. Impacts to the riparian habitat would be avoided to the extent feasible. The unavoidable loss of riparian vegetation and the reduction of habitat value would be mitigated by the on-site replacement of lost habitat, and by measures to protect and enhance the remaining habitat.
(Less-than-Significant Impact with Mitigation)</p> |

IMPACTMITIGATION**G. BIOLOGICAL RESOURCES (CONT'D)**

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| <p>4. The proposed golf course would result in the removal of up to 18 trees.
(Potential Significant Impact)</p> | <p>4a. Existing trees would be preserved to the greatest extent possible.</p> <p>b. A tree replacement program would be prepared to provide for replacement of native trees removed by the project.</p> <p>c. Detailed guidelines would be prepared by a certified arborist to minimize potential damage to trees to be preserved.
(Less-than-Significant Impact with Mitigation)</p> |
| <p>5. The main access road would cross the driplines of several oak trees near the proposed eastern bridge across West Branch Llagas Creek, potentially resulting in stress or damage to those trees.
(Potential Significant Impact)</p> | <p>5. Grading and paving within the driplines of the affected oaks would be subject to the recommendations of a qualified arborist to minimize stress and damage, with replacement required for any trees that do not survive.
(Less-than-Significant Impact with Mitigation)</p> |
| <p>6. The proposed project may result in direct impacts to the California tiger salamander, a special-status species, and would result in loss of breeding habitat for the tiger salamanders.
(Potential Significant Impact)</p> | <p>6. The project would include measures to reduce direct mortality to the California tiger salamander, and measures to preserve existing habitat and create new habitat to replace the habitat lost due to the project.
(Less-than-Significant Impact with Mitigation)</p> |
| <p>7. The proposed project may result in direct impacts to the western pond turtle, a special-status species, and would result in the loss of potential upland habitat for the pond turtle.
(Potential Significant Impact)</p> | <p>7. The project would include measures to preserve existing pond turtle habitat, and to create new habitat on the project site.
(Less-than-Significant Impact with Mitigation)</p> |
| <p>8. The special-status plant and invertebrate species of the serpentine grasslands on the site would be subject to potential disturbance by grading for the adjacent residential subdivision, and by the general intensification of human activity resulting from the project.
(Potential Significant Impact)</p> | <p>8. The serpentine habitat area would be fenced, and signs would be posted to prevent encroachment of grading from the adjacent residential subdivision, and to prevent the incursion of human activities after the project is completed.
(Less-than-Significant Impact with Mitigation)</p> |
| <p>9. Project construction may adversely affect any future burrowing owl nests that may be established on the site prior to development.
(Potential Significant Impact)</p> | <p>9. Preconstruction surveys would be conducted 30 days prior to site grading to ensure that no burrowing owl nests have been established, with implementation of appropriate mitigations if active nests are found.
(Less-than-Significant Impact with Mitigation)</p> |

IMPACTMITIGATION**G. BIOLOGICAL RESOURCES (CONT'D)**

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| <p>10. The project may adversely affect any future nests of the Golden Eagle or other raptors that could be established on the site prior to development.
(Potential Significant Impact)</p> <p>11. The project would result in the reduction of on-site habitat for the ringtail, American badger, California horned lizard, and several species of raptor, all of which are special-status species which occur or potentially occur on the site.
(Less-than-Significant Impact)</p> <p>12. The project would eliminate approximately 1.5 acres of existing wetlands on the site.
(Potential Significant Impact)</p> <p>13. The introduction of non-native species to the site may adversely affect the native vegetation of the site.
(Potential Significant Impact)</p> | <p>10. Preconstruction surveys would be conducted 30 days prior to site grading to ensure that no active eagle or raptor nests have been established on the site, with implementation of appropriate mitigations if active nests are found.
(Less-than-Significant Impact with Mitigation)</p> <p>11. No mitigation required.</p> <p>12a. A detailed wetland protection, replacement and restoration plan would be prepared which meets with the approval of the County, the Corps of Engineers, and the Department of Fish and Game.</p> <p>b. Best management practices would be used to manage and maintain the golf course in order to minimize impacts of pesticides, fertilizers and herbicides on the wetlands of the site.</p> <p>c. A detailed erosion and sedimentation control plan would be prepared and implemented during project grading and construction.
(Less-than-Significant Impact with Mitigation)</p> <p>13. The use of invasive species in project landscaping would be avoided.
(Less-than-Significant Impact with Mitigation)</p> |
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H. ARCHAEOLOGY

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| <p>1. The construction of the main project entrance road may have an adverse impact on the archaeological site recorded as CA-SCI-76.
(Potential Significant Impact)</p> | <p>1. Grading and excavation in the vicinity of SCI-76 would be subject to intermittent or spot monitoring by a qualified archaeologist.
(Less-than-Significant Impact with Mitigation)</p> |
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IMPACTMITIGATION**H. ARCHAEOLOGY (CONT'D)**

2. In the other areas of the site which are archaeologically sensitive, such as at the locations where prehistoric sites were previously recorded but where no archaeological material was found in recent surveys, there is a potential that buried archaeological resources may be damaged or destroyed by grading or excavation for the project.
(Potential Significant Impact)
- 2a. Should evidence of prehistoric cultural resources be discovered during construction, work in the immediate area of the find shall be stopped to allow adequate time for evaluation and mitigation, and a qualified professional archaeologist shall be called in to make an evaluation; the material shall be evaluated; and if significant, a mitigation program including collection and analysis of materials prior to the resumption of grading, preparation of a report, and curation of the materials at a recognized storage facility shall be developed and implemented under the direction of the Planning Office.
- b. Any human remains that are discovered shall be removed, the remains shall be analyzed, a report shall be prepared, and if determined to be Native American, the remains shall be reburied under the direction of a designated Native American group.
(Less-than-Significant Impact with Mitigation)

I. HISTORIC RESOURCES

1. Demolition and earth moving activity at the existing ranch complex could have a potentially adverse effect on any buried remnants of the Hispanic Period adobe structures that once occupied this site.
(Potential Significant Impact)
1. Grading and excavation in the vicinity of the ranch complex would be subject to intermittent or spot monitoring by a qualified archaeologist, with appropriate mitigations implemented in the event that cultural materials are encountered. (Note: Since the potential adobe structures are believed to be located within prehistoric site SCI-76, this monitoring would occur concurrently with monitoring for archaeological resources at that site, as described above.)
(Less-than-Significant Impact with Mitigation)

IMPACTMITIGATION**J. VISUAL AND AESTHETICS**

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| <p>1. The project would result in visual changes to some areas of the site open to public view.
(Less-than-Significant Impact)</p> | <p>1. The project would be designed and landscaped in a manner to help it blend in with the natural and rural surroundings, and to reduce its visibility from off-site locations.
(Less-than-Significant Impact with Mitigation)</p> |
| <p>2. Lighting for the project entrance, clubhouse, swim and tennis center, equestrian center, parking areas and internal roadways may produce light and glare at off-site locations. Reflective building materials may also produce glare.
(Potential Significant Impact)</p> | <p>2. Project lighting would be sited and designed to minimize off-site light and glare. The project structures would be composed of non-reflective building materials and non-glare windows
(Less-than-Significant Impact with Mitigation)</p> |
| <p>3. Grading, vegetation removal and construction activity would result in temporary scarring. Storage of construction equipment and materials may be visible from off-site locations.
(Potential Significant Impact)</p> | <p>3. Graded areas would be revegetated as soon as possible, and screening berms would be created along the project frontage prior to construction of the dwellings in the proposed residential subdivisions.
(Less-than-Significant Impact with Mitigation)</p> |

K. TRAFFIC AND CIRCULATION

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| <p>1. The project would result in increased traffic generation at the project site.
(Less-than-Significant Impact)</p> | <p>1. No mitigation required.</p> |
| <p>2. The project would increase the on-site parking required for the project site.
(Less-than-Significant Impact)</p> | <p>2. No mitigation required. (The proposed site plans indicate that adequate on-site parking would be provided in accordance with the County Parking Standards.)</p> |

L. NOISE

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| <p>1. Traffic generated by the project would increase noise levels at existing residences.
(Less-than-Significant Impact)</p> | <p>1. No mitigation required.</p> |
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IMPACTMITIGATION**L. NOISE (CONT'D)**

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| <p>2. Portions of the 2 lots proposed in the vicinity of Coolidge Avenue would be exposed to traffic noise levels in excess of the 55 dBA L_{dn}, the County standard for residential uses. (However, under the proposed subdivision plan for this area, the minimum setbacks for dwellings on these lots would place them beyond the zone of potential noise impact.)
(Less-than-Significant Impact)</p> | <p>2. No mitigation required.</p> |
| <p>3. Noise generated by golf course mowers would have a potentially adverse effect on nearby dwellings proposed on the project site.
(Potential Significant Impact)</p> | <p>3. The hours of mowing within 330 feet of any proposed residence would be restricted to weekdays between the hours of 8:00 a.m. and 5:00 p.m., with total noise generating activities within any hour restricted in accordance with the limits set forth in the County's Noise Ordinance.
(Less-than-Significant Impact with Mitigation)</p> |
| <p>4. Activities at the clubhouse would increase noise levels in the interior of Hayes Valley.
(Less-than-Significant Impact)</p> | <p>4. No mitigation required.</p> |
| <p>5. Noise levels would be temporarily elevated during project grading and construction.
(Potential Significant Impact)</p> | <p>5. Short-term construction noise impacts would be reduced through compliance with the County's Noise Ordinance with respect to hours of operation and maximum noise levels at adjacent property lines.
(Less-than-Significant Impact with Mitigation)</p> |

M. AIR QUALITY

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| <p>1. Construction and grading for the project may generate dust and exhaust emissions that could adversely affect local and regional air quality.
(Potential Significant Impact)</p> | <p>1. Effective measures would be implemented to reduce construction-related emissions (see text for details).
(Less-than-Significant Impact with Mitigation)</p> |
| <p>2. Traffic generated by the project would increase carbon monoxide emissions at local roadways and intersections.
(Less-than-Significant Impact)</p> | <p>2. No mitigation required.</p> |
| <p>3. Emissions from project-generated traffic would result in air pollutant emissions affecting the entire San Francisco Bay air basin.
(Less-than-Significant Impact)</p> | <p>3. No mitigation required.</p> |

IMPACTMITIGATION**N. HAZARDOUS MATERIALS, PUBLIC HEALTH AND SAFETY**

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| <p>1. The historic and current agricultural activities on the Hayes Valley Ranch may have resulted in potential soil contamination due to spilled or leaked hydrocarbon products, pesticides and herbicides, PCBs from electrical transformers, and other potential sources of contamination. The existing residential structures may include materials that contain asbestos.
(Potential Significant Impact)</p> | <p>1. Prior to demolition of the existing ranch structures and site grading, the areas identified as having potential soil or asbestos contamination would be sampled and tested to determine whether contaminants are present in hazardous concentrations. Any soils which are found to be contaminated would be subject to remediation measures, as appropriate. If asbestos-containing materials are found to be present, they would be removed in the manner specified by law.
(Less-than-Significant Impacts with Mitigation)</p> |
| <p>2. Any unplanned construction or grading activity that encroaches upon the on-site serpentine hillside could result in the release of airborne particles of chrysotile asbestos, potentially causing a public health hazard if inhaled.
(Potential Significant Impact)</p> | <p>2. To avoid disturbance to the serpentine bedrock area, the edge of this area would be fenced or roped-off to prevent encroachment by construction equipment.
(Less-than-Significant Impact with Mitigation)</p> |
| <p>3. Improper use, handling and storage of hazardous materials used in the construction and operation of the golf course may result in potential soil or groundwater contamination.
(Potential Significant Impact)</p> | <p>3. The project would be required to obtain and implement the provisions of a Hazardous Materials Storage Permit for the proper use, handling and storage of pesticides, herbicides and other hazardous products during construction and operation of the golf course.
(Less-than-Significant Impact with Mitigation)</p> |
| <p>4. The equestrian facility could result in potential vector and odor impacts.
(Potential Significant Impact)</p> | <p>4. The equestrian facility would employ vector control measures, and would be operated in accordance with a manure management plan in conformance with State law, which would also be reviewed and approved by the County Department of Environmental Health.
(Less-than-Significant Impact with Mitigation)</p> |

O. ELECTROMAGNETIC FIELDS (EMFs)

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| <p>1. The siting of residential lots in the vicinity of existing high-voltage power lines may potentially expose future residents to increased levels of electromagnetic fields.
(Less-than-Significant Impact)</p> | <p>1. No mitigation required.</p> |
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IMPACTMITIGATION**P. WATER SUPPLY**

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| <p>1. The proposed project would increase the demand for water at the site.
(Potential Significant Impact)</p> | <p>1a. Increased water supplies to meet project demand for domestic water would be provided by the West San Martin Water Works, without adversely affecting existing or future users.</p> <p>b. Water supplies for golf course irrigation would be provided by a combination of sources, including on-site pumping of groundwater, non-potable water from Twin Valley, Inc., and backup supplies from West San Martin Water Works. This water would be provided in a manner that would not exceed the safe yields of any of these sources.
(Less-than-Significant Impact with Mitigation)</p> |
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Q. WASTEWATER TREATMENT AND DISPOSAL

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| <p>1. The proposed project would increase the demand for wastewater treatment and disposal facilities at the site.
(Potential Significant Impact)</p> | <p>1. Increased wastewater from the project would be treated and disposed with new facilities to be constructed in conjunction with the project.
(Less-than-Significant Impact with Mitigation)</p> |
| <p>2. The proposed wastewater disposal facilities may result in degradation of surface water and groundwater quality.
(Potential Significant Impact)</p> | <p>2. Groundwater wells would monitor water quality up-gradient and down-gradient of the proposed spray irrigation area, with corrective action taken as necessary.
(Less-than-Significant Impact with Mitigation)</p> |
| <p>3. The use of reclaimed wastewater for golf course irrigation would expose humans to possible physical contact with the treated wastewater, resulting in a potential public health hazard.
(Potential Significant Impact)</p> | <p>3. The wastewater would be treated to levels deemed acceptable for disposal on golf courses, and the areas affected would be posted to notify golfers and employees where irrigation by treated wastewater is occurring.
(Less-than-Significant Impact with Mitigation)</p> |
| <p>4. There is a potential for overflow of the storage reservoir, resulting in a public health hazard.
(Potential Significant Impact)</p> | <p>4. The wastewater storage reservoir would have sufficient capacity to accommodate high rainfall years.
(Less-than-Significant Impact with Mitigation)</p> |
| <p>5. The wastewater treatment and disposal system could generate odors.
(Potential Significant impact)</p> | <p>5. Odor control would be achieved by mechanisms incorporated into the design of the pump stations and the treatment plant, and by measures to be undertaken at the effluent storage pond.
(Less-than-Significant Impact with Mitigation)</p> |

IMPACTMITIGATION**Q. WASTEWATER TREATMENT AND DISPOSAL (CONT'D)**

6. The existing pond and proposed open water areas of the project, such as the wastewater storage pond and residential lake, have the potential to be sites for breeding of mosquitoes, which could create a nuisance and a potential public health problem.

(Potential Significant Impact)

6. Mosquito breeding would be controlled by several methods, as appropriate for each type of water body. These methods would include the circulation of water to prevent stagnant conditions, the introduction of mosquito fish, and the application of larvacides. The specific mosquito mitigation measures would be formulated in consultation with the Department of Environmental Health Vector Control District.

(Less-than-Significant Impact with Mitigation)

R. FIRE PROTECTION

1. Portions of the project site are located in areas designated as Extreme or Moderate Fire Hazard areas, and thus may be subject to loss of life and property in the event of a wildland fire.

(Potential Significant Impact)

1. The project would be required to implement the County Fire Marshal's conditions for fire protection, including minimum roadway standards, adequate water storage and pressure for fire fighting, installation of hydrants and automatic sprinklers, vegetation clearance and building specifications.

(Less-than-Significant Impact with Mitigation)

S. POLICE AND SECURITY

1. The project may result in increased demand for police services at the site.

(Less-than-Significant Impact)

1. No mitigation required.

T. SCHOOLS

1. The proposed residential subdivisions would generate 32 school-aged children within the Morgan Hill Unified School District, where the schools are already impacted.

(Potential Significant Impact)

1. The project's impacts to schools would be mitigated by the state-mandated school impact fee charged to the builder, and by the property tax increment for schools to be paid by the future homeowners under the existing Mello-Roos district that includes the Lion's Gate site.

(Less-than-Significant Impact with Mitigation)

IMPACT

MITIGATION

U. UTILITIES

- | | |
|---|----------------------------|
| 1. The project would increase demand for electric power, natural gas and telephone service at the site.
(Less-than-Significant Impact) | 1. No mitigation required. |
|---|----------------------------|

V. SOLID WASTE

- | | |
|--|--|
| 1. The project would increase the generation of solid waste at the site, thereby reducing overall disposal capacity at local landfill sites.
(Less-than-Significant Impact) | 1. Provisions for recycling, composting and "grass cycling" would be incorporated into the project operation to reduce solid waste generation.
(Less-than-Significant Impact) |
|--|--|

W. ENERGY

- | | |
|--|--|
| 1. The project would result in the consumption of non-renewable energy resources in both the construction and operational phases of the project.
(Less-than-Significant Impact) | 1. Energy conservation measures would be incorporated into the project in accordance with Title 24 of the California Administrative Code. The project would also incorporate other energy-efficient features in building design and construction, and in the operation of the irrigation system.
(Less-than-Significant Impact) |
|--|--|

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I. PROJECT DESCRIPTION

A. SITE DESCRIPTION

The Lion's Gate property consists of 1,676 acres of land located in southern Santa Clara County between the cities of Morgan Hill and Gilroy, and southwest of the unincorporated community of San Martin (see Figures 1, 2 and 3). The property is bounded on the east by Coolidge Avenue (Santa Teresa Boulevard) and Turlock Avenue, and on the west by Watsonville Road. The northern and southern boundaries of the site are generally defined by two ranges of east-west hills which form an almost enclosed valley (Hayes Valley) in the central portion of the site (see Figures 4, 5 and 6).

The series of hills on the south side of the valley are covered with oak woodland on the north-facing slopes and rise to an elevation of 1,118 feet at Lion's Peak. The hills on the north side of the valley are covered with annual grasses and rise to an elevation of 786 feet. At the western end, the valley broadens to join a larger inter-mountain valley which tracks roughly north-south. At the eastern end, the valley opens up to a gently-sloping alluvial fan which joins the southern Santa Clara Valley in the vicinity of Turlock Avenue. The ground elevations on the lower-lying areas of the property range from 300 to 400 feet.

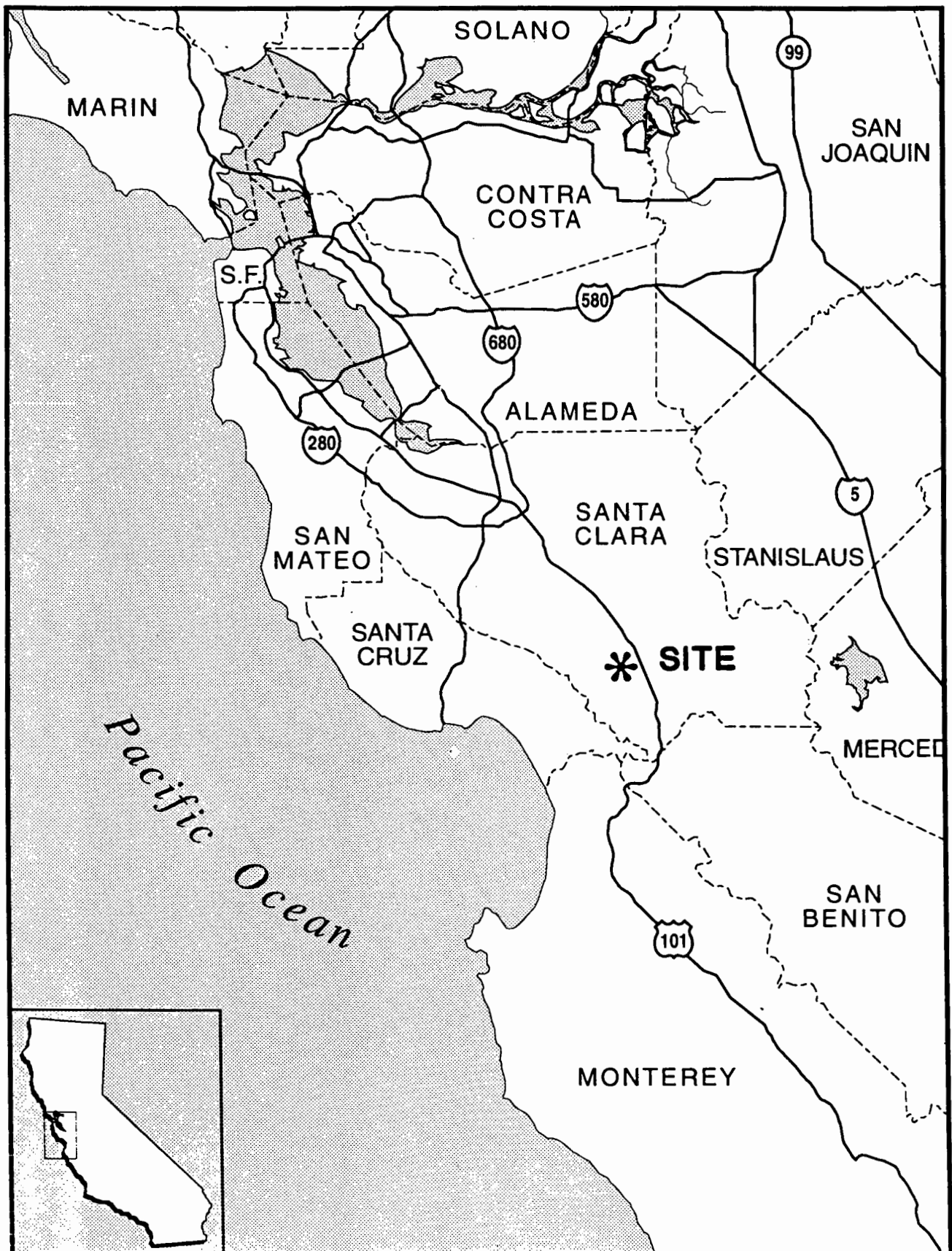
The Lions's Gate property contains the headwaters of the West Branch of Llagas Creek which drains the majority of the site and flows to the east and south into the Pajaro River drainage. The western portion of the site is drained by Hayes Creek which flows west and then north to join the main branch of Llagas Creek.

The vegetation of the site is dominated by annual grasslands which cover the floor of the valley and the slopes of the northern hillsides. The southern hillsides are covered with oak woodland on the north-facing slopes and annual grasses and scrub on the southern slopes. The grassland areas are mainly used for cattle grazing and have been occasionally cultivated for hay. Scattered oaks are found throughout the grassland area, and also along the creek channel. Outside the main valley to the east is a field south of Highland Avenue which was formerly used for growing oats, wheat, hay and alfalfa. On the north side of Highland, between the toe of the on-site ridge and Coolidge Avenue, is a declining plum and walnut orchard of approximately 25 acres.

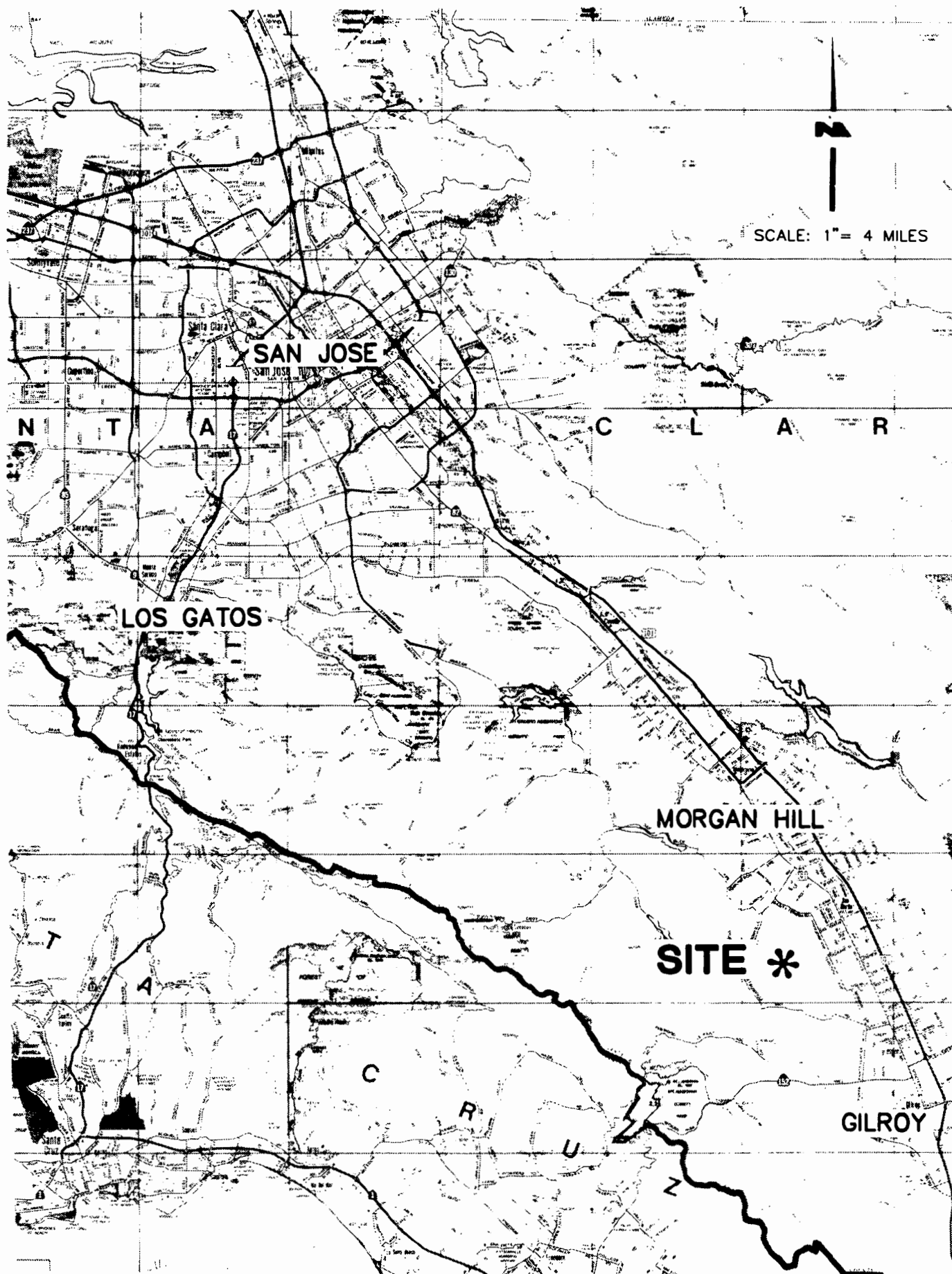
The site is served by two main access points, with the primary access from the western extension of Highland Avenue in the east, and with a second access point located on the site's frontage along Watsonville Road to the west.

The existing structures on the site consist mainly of a ranch complex located on the extension of Highland Avenue in the eastern portion of the site. This complex includes 3 residences, a guest house, a number of barns and sheds, and an old creamery building associated with a former dairy operation. There is also a house and barn located to the east of the main ranch on the north side of Highland Avenue near Turlock. Also, there is an unused barn at the southwestern corner of the site along Watsonville Road. Other man-made agricultural features also exist on the property, including fences, corrals, stock ponds and several water troughs located near natural springs.

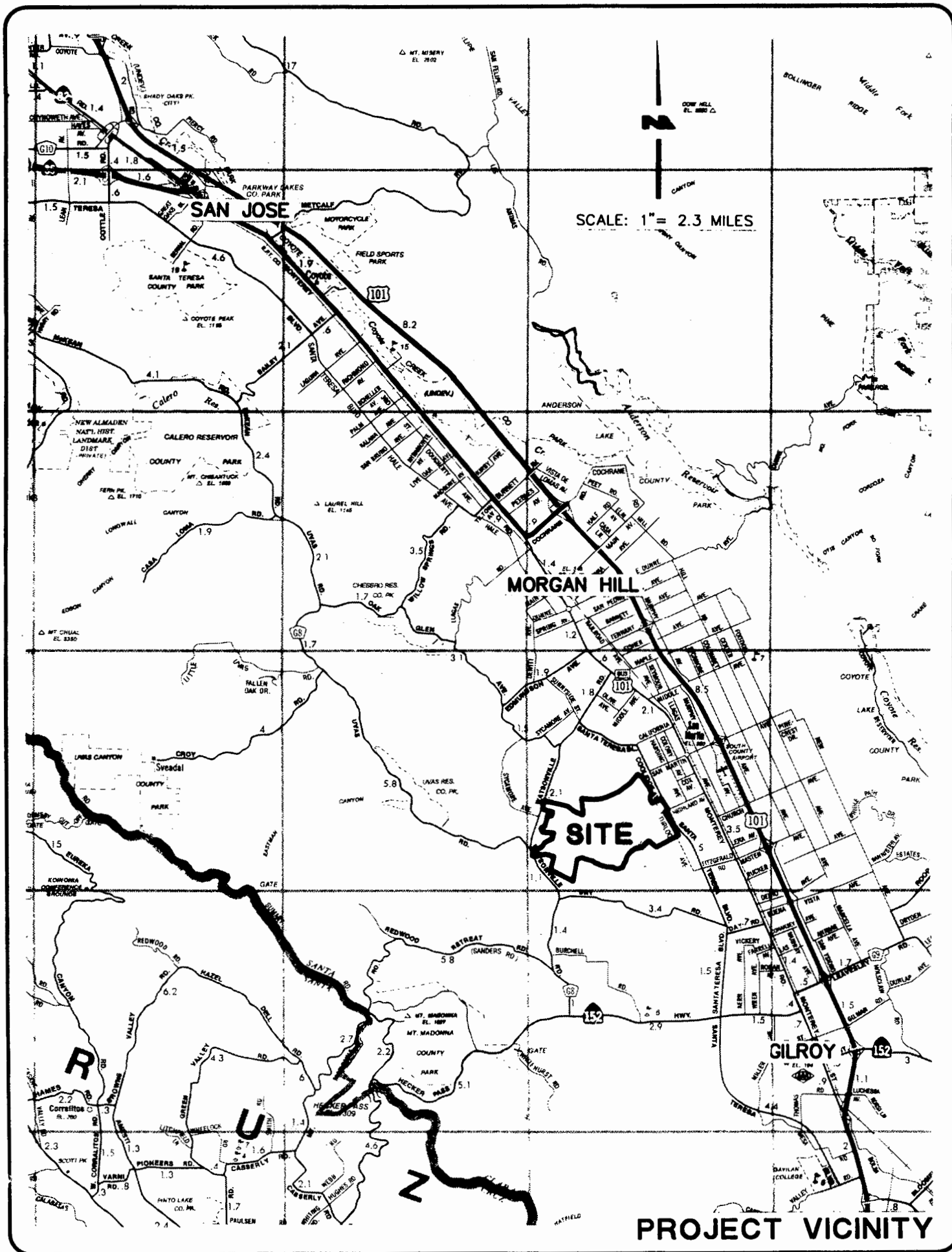
There are two separate high voltage power line corridors that traverse the site generally from north to south. The east-central portion of the site is crossed by a 115 kV transmission line on steel towers, and the western portion of the site is traversed by a 115 kV transmission line on wooden poles.



REGIONAL LOCATION
FIGURE 1



SITE LOCATION



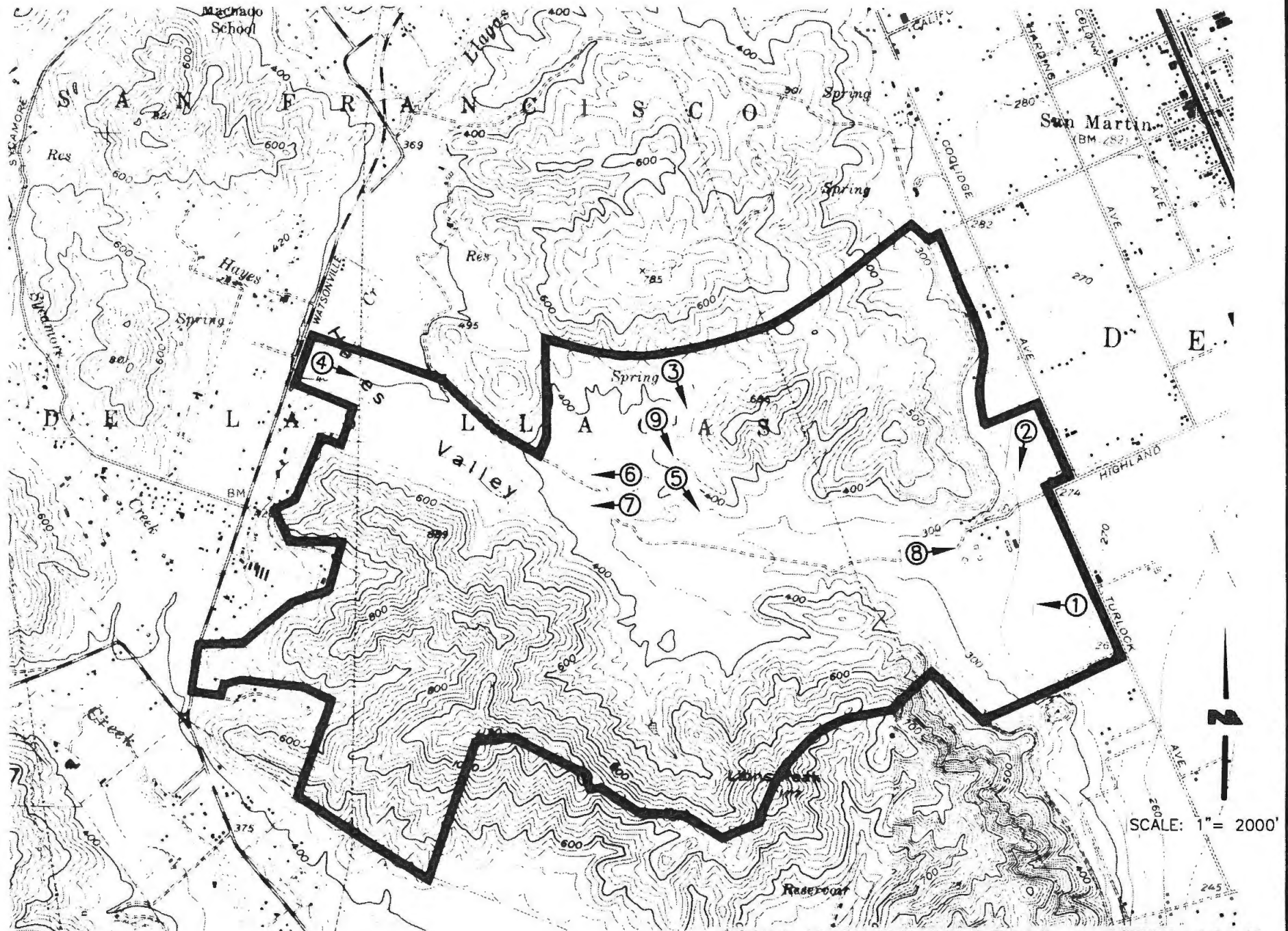
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FIGURE 3



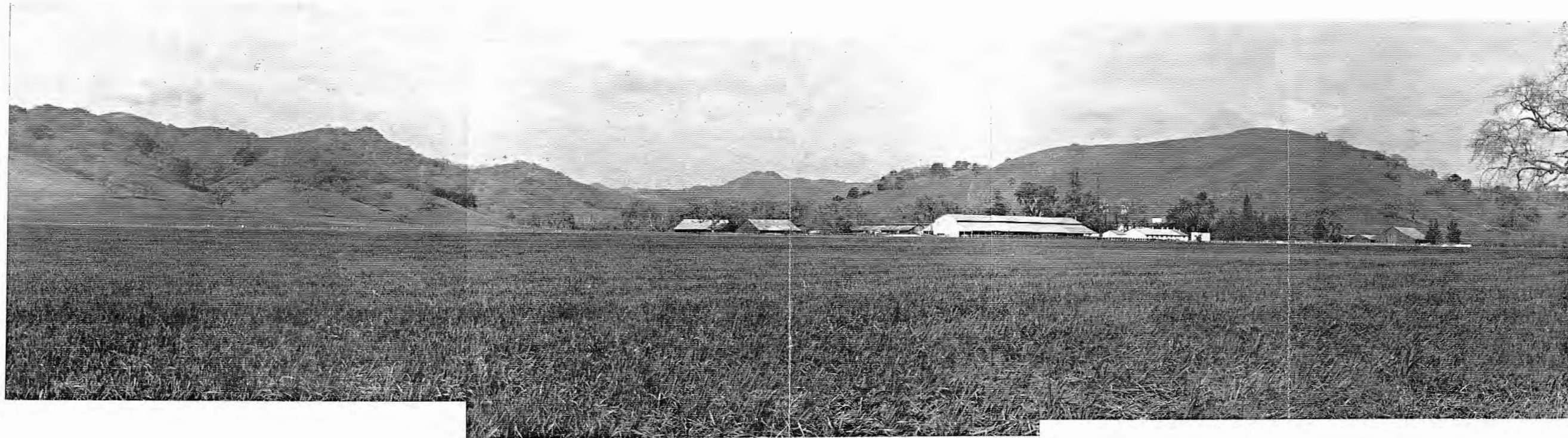
OBLIQUE AREAL PHOTO - FROM EAST

FIGURE 4



SITE PHOTOGRAPHS - KEY MAP

FIGURE 5

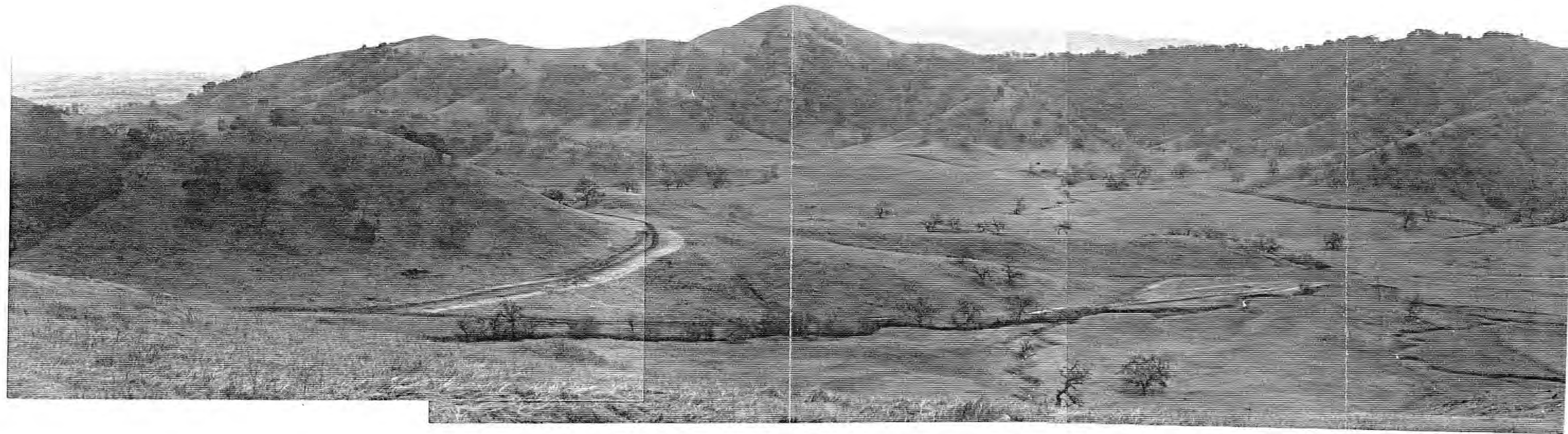


1 WESTWARD VIEW INTO SITE FROM TURLOCK AVENUE



2 SOUTHWESTWARD VIEW INTO SITE FROM COOLIDGE AVENUE

SITE PHOTOGRAPHS



3 SOUTHWARD VIEW INTO SITE FROM NORTH RIDGE



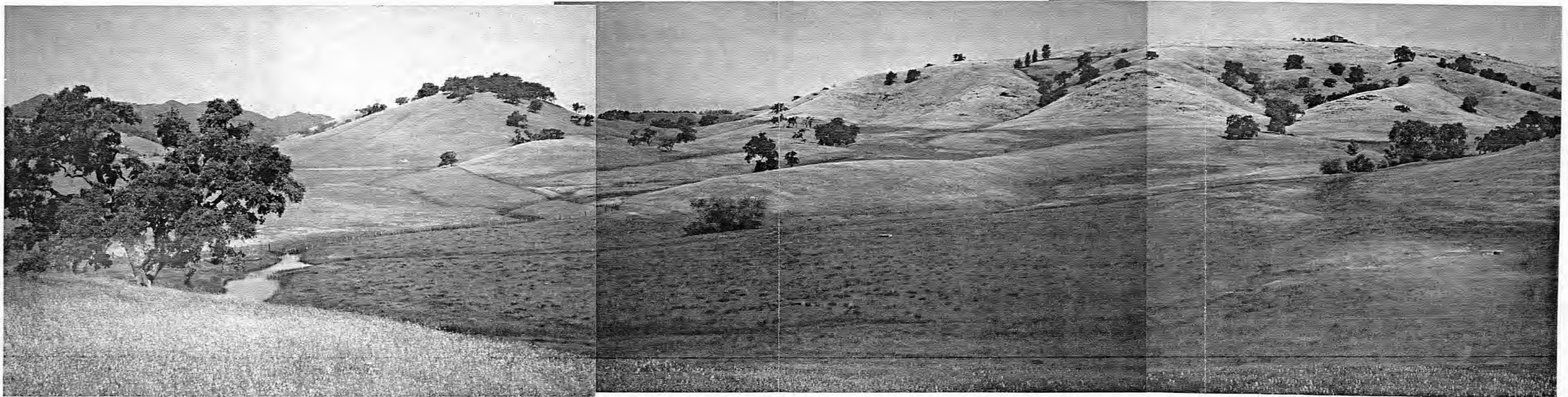
4 EASTWARD VIEW INTO SITE FROM WATSONVILLE ROAD

SITE PHOTOGRAPHS

FIGURE 6b



5 INTERIOR VIEW OF SITE TO SOUTHEAST



6 INTERIOR VIEW OF SITE TO WEST

SITE PHOTOGRAPHS

FIGURE 6c



7 WESTWARD VIEW OVER CENTRAL POND



8 MAIN CREEK CHANNEL WEST OF RANCH COMPLEX



9 TRIBUTARY NORTHEAST OF POND

SITE PHOTOGRAPHS

B. DESCRIPTION OF THE PROPOSED PROJECT

Overview

The proposed project consists of the following:

1. A Use Permit application for a public access championship golf course, including a clubhouse with restaurant, 45 units of overnight accommodations, a practice range, a maintenance facility, and a swim and tennis center (see Figure 7).
2. A General Plan Amendment to redesignate a total of 259 acres on two separate parcels (see Figure 8) from "Agriculture - Medium Scale" to "Hillsides," as follows:
 - a) A 115-acre parcel located at the western end of the site near Watsonville Road;
 - b) A 144-acre parcel located at the eastern end of the site along Turlock Avenue, south of Highland Avenue.

The purpose of this General Plan Amendment is to permit the clustering of the allowable density from the entire site onto the most suitable areas in the eastern portion of the site while preserving the western and hillside portions of the site as permanent open space.

3. A Tentative Map and Cluster Development Permit application on the existing and proposed "Hillsides" - designated areas to permit the creation of 35 clustered residential lots in accordance with the slope-density formula of the Hillside Zoning Ordinance. This element of the project would include 1,265 acres of permanent open space, which would constitute over 90 percent of the Hillsides-designated area of the project site (see Figures 9a, 9b and 9c).
4. A Tentative Map and Cluster Development Permit application to permit the creation of a 6-lot subdivision on the 32-acre "Rural Residential" -designated area located at the eastern end of the site along Coolidge Avenue north of Highland Avenue.

Access to the project site would occur entirely from the east off the extension of Highland Avenue. A main access road approximately one mile in length would serve the residential cluster subdivisions in the eastern areas of the site, and would terminate at the golf course clubhouse in the central area of the site. A maintenance access road from Watsonville Road would serve the golf course maintenance facility at the western end of the golf course, and would also be available to provide emergency access for the golf course and residential subdivisions.

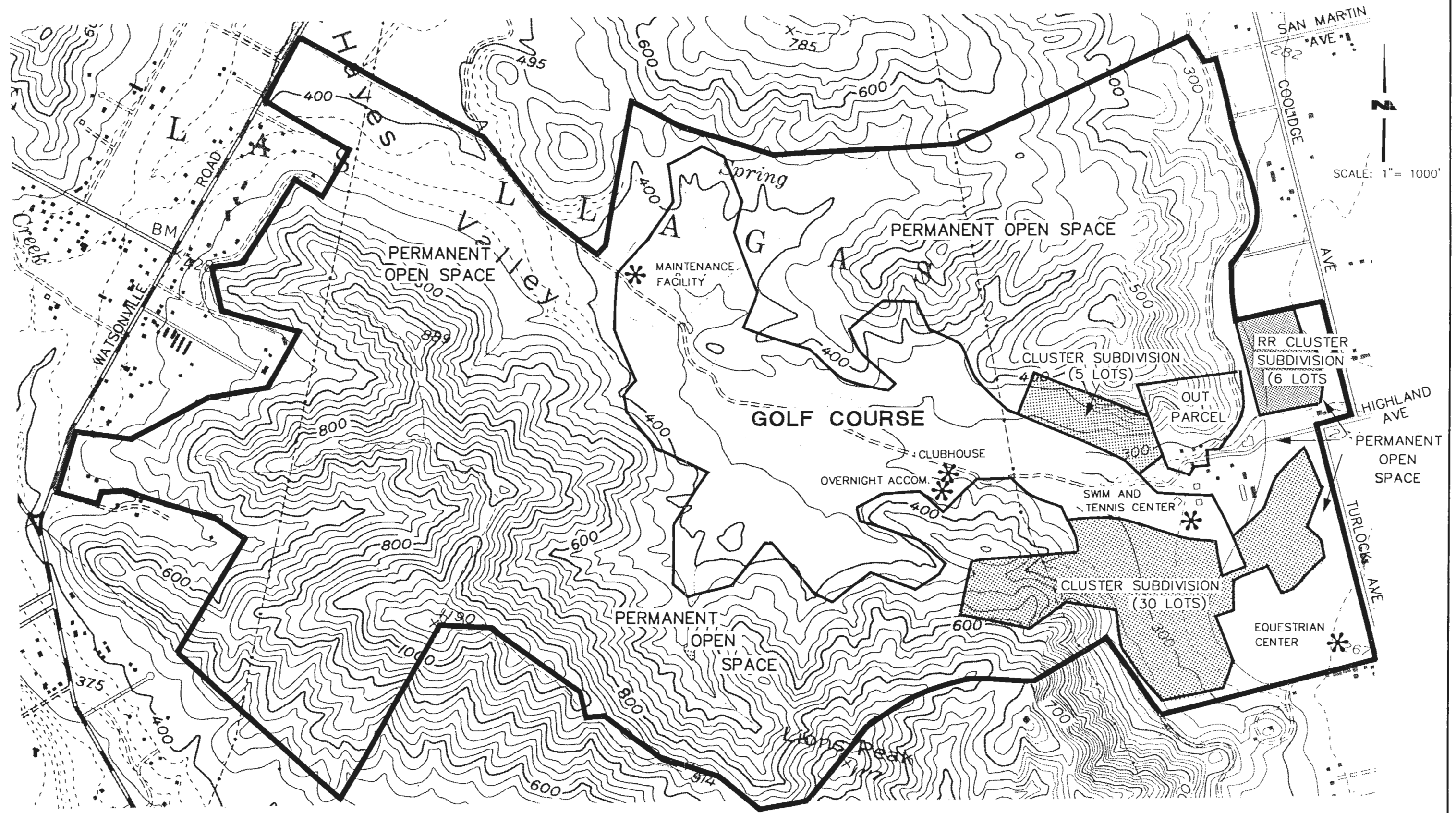
The acreage breakdown for the proposed land uses is provided in Table 1. The details of the project are summarized in Table 2 and described in the following paragraphs.

The Cluster Residential Subdivisions

The project would include two main residential clusters and related open space areas, as described below.

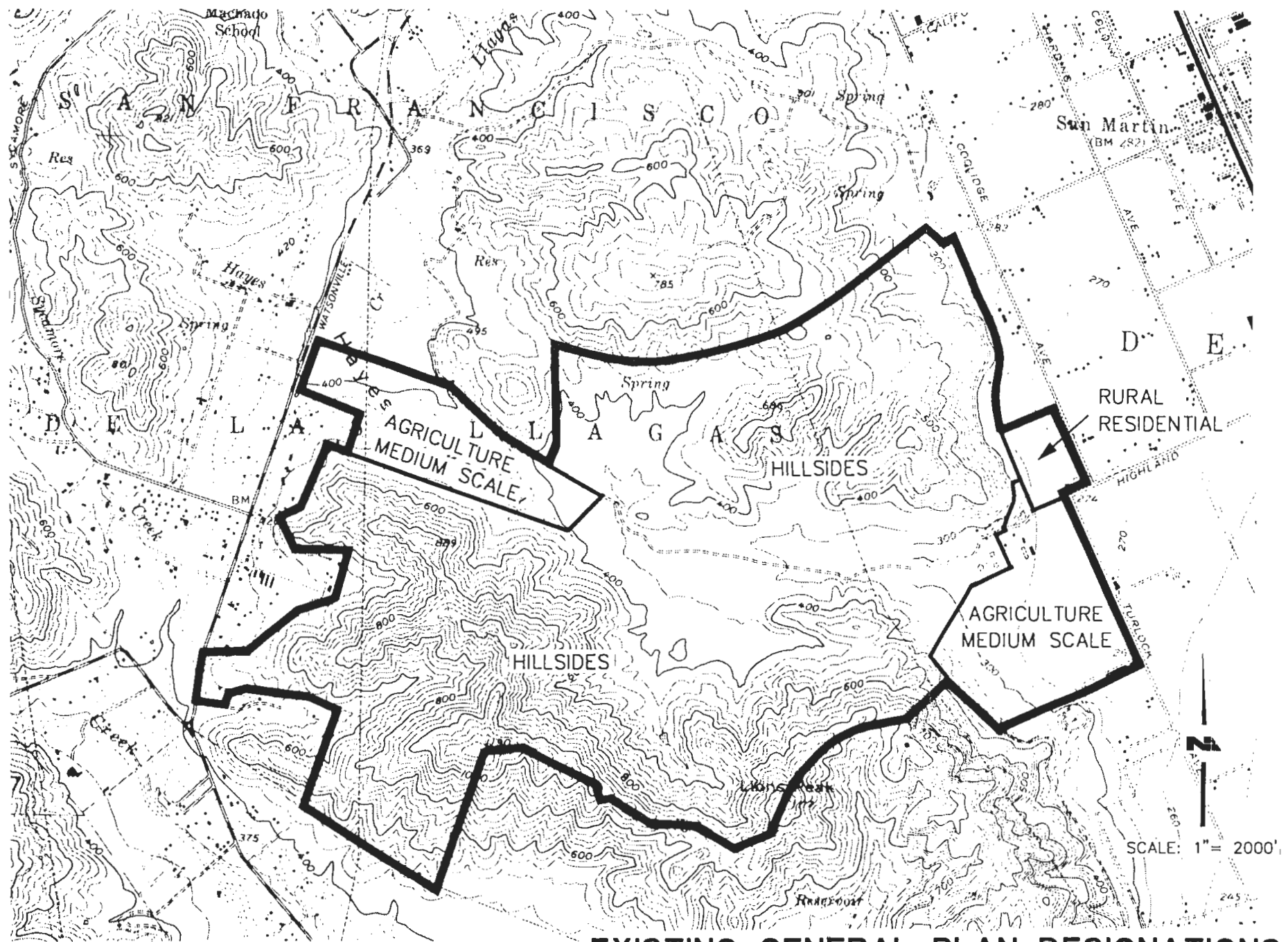
Rural Residential Cluster Subdivision

The 32-acre Rural Residential parcel is located at the eastern edge of the site, adjacent to Coolidge Avenue, north of Highland Avenue. The proposal is to cluster the 6 permitted lots in the western portion of this parcel, with lots ranging in size from 1.7 to 2.5 acres. The eastern and southern edges of the site would remain in permanent



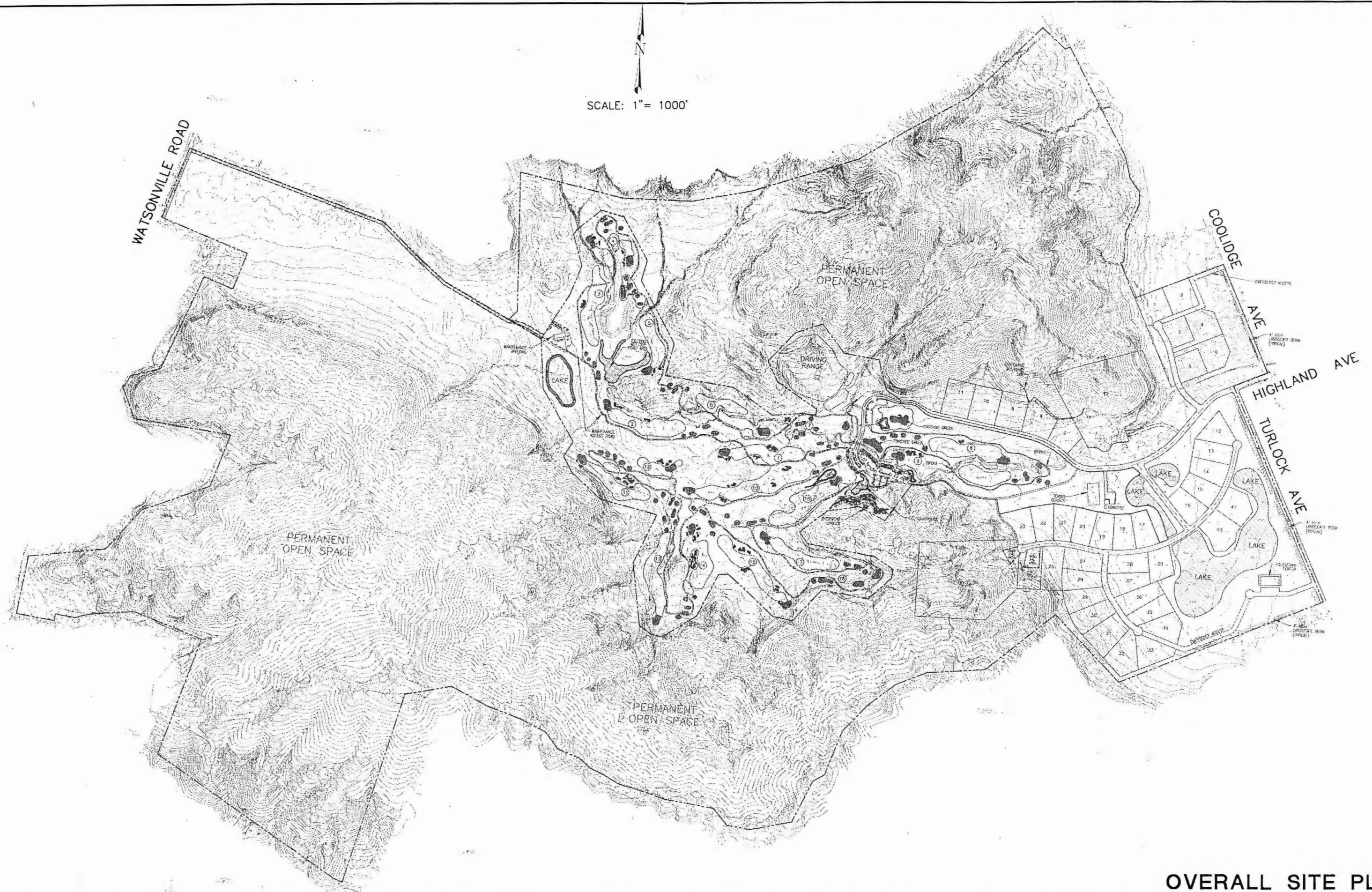
PROPOSED LAND USE

FIGURE 7



EXISTING GENERAL PLAN DESIGNATIONS

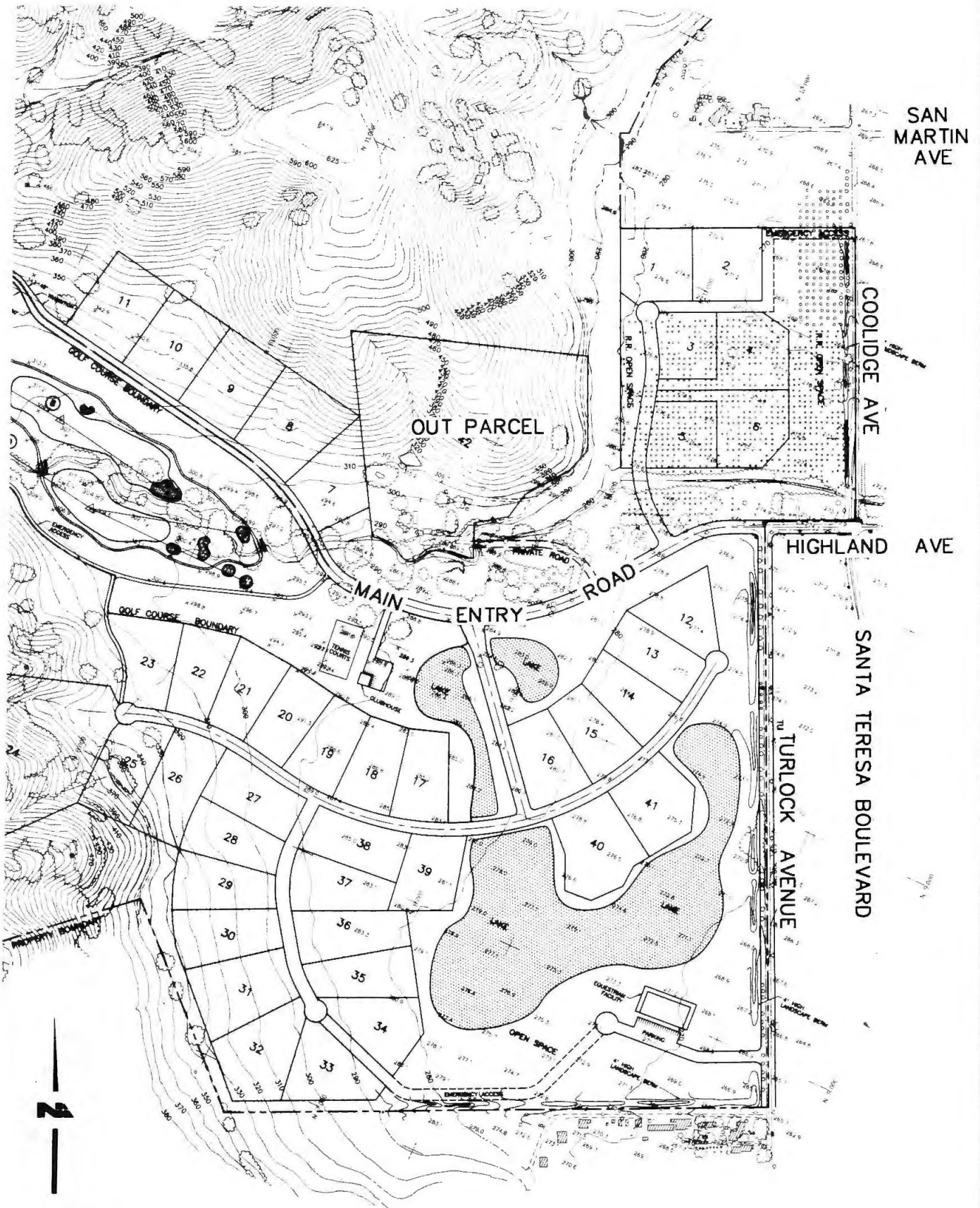
FIGURE 8



OVERALL SITE PLAN

FIGURE 9a





SCALE: 1" = 600'

CLUSTER RESIDENTIAL SUBDIVISIONS

FIGURE 9c

TABLE 1
PROPOSED LAND USES

<u>Land Use</u>	<u>Acreage</u>
Golf Course	
• Open Area	263.2
• Clubhouse, Overnight Facilities & Parking	6.3
Residential	
• Hillside Cluster	102.8
• Rural Residential Cluster	31.5
Permanent Open Space	1,265.7
Main Access Road	6.5
TOTAL	1,676.0

open space. The old plum and walnut orchard would be removed and replaced with a 4 foot high landscaped berm along the roadway, and a vineyard of approximately 10 acres would be planted behind the berm. This buffer area would range in depth from 250 to 400 feet, comprising a total of approximately 12 acres. The southern portion of this site would contain the channel of West Branch Llagas Creek, which flows from west to east alongside Highland Avenue.

Hillside Cluster Residential Subdivision

The second cluster subdivision would consist of 35 lots in the Hillside-designated area of the site, which would be clustered on less than 10 percent of the Hillside area allowing the remaining 90 percent (not including the golf course) to remain in permanent open space, as required under the General Plan and the Hillside Zoning Ordinance. Most of this cluster subdivision (29 lots) would be located in the relatively level area west of Turlock Avenue and south of Highland Avenue. The lots within this area would all be 2 to 3 acres in size and would be oriented around a 20-acre lake to be excavated as part of the project. This would be a dual purpose water element, serving as both an amenity for the residential area, and as a drainage basin and storm water detention facility. The hillside area immediately to the west of this cluster would contain two partially wooded lots approximately 3 acres and 18 acres in area. However, the building envelopes for these lots have been established in areas of the lots where there is little or no tree cover. The remaining 5 lots would be located across the creek to the north and west of the main subdivision area. These lots would be located directly on the main access road and would all be 2 to 3 acres in size.

The wastewater from the residential units would be stored in septic tanks located on each lot, with the effluent pumped to a package treatment plant to be installed near the golf course practice range (see "Wastewater Treatment and Disposal" below).

Permanent Open Space Area

The Hillside cluster subdivision would include a 1,265-acre permanent open space area which would constitute over 90 percent of the Hillside zone on the site. (This assumes that the 259 acres currently designated "Agriculture - Medium Scale" in the County General Plan would be redesignated to "Hillsides.") Most of this permanent open space area comprises the hillside areas which flank the Hayes Valley on the north and south, and also includes the level pasture land in the western portion of the site near Watsonville Road. This area would include a system of informal trails for hiking and horseback riding.

A small portion (less than one acre) of the northern hillside area adjacent to the golf course driving range would provide the site for winter storage of treated effluent prior to spray irrigation on the driving range.

The permanent open space area would also include 100 acres of vineyard to be planted in two areas. A 10-acre vineyard would be planted along Coolidge Avenue, within the 250-foot setback area for the proposed Rural Residential subdivision. A 100-acre vineyard would be planted at the western end of the project, in the open field fronting onto Watsonville Road.

The permanent open space area also includes an area of approximately 40 acres in the southeastern corner of the site. This area would include: buffer areas around the residential lots, a 4-foot landscaped berm along Turlock Avenue, a 20-acre lake, and a 20-acre equestrian center (see "Drainage" and "Equestrian Center" below).

The permanent open space areas of the site would be placed in the ownership of the Homeowners Association for the project, and would not be open to the general public. The grazing of cattle on the Lion's Gate site (which currently reaches a peak of 250 head) would be discontinued upon construction of the project.

Golf Course

The central feature of the project is a public access championship 18-hole golf course designed by Robert Trent Jones Jr. The golf course follows the natural contours of the central site area and is focused on the West Branch of Llagas Creek, which would be subject to a substantial riparian habitat restoration and enhancement to be integrated into the golf course design plan (see Section III. G. *Biological Resources*, for a description of the riparian habitat restoration and enhancement plan).

The golf course playing area would be 97 acres, including 52 acres of rough. The golf course would also include a 10-acre practice range with 55 tee pads, and a 3-acre area containing a putting green and a chipping green. The practice area would be served by a 1,000 square-foot structure that would provide golf ball sales, restrooms, a snack bar window, and storage for the golf ball retrieval vehicle.

The golf course would be open to the public as a "daily fee" course. There would also be some corporate membership which would comprise a limited portion of the overall usership of the golf course. Approximately 60 corporate memberships are contemplated. (No memberships would be available to members of the public.) It is estimated that up to 50,000 rounds of golf would be played here per year. It is estimated by the applicant that corporate membership would comprise 25 percent of the total golf rounds, with the remaining 75 percent available to the public.

The total quantity of earth to be moved during grading for the golf course and related facilities is estimated to be approximately one million cubic yards. A total of 18 trees would require removal to accommodate the golf course. These would be replaced by over 2,500 native trees to be planted throughout the golf course and the residential areas of the project. (These are trees that have been specifically grown for the project from acorns and seeds collected from the site in 1989).

TABLE 2
PROJECT SUMMARY DATA

RESIDENTIAL

- | | |
|---|----|
| • Rural Residential Cluster Subdivision (lots) | 6 |
| • Hillside Residential Cluster Subdivision (lots) | 35 |

GOLF COURSE

- | | |
|--|--------|
| • Holes | 18 |
| • Clubhouse (square feet) | 29,000 |
| • Overnight Accommodations (units) | 45 |
| • Parking Spaces (Clubhouse, Overnight, Practice Facilities) | 250 |
| • Maintenance Facility (square feet) | 6,000 |

Grading (cubic yards - cut/fill)	500,000/500,000
----------------------------------	-----------------

Tree Removal (total)	18
----------------------	----

Tree Planting	2,500+
---------------	--------

WATER CONSUMPTION

(gallons/day) - (average/peak)

- | | |
|--|-----------------|
| • Golf Course Irrigation (non-potable) | 334,000/677,000 |
| • Domestic/Landscape/Washdown | 57,000/114,000 |

WASTEWATER FLOWS

(gallons/day) - (average/peak)

23,000/30,000

The Lion's Gate golf course is being designed and would be operated in accordance with the guidelines of the Audubon Signature Corporate Sanctuary Program. To receive "Certified Wildlife Sanctuary" status, the project must demonstrate its commitment to environmentally sensitive maintenance practices for golf courses in 5 major categories as follows: 1) Wildlife Conservation; 2) Habitat Enhancement; 3) Waste Management; 4) Energy Efficiency; and 5) Water Conservation.

Clubhouse

The focal point of the golf course would be a 3-level 29,000 square-foot clubhouse (inclusive of the golf cart barn) and 45 units of overnight accommodation. This complex is proposed for the foot of the southern hillsides in the east-central area of the site (see Figures 10a and 10b). The floor area breakdown for the clubhouse is provided in Table 3.

The clubhouse would include a pro shop, bar and restaurant, banquet facilities and a separate members' lounge for corporate members. The members' area would include locker rooms, card rooms, a spa and members grill.

The clubhouse would be designed in the style of an Italian hilltown, and would take advantage of view opportunities from the base of the hillside. The building would have an adobe type appearance and would be constructed with a building technique known as PISE (Pneumatically Compacted Stabilized Earth) instead of conventional frame construction. By this method, the structure of the wall is created by spraying an earth mixture horizontally against a rigid, single thickness form to create walls 24 inches thick. Such massive walls provide excellent insulation for passive heating and cooling.

Storage for as many as 60 electric golf carts would be provided on the lower subgrade level of the clubhouse. The golf cart storage room would also include electric chargers, a maintenance area, and a golf club storage room. Since electric carts release potentially flammable hydrogen gas when being charged, the cart storage area would include a sophisticated ventilation system designed by a qualified HVAC engineer. The system would be designed to circulate and replace the volume of air in the room at least 5 times per hour while carts are being charged. There would be no gasoline stored in the cart storage area. Washbays to hose down and clean carts would drain to a septic trap to collect any grease or other hazardous materials washed from the carts.

Overnight Accommodations

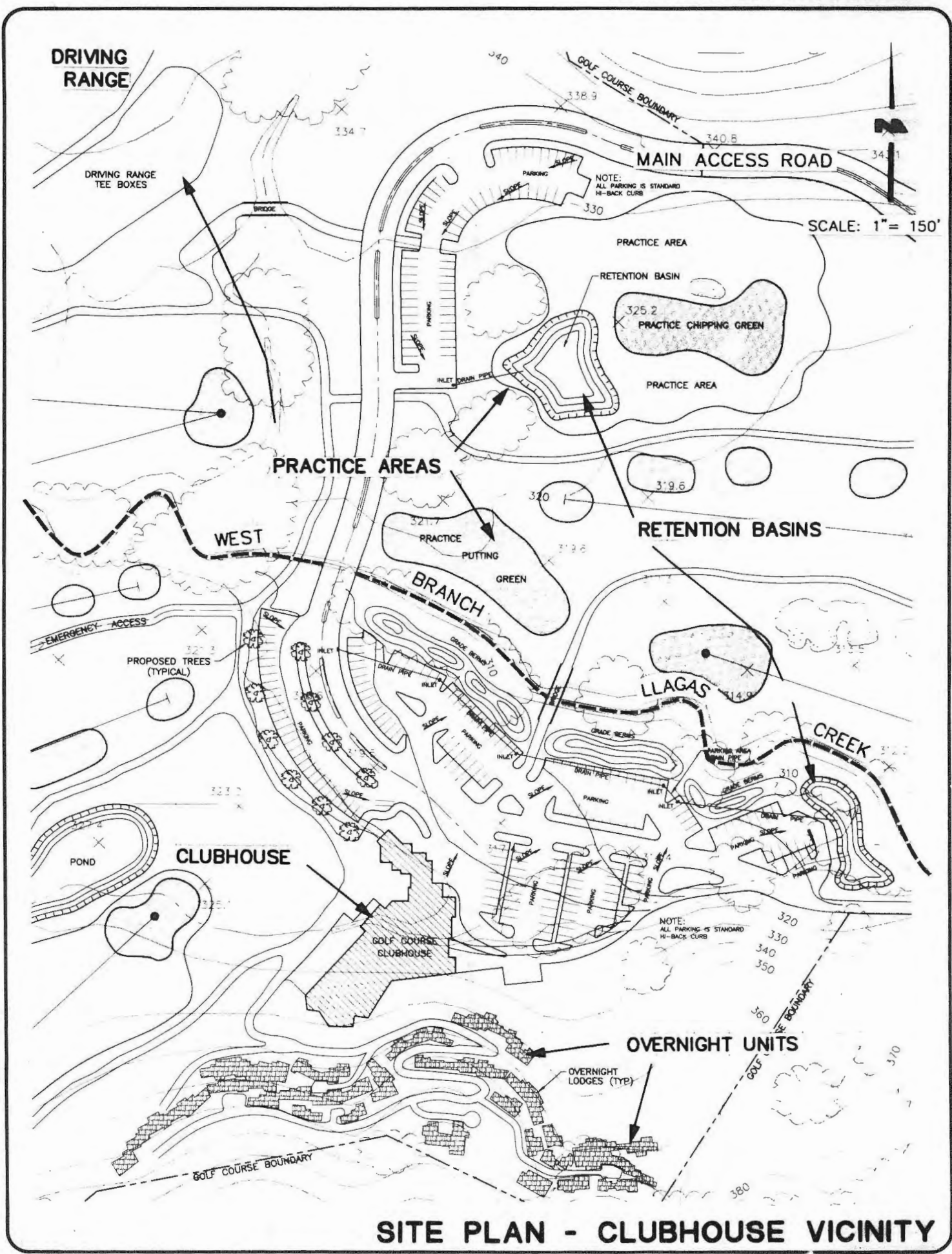
Adjacent to the clubhouse on the hillside would be the 45 overnight guest units which would also be constructed in the adobe style. These units would not be typical hotel rooms and would only be available as overnight accommodations for golf course users.

The individual units would be approximately 500 square feet, and would be designed as suites. Several small conference rooms of approximately 500 square feet would be included in the overnight complex. These conference rooms would be located between two units so they would be accessible from one or both of the adjacent units as needed.

Vehicular access to the overnight complex would only be by means of golf carts from the clubhouse parking area. The parking area for the clubhouse and overnight complex would have capacity for 188 vehicles, with parking for an additional 61 vehicles to be provided to the north of the clubhouse area adjacent to the practice facility.

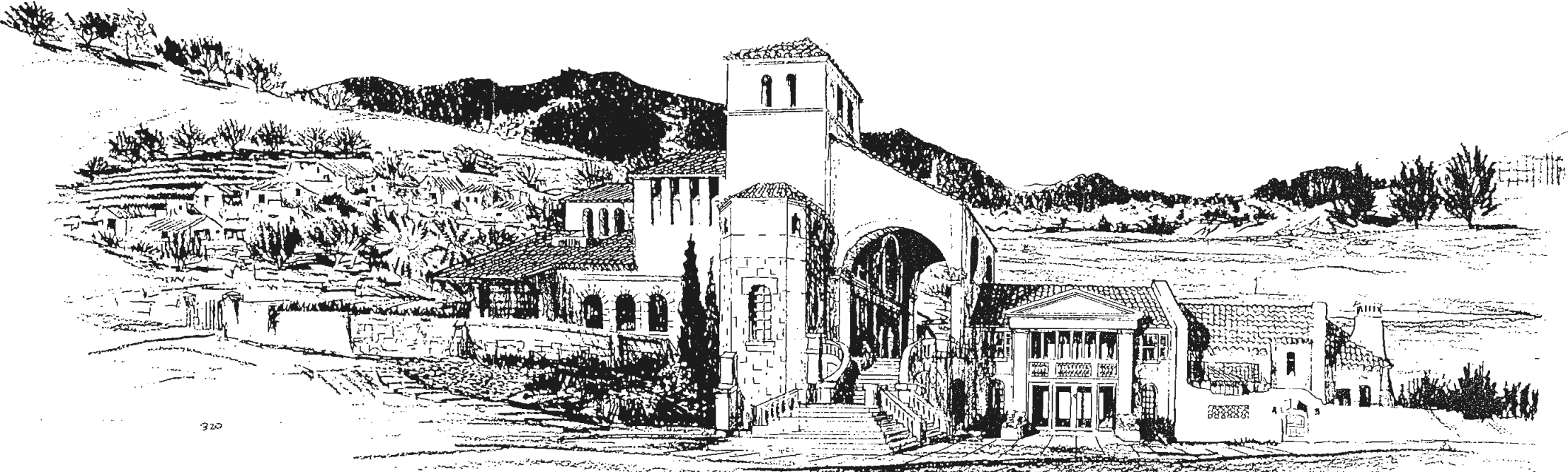
Swim and Tennis Center

A swimming pool and tennis courts are proposed in the vicinity of the existing ranch complex, south of the main access road and west of the main residential entry road. These facilities would be open only to residents and



SITE PLAN - CLUBHOUSE VICINITY

FIGURE 10a



EAST ELEVATION



NORTH ELEVATION

CLUBHOUSE ELEVATIONS

TABLE 3
CLUBHOUSE FLOOR AREA BREAKDOWN

FUNCTION	FLOOR AREA
<u>First Level</u>	
Pro Shop	1,560
Member's Lounge	2,925
Cart Storage	4,465
Men's & Women's Locker Rooms	2,395
Mechanical	370
Lobby/Stairs and Transfer Area	3,192
	<hr/>
Subtotal	12,907
<u>Second Level</u>	
Restaurant	2,920
Bar	1,280
Kitchen	2,395
Office/Restrooms	1,504
Lobby/Stairs	1,204
Terrace (5,000)	--
	<hr/>
Subtotal	11,303
<u>Third Level</u>	
Banquet Room	4,000
Banquet Kitchen	960
	<hr/>
Subtotal	4,960
	<hr/>
Total Clubhouse Floor Area	29,170

corporate members and would include up to 4 tennis courts, a medium size (smaller than olympic size) pool, and a 2,000 square-foot clubhouse with locker rooms and restrooms.

Equestrian Center

The project would include an equestrian center located on approximately 20 acres at the southeastern corner of the site with driveway access directly off Turlock Avenue. The equestrian center would be open only to project residents for the boarding of privately owned horses. No public horse rental is proposed. The focus of the equestrian center would be a covered arena structure measuring 100 by 200 feet. The arena would be surrounded on 3 sides by 20 to 30 indoor/outdoor stalls. The center would also include a hay storage area and living quarters for a caretaker/manager. Other features would include an outdoor riding ring, a training area/paddock and pasture. The access drive and 20-space parking area would be surfaced with all-weather crushed gravel. The center would have direct access to over 8 miles of private riding trails proposed for the permanent open space areas of the Lion's Gate site. These riding trails would consist of the network of existing trails and vehicle tracks that occur throughout the site. Some minor improvements may be made to these existing trails, but it is not expected that new trails would be created. Access from the equestrian center to these trails would be via the narrow strips of permanent open space extending west and north of the equestrian center along the project boundary (see Figure 9c).

In order to prevent horse manure from entering downstream water courses or groundwater, the equestrian facility would be operated in accordance with a manure management plan, as required under Title 23, Chapter 15 of the California Code of Regulations (which pertain to the protection of water quality). Under the manure management plan, debris boxes would be used to store daily stall sweepings and manure. The outdoor riding and pasture areas would have manure picked up daily with a special vacuum vehicle. Disposal of wastes at a local landfill, one which is permitted to accept manure, would occur on a daily basis or every other day. Alternatively, on-site composting of manure may be considered instead of off-site disposal. (Any proposal to compost manure would require approval from the Department of Environmental Health Solid Waste Unit.) The perimeter of the equestrian center would be fenced to prevent animals from entering nearby drainages and ponds and contaminating the water.

The equestrian center would be contoured to direct on-site drainage to a grass swale or swales which would convey runoff to a lined retention pond or basin. This pond would be located at the eastern end of the site, just west of the landscaped berm proposed along Turlock Avenue. The pond would be equipped with a sump pump to facilitate spraying the drainage water onto the pasture area. The pond would be skimmed as necessary to remove any floating material, and would be cleaned out regularly to remove accumulated sediments. The pond would be sized for the 10-year storm to prevent overflow of accumulated drainage in all but the most significant flood events (the pond would be fenced to prevent entry, and signs would be posted warning people to keep out.) Any drainage from the areas upslope of the equestrian center to the west would be directed around the facility to the proposed residential lake to the north.

The equestrian center would employ vector control measures as needed, such as baiting for flies, and rodent trapping. As discussed above, manure would be cleaned up daily and placed in debris boxes which would be emptied daily or every other day and taken to a local landfill or composted on-site.

Maintenance Facility

The maintenance facility would be located at the western end of the golf course and would be served by a separate 24-foot wide access road from Watsonville Road to the west. The maintenance facility would include a 6,000 square-foot building, with an adjacent 20,000 square-foot area of impermeable concrete for parking, washdown, and outdoor storage.

The exterior of maintenance building would utilize materials from the existing barn to give it a rural appearance. The interior of the building would be used for equipment maintenance, washing and storage. Within the maintenance building there would be separate designated areas for handling and storage of pesticides and fertilizers. The adjacent surfaced area would include parking for 12 employees and 5 visitors. A covered washbay at the rear of the building would drain to an advanced wash water filtering and recycling system to capture grease and other hazardous materials washed off the equipment and vehicles. Within the maintenance facility compound there would be separate area for above ground storage tanks for diesel and gasoline to fuel vehicles and equipment. This area would be surrounded with a concrete berm to provide secondary containment in the event of a fuel leak or spill. The entire maintenance facility site would be surrounded with a continuous 6-inch concrete curb.

The maintenance facility would be operated in accordance with the guidelines of the Audubon Cooperative Sanctuary program. The facilities would also be subject to the County's Hazardous Materials Storage Permit Ordinance, which requires the preparation and implementation of a Hazardous Materials Management Plan (see Section III. *N. Hazardous Materials, Public Health and Safety*).

Associated Improvements and Programs

Access and Circulation

Main Entry Road: The main access to the golf course would be via a new entry road which would extend from the current terminus of Highland Avenue at the existing ranch complex, and would continue westward for a distance of one mile to the clubhouse. This roadway would provide access to residential streets in the eastern areas of the site, and would provide direct driveway access to 5 residential lots proposed to the northwest of the main cluster residential area. The main entry road would also provide direct access to the swim and tennis center and the golf practice facilities. The roadway would require bridges at two crossing points over West Branch Llagas Creek. The roadway would be 62 feet wide and would be built to County standards. The main access road would be guard gated and private commencing westward from Turlock Avenue.

Residential Access Roads: The main entry road would provide connections to the residential street serving the 6-lot rural residential cluster subdivision north of Highland Avenue, and the streets serving the main 30-lot cluster subdivision located to the south and west of the existing ranch complex. These roadways would be 62 feet wide and would be constructed to County Standards for local residential streets. The roadway serving the Rural Residential subdivision to the northeast would require a bridge over West Branch Llagas Creek. The residential roadways would be private and would be gated at their intersections with the main entry road.

Maintenance Facility Access Road: The maintenance facility would be served by a separate 24-foot wide access road extending 4,400 feet from Watsonville Road to the west. This would be an all-weather roadway designed to handle maintenance trucks and emergency vehicles. The maintenance access road would be gated at Watsonville Road to prevent unauthorized access.

Emergency Access: In order to provide for emergency access to the west, a secondary access route would be created across the golf course area and would connect with the maintenance facility access road. East of the maintenance facility, this emergency route would utilize the continuous golf course path that runs along the south side of Holes 1 and 2. This dual purpose cart path would be 12 to 14 feet wide and would consist of a 6-inch slab over a 4-inch engineered subbase to accommodate emergency vehicles.

Golf Cart Paths and Bridges: Access to all golf holes would be provided by a system of concrete cart paths which would be 7 to 8 feet wide, except for the dual purpose cart path/emergency access route which would be 12 to 14 feet wide, as described above. The cart path system would include 6 bridges across West Branch Llagas Creek downstream of the existing pond, and an additional 7 bridges across the various tributaries to the main creek channel. All cart path crossings would consist of clear span bridges to be set on concrete abutment piers located outside of defined drainage channels.

Site Clearance

All of the existing ranch dwellings and structures standing on the Lion's Gate site would be removed. This does not include the structures on the 20-acre "out-parcel" (Lot 42) which is not part of the project site. The applicant indicates that attempts would be made to re-use materials salvaged from the ranch complex within the project. The existing trees and mature landscaping at the main ranch site would not be removed but would be preserved as part of the project. The old orchard on the northeastern parcel, north of Highland Avenue, would be removed and replaced with vineyards along the Coolidge Avenue frontage.

Grading and Excavation

Grading and excavation is required to recontour natural slopes for the golf course and practice range, to create the proposed lake, irrigation storage reservoir and retention basins, to prepare the site of the clubhouse, overnight units, practice range and associated parking lots, and to create acceptable grades for the internal roads, driveways and residential building pads. The estimated grading quantities for these various project elements are provided in Table 4. The preliminary grading plans are available for review at the County of Santa Clara Department of Planning and Development.

Cuts and Fills

The total estimated earthwork for the project is approximately one million cubic yards of combined cut and fill, which would be balanced on the site.

The area of the proposed clubhouse, overnight complex and parking lot would require 37,530 cubic yards of cut and 25,900 cubic yards of fill. The maximum slope angle for cuts and fills would be 2:1 (horizontal:vertical) with the majority of graded slopes having flatter slopes. No retaining walls are proposed to support fill slopes.

Temporary excavations would also be required for underground pipelines, utilities and sewage disposal systems.

All proposed grading would take place in accordance with the recommendations of a geotechnical engineer, and would be subject to the conditions of the Grading Permit to be approved by the County.

Excavations for Lakes

There are 4 lakes or ponds proposed as part of the project. These include the following: the irrigation storage reservoir located at the west end of the golf course, which would involve excavation of 68,700 cubic yards of earth; the runoff detention pond near the 18th green, which would require the removal of 7,950 cubic yards; the wastewater storage pond north of the driving range, which would entail the excavation of 69,000 cubic yards of material; and the 20-acre lake to be located at the main residential subdivision in the southeastern portion of the site, which would involve the removal of 70,200 cubic yards of earth. The excess material generated by these excavations would be used in the berms planned along Turlock and Coolidge Avenues.

Drainage

The project largely incorporates the existing natural drainage system into the design of the golf course and residential areas. In the golf course plan there are several instances where short reaches of tributary drainages would be rerouted or piped to accommodate the fairway layout. Along the West Branch of Llagas Creek, there are two locations upstream of the clubhouse site where small existing meanders would be removed in the golf plan. The natural drainage channels in the residential areas would be largely unaltered. The existing flow characteristics of West Branch Llagas Creek are not proposed to be altered in the proposed project plans.

Golf Course Drainage

The objective of the golf course drainage plan is to avoid having surface runoff drain directly to natural on-site drainage courses. Thus the golf course would be designed and graded to direct storm runoff toward the centers of fairways, and to off-channel retention basins and ponds. In addition, the golf course would include filter strips of roughs or natural vegetation which would provide for infiltration of storm runoff from the turfed areas. These filter strips would vary in width from 25 feet to several hundred feet, and would serve to treat stormwater and limit velocities before runoff enters natural water courses or wetland areas.

Some underground storm drains would be installed for the clubhouse and overnight complex. Surface runoff from the parking areas would be conveyed to nearby retention basins. Storm runoff collected in the basins would not be released to the creek channel but would percolate into the soil or evaporate. The retention basins would be cleaned of accumulated sediments as needed.

Except under major storm conditions, most runoff would be expected to be absorbed by the dense turf grass. Concentrated flow would only occur along internal roads, driveways, and cart paths, which would be designed to divert flows, and would include curbs, inlet structures and outlet protection as appropriate.

As discussed under "Irrigation System" below, excess irrigation water would be minimized by a computerized control system which would utilize data from an on-site weather station to calculate evapotranspiration rates for each type of grass, allowing water to be applied on an as-needed basis only.

The putting greens would drain through vegetated turf buffers at least 25 feet wide and/or into water quality control basins, dry wells, or ponds. There would be grass-lined swales providing for a minimum of 25 feet of overland flow for filtration of runoff from these subsurface drainage collection areas before discharge, or discharge would be to drywells located at least 25 feet from a wetland or riparian area. Where subsurface drainage cannot meet these criteria, filtration traps constructed of a sand/charcoal filter would be installed adjacent to the putting green.

Residential Drainage

The drainage from the Rural Residential subdivision located north of Highland Avenue would be conveyed directly to the reach of West Branch Llagas Creek which flows through the southern portion of this area.

The cluster subdivision south of Highland Avenue would drain to the 20-acre lake planned for this area, which would also provide flood detention storage (see Section III. E. *Hydrology and Drainage*.)

To the extent feasible, the natural drainage from the hillside area west of the main subdivision area would be intercepted by in new drainage swales and directed to the residential storm drainage system.

TABLE 4
GRADING SUMMARY

Project Element	Quantities (Cubic Yards)	
	Cut	Fill
<u>Golf Course</u>		
Fairways, Tees, Greens, Roughs, Cart Paths	149,800	215,150
Irrigation Storage Reservoir	68,700	5,200
Runoff Detention Pond (near 18th Green)	7,950	--
Practice Range (Driving Range, Chipping and Putting Greens)	3,650	9,750
Practice Range Parking (including berms)	1,600	5,300
Clubhouse	2,130	1,600
Overnight Complex	7,100	8,100
Parking (+ Retention Basin) for Clubhouse & Overnight Units	28,300	16,200
Maintenance Facility	--	4,700
Maintenance Access Road	3,140	3,200
Swim and Tennis Center	3,020	700
Wastewater Storage Pond	69,000	--
Subtotal Golf Course	344,390	269,900
<u>Residential</u>		
<u>Rural Residential Cluster</u> (32 ac/6 lots)		
· Roads and Building Pads	3,400	2,030
· Landscaped Berms	--	55,800
<u>Hillside Cluster Residential</u> (35 lots)		
· Roads and Building Pads	31,700	9,500
· Lake	70,200	51,900
· Landscaped Berms	--	94,800
Subtotal Residential	105,300	214,730
<u>Main Access Road</u> (from Highland to Clubhouse)	48,200	14,900
<u>Equestrian Center</u>	1,990	1,050
Subtotal	50,190	15,950
Total Project	499,880	499,880

Equestrian Center

As noted previously, drainage within the equestrian center would be directed to a retention basin to be located at the eastern end of the site near Turlock Avenue. To the extent feasible, natural drainage originating upslope of the equestrian center would be diverted around the equestrian area and directed to the proposed lake to the north.

Landscaping and Tree Protection

In anticipation of project landscaping needs, the project applicant collected acorns and seeds from on-site trees in 1989 for the replanting program. There are now over 2,500 trees including 454 valley oaks, 1,774 sycamores, 216 black walnuts, and 128 buckeye that have been raised for this purpose. The intent is to plant the riparian species along West Branch Llagas Creek and its tributaries, and to plant the oaks throughout the golf course and residential areas as well as along the creek. The black walnuts would be used in the landscaped berms along the project frontage, where they would complement the existing row of black walnuts along Turlock Avenue.

Existing trees to be retained would be protected during grading and construction by fencing around the dripline. Irrigation systems and trenches would not be installed within the dripline. No root encountered during trenching larger than two inches would be severed, and smaller roots which are cut would be treated with appropriate sealant.

The varieties of grasses to be used in the golf course have been selected based on the following criteria: golf course performance, low water requirement, high pest resistance and low fertilizer needs, thus minimizing the need for irrigation and application of pesticides and fertilizers. The landscape concept for the golf course and the clubhouse complex focuses on the use of native and naturalized grasses, trees, shrubs, groundcovers, vines and perennials.

To prevent damage resulting from deer browsing on new plantings, the newly installed landscaping would be surrounded with protective fencing where necessary.

Irrigation System

The goal of golf course irrigation is to apply water to the turf grass that is not provided by precipitation. Irrigation allows the grass to remain healthy, resist disease invasion, insect attacks and weed competition. The total annual irrigation demand for the golf course is estimated to be 122 million gallons (374 acre-feet), with an average daily demand of 334,000 gallons. The average irrigation water demand during the summer months is estimated to be approximately 677,000 gallons per day.

Water supply for golf course irrigation would be obtained from a combination of sources, including on-site pumping of groundwater, non-potable water from Twin Valley, Inc., and backup supplies from West San Martin Water Works (see "Water Supply" below). The non-potable irrigation water would be piped to the irrigation storage reservoir to be excavated at the western end of the golf course south of the maintenance facility.

According to the environmental management plan prepared by Audubon Conservation Services (contained in Appendix E of this EIR), water application rates would be carefully managed to meet precise plant requirements and to stay below the infiltration capacity of the soil. This would avoid applying excess water that could lead to over-saturation of the soils, thus reducing the risk of surface ponding or runoff and the leaching of fertilizers and pesticides.

This optimum efficiency would be accomplished through a system of computerized field controllers that would allow site-specific irrigation for any given area depending on localized needs and conditions. A weather station would be installed at the maintenance facility to record rainfall, solar radiation, air temperature, soil temperature, and relative humidity. This information would be used to carefully determine evapotranspiration demands and irrigation requirements. Irrigation schedules would be adjusted daily in response to calculated needs for each area and each type of turf (tee, green, fairway or rough). Because of the many variables to consider, i.e., slope, soil types, rooting depth, etc., fine-tuning of the irrigation program by the golf course superintendent and irrigation technician would be essential, even with the most sophisticated irrigation system available.

Sprinkler heads would be sited so as to avoid watering areas where irrigation is not required or desired. One of the primary responsibilities of the golf course superintendent and irrigation technician would be to monitor the sprinkler heads frequently to be sure all heads are operating properly and that no head is inadvertently applying water to an environmentally sensitive area.

Irrigation during the rainy season would occur infrequently, perhaps an average of one day per week. Water requirements would be high during the 6-month grow-in period, when water would be applied at rates approximately double those estimated for the golf course once established. Although higher than normal volumes of irrigation water would be applied during the grow-in period, the water would be applied in short cycles to keep the ground moist in order to facilitate germination of the grass seed. Over-watering would be avoided to prevent drowning the young seed, so there would be little or no runoff of irrigation water.

Chemical Management

The goal of the project is to implement environmentally sensitive fertilization and pest management practices in the operation of the golf course. In order to maintain healthy turfgrass while avoiding environmental contamination, the golf course operation would follow the comprehensive Environmental Management Plan prepared for the project by Audubon Conservation Services. The full ACS report is contained in Appendix E of this EIR. The main elements of the program that relate to chemical management are described below.

Fertilization

Application of fertilizers to turfgrass is necessary to maintain the course in good playing condition. The maintenance of healthy dense turfgrass also maximizes natural pest resistance and provides an effective biofilter to prevent groundwater contamination. The thatch produced by the turf acts as an organic filter to chemically bond or immobilize pesticides until they are degraded through microbial action.

However, over-fertilization can lead to nitrogen runoff and leaching through subsoil in the form of nitrate, which could result in eutrophication of lakes and streams, as well as groundwater contamination which could pose a potential public health hazard. Nitrate movement is proposed to be minimized in the project through best management practices (BMPs). This first involves determination of precise nutrient requirements based on turfgrass types and soil characteristics, especially infiltration rates. The nitrogen fertilizer selected would be the slow release or less soluble form. Fertilizer application would be timed to coincide with the period of greatest plant uptake, and would avoid periods of potential rainfall and stormwater runoff.

Application rates would be monitored closely and adjusted as necessary to prevent exceedance of assimilation capacity. Irrigation rates would be managed to coincide with evapotranspiration, thus minimizing leaching of nutrients beyond the root zone. Soils under tees, greens and fairways would be tested regularly for potential nitrogen buildup, with application rates adjusted accordingly. During the grow-in period, only normal amounts of fertilizer would be applied in order to avoid burning the young plants. The fertilization program proposed is

described in detail in the Environmental Management Plan prepared by Audubon Conservation Services, which is contained in Appendix E of this EIR.

The elevated nitrate levels contained in the irrigation water (from both Twin Valley Inc. and on-site groundwater) would be factored into the fertilization program. Thus applied nitrogen would be reduced commensurate with the nitrogen content of the irrigation water.

Pest Management

The use of insecticides, herbicides and fungicides on golf courses occurs relatively infrequently, and is typically conducted only once or twice a year. Insect problems at the Lion's Gate golf course are expected to be minimal, consisting primarily of root feeding grubs and lepidoptera larvae.

In order to minimize the potential effects of pest control, the project includes an Integrated Pest Management Program (IPM). To the maximum extent feasible, this program relies on non-chemical methods such as selecting pest resistant grasses, employing cultural practices to keep the turfgrass healthy (e.g., spiking, aerifying, vertical mowing, rolling, topdressing), avoiding excess fertilizer application, and preventing excessive moisture conditions which favor the occurrence of infectious diseases. The IPM would also reduce the use of pesticides where possible by employing biological control of pests. This involves the strategic introduction of organisms which are natural enemies of pest to be eliminated (e.g., parasitic nematodes and bacteria).

During the preparation of the Environmental Management Plan for the project, the potential pesticides (this term includes insecticides, herbicides and fungicides) to be used at the Lion's Gate Reserve were assessed using screening models and simulation models. The primary factors analyzed were: the potential quantity of a chemical that may be used at the golf course, the chemical's mobility, leaching potential, persistence and toxicity. Based on this assessment, restrictions were placed on the use of certain pesticides on the golf course (see Appendix E for the detailed assessment results).

In order to minimize the impacts of pesticide use, a number of best management practices (BMPs) would be employed. The following is a partial list of planned management practices (see Appendix E for a full discussion).

- Pesticides would be handled, applied, and disposed of by a licensed spray technician. The application equipment would be inspected for proper calibration before every pesticide application.
- Pests would be accurately identified and pesticide applications made only when and where necessary (preferably when pests are at the most vulnerable stage), using the least amount required.
- Pesticides would not be applied when soil moisture is high during the rainy season, or when storms are anticipated. No pesticides would be applied during the grow-in period.
- A controlled and designated area/facility would be provided at the maintenance facility for the proper mixing and loading of pesticides into application equipment. The facility would include an impermeable pad with controlled and contained drainage.
- Monitoring the course on a daily basis to detect symptoms of pest problems.
- A minimum 25 feet of rough around all playing areas would be provided as a buffer zone for adjoining wetland or riparian areas. No pesticides would be used in these rough area buffers.

- A minimum vertical separation of two feet would be provided between any green playing surface and the expected maximum seasonal groundwater elevation. This would reduce the potential for high groundwater to inundate the underdrain collection systems, and would allow a sufficient thickness of unsaturated soil to attenuate infiltrating compounds.

The Integrated Pest Management program would be managed by the Golf Course Superintendent, who would be responsible for all chemical applications and storage. The State of California requires that such chemical application and handling be performed by licensed individuals with a Qualified Applicator Certificate (QAC) issued by the state. The superintendent would be so licensed and would be an active member of the Golf Course Superintendents Association of America (GCSAA). The superintendent would be a full-time employee of the Lion's Gate Reserve, and must attend GCSAA training and education seminars to remain current with the association. It is likely that the country club would also employ an assistant to the superintendent who would also be a licensed applicator.

Water Supply

It is estimated that the average daily water demand for the project would be approximately 57,000 gallons for domestic purposes, and 334,000 gallons for golf course irrigation. During the summer months, the daily irrigation demand is estimated to be 677,000 gallons per day. Treated water for domestic supply for the residential areas, clubhouse, overnight complex, maintenance facility, swim and tennis center, and the equestrian center would be provided by the West San Martin Water Works. Irrigation water would be supplied by a combination of sources, including on-site pumping of groundwater, non-potable water from Twin Valley Inc., and backup supplies from West San Martin Water Works. These sources of supply would be adequate to meet the peak water demands of the project, including minimum fire flows (see Section III. *P. Water Supply*).

Wastewater Treatment and Disposal

The proposed method of wastewater treatment and disposal for the project is the use of a centralized collection and treatment operation, with treated effluent sprayed onto the proposed practice range. All of the residential lots and golf course facilities would have septic tanks for the primary treatment (settlement) of solids, with untreated effluent piped to the proposed treatment facility to be located north of the driving range. An effluent storage pond would be excavated to the northwest of the driving range, to provide for wet-weather storage of the treated effluent. The treated effluent would be disposed of by spray irrigation over the driving range, the chipping green area, and a 3 to 4-acre area in the adjacent permanent open space area to the west (see Section III. *Q. Wastewater Treatment and Disposal*). The treated effluent would be applied at rates matching the evapotranspiration rate of the turfgrass, and spray irrigation would not occur during the winter months. Thus there would be no leaching or runoff of effluent into the groundwater or on-site drainages.

The maintenance facility would not be connected to the centralized wastewater disposal system, but would have its own individual septic tank and leachfield.

Community Services District

The proposed community wastewater system would be owned and operated by the Community Services District (CSD) established for the project. To establish a CSD, either the property owner or the County must make an application to the Local Agency Formation Commission (LAFCO) to approve formation of the district. The operation of the CSD would be financed by assessing the participating property owners through their property tax bill. The establishment of a public authority such as a CSD for facility ownership and operation would assure the ability to assess and collect necessary funds for on-going system maintenance and operation. This funding would be secured against the individual residential and golf course properties in the Community Services District.

C. PROJECT OBJECTIVES

The stated objective of the sponsors of the Lion's Gate Reserve is to create and construct a premiere public access 18-hole golf facility that is unique in every aspect, while maintaining an emphasis on environmental sensitivity. The project's clubhouse and golf related 45 overnight accommodation units would be designed to serve the needs of the public and business community of the Santa Clara Valley, while the clustered 41 residential lots have been designed and situated to achieve the goals of the County's Cluster Ordinance and the long range goals of the Preservation 2020 Task Force in the preservation of over 1,200 acres of permanent open space. The 41-lot residential component will have strict CC&Rs (Covenants, Codes and Restrictions) and architectural controls to preserve the environment and rural character of the area.

It is the stated goal of the sponsors of the project to incorporate the existing natural resources of the site into the design and minimize environmental pollution or hazards in the development and operation of the golf course facility. The project sponsors state that they have shown their commitment to the achievement of this goal by implementing into the design of the project the County's Interim Environmental/Design Guidelines for golf courses, and by enrolling the project into the Audubon Cooperative Sanctuary Program to obtain the status of a "Certified Wildlife Sanctuary".

D. OTHER PROJECTS IN THE VICINITY

There are 13 projects in the vicinity of the Lion's Gate project which have been approved, but which have not yet been completed within the City of Morgan Hill and the unincorporated community of San Martin. These include: 10 residential projects with a total of 324 single-family dwellings and 33 units of senior housing; one RV park with 272 spaces; one commercial project of 27,000 square feet, and one commercial and gas station project of 22,000 square feet.

These projects were considered in evaluating the cumulative impacts of the proposed project, and have been factored into the background conditions for the evaluation of traffic, noise and air quality impacts.

E. USES OF THIS EIR

The primary purpose of this EIR is to provide the County of Santa Clara decision-makers and the general public with a detailed project description and a thorough analysis of environmental impacts associated with the proposed project. The EIR will be used for the following discretionary approvals by the County:

- General Plan Amendment
- Rezoning
- Use Permit
- Cluster Development Permit
- Tentative Map
- Grading Permit
- Wastewater Treatment System Permits
- Architecture and Site Approval
- Design Review
- Lot Line Adjustment

In addition, the EIR will be used by responsible agencies for their separate permit approval processes, as listed below:

U.S. Army Corps of Engineers (USACE): Administration of Section 404(b) of the Clean Water Act for filling of wetlands.

U.S. Fish and Wildlife Service (USFWS): Approval of mitigation plans for the California tiger salamander and western pond turtle.

California Department of Fish and Game (CDFG): Streambed Alteration Agreement under Section 1603 of the Fish and Game Code.

Santa Clara Valley Water District (SCVWD): Permit for grading or construction within 50 feet of West Branch Llagas Creek, a District facility.

Central Coast Regional Water Quality Control Board (CCRWQCB): Approval of the wastewater treatment and disposal system; administration of NPDES General Permit for construction activity.

Santa Clara County Local Agency Formation Commission (LAFCO): Approval of Community Services District (CSD) for project.

County of Santa Clara Department of Environmental Health Hazardous Materials Compliance Division: Approval of hazardous materials handling and storage under the County's Hazardous Materials Storage Permit Ordinance.

II. CONSISTENCY WITH PLANS, POLICIES AND REGULATIONS

A. FEDERAL POLICIES

Clean Air Act

The federal Clean Air Act was enacted in 1967 to protect and enhance air quality, and to promote the public's health and welfare. Initial efforts were the establishment of national ambient standards by the U.S. Environmental Protection Agency (EPA), designation of local air pollution control districts and creation of an air quality monitoring network.

The U.S. Clean Air Act Amendments of 1977 required that each state identify areas within its borders that did not meet federal primary standards as non-attainment areas. The San Francisco Bay Air Basin is currently a non-attainment area for carbon monoxide, and until recently, for ozone. The state was required to prepare a State Implementation Plan (SIP) to show how the federal standards would be attained by 1987. Despite considerable improvement in air quality, the Bay Area did not meet the 1987 deadline for attainment of the federal air quality standards.

The federal Clean Air Act Amendments of 1990 mandate a fresh attempt at attaining the national standards, requiring that plans and strategies be developed for non-attainment areas to meet the federal standards. Failure to meet the requirements of the federal Clean Air Act could result in the imposition of sanctions (e.g., withholding of highway project funding).

Measured levels of ozone in the San Francisco Bay Air Basin have declined to the point that in January 1995 the U.S. EPA certified the Bay Area as a maintenance area for ozone. A similar redesignation request for carbon monoxide was made in 1994 and is awaiting a final decision.

Consistency: The proposed project would result in an increase in traffic relative to existing conditions. However, the resulting emissions would not exceed the applicable federal air quality standards. Construction activity associated with site development would generate minor temporary emissions, but would not result in exceedances of air quality standards. The project, therefore, would be consistent with the Clean Air Act. (See Section III. *M. Air Quality* for a full discussion.)

Clean Water Act (Section 404)

Section 404(b) of the federal Clean Water Act was established to preserve water quality and discourage the alteration or destruction of wetlands. This act requires the U.S. Army Corps of Engineers to evaluate the impacts of the discharge of dredged or fill materials into any water of the United States. Pursuant to the Act, the Corps requires submittal of permit applications for proposed filling of wetlands. For projects involving substantial loss of wetlands, the Corps requires an individual project permit. Minor fills may qualify under the Nationwide permit providing blanket approval for such minor losses. The U.S. Army Corps Wetlands Policy requires mitigation for any impacts to designated wetland areas.

Consistency: The proposed project would fall under the Corps permit authority for the filling of approximately 1.5 acres of jurisdictional wetlands on the site. It is possible that the project could qualify under the Nationwide permit, given the relatively small acreage involved. If not, an individual Section 404 permit may be required. With the implementation of mitigation measures to compensate for the lost wetlands, which would be subject to approval by the Corps under Section 404, the project would be consistent with the Clean Water Act (see Section III. *G. Biological Resources*).

Clean Water Act (Section 304(1))

Section 304(1) of the federal Clean Water Act required that the Environmental Protection Agency (EPA) develop National Pollutant Discharge Elimination System (NPDES) Permit application requirements for various storm water discharges, including those from municipal storm drain systems and from construction sites.

In 1992, the State Water Resources Control Board (SWRCB) implemented the NPDES General Construction permit for Santa Clara County. For properties of five acres or greater, a Notice of Intent (NOI) to comply with the NPDES General Permit for construction activity must be filed, and a Storm Water Pollution Prevention Plan (SWPPP) must be completed prior to commencement of grading and construction.

Consistency: Prior to grading and construction, the applicant would be required to file a Notice of Intent (NOI), and prepare a Storm Water Pollution Prevention Plan (SWPPP) for the project. In addition, the project would include structural and non-structural control measures and management practices to reduce potential effects of stormwater runoff due to construction and on-going operational activities associated with the golf course. These measures are described in Section III. F. *Water Quality*.

Endangered Species Act

The federal Endangered Species Act was passed in 1973 to provide a process for listing species as either "endangered" or "threatened," and stipulates protection for listed species. The Act defines as "endangered" any species which is in danger of extinction throughout all or a significant portion of its range. A "threatened" species is any species which is likely to become endangered within the foreseeable future throughout all or a significant portion of its range. The Act also identifies candidate species, which may qualify for listing. Section 10 of the Act establishes a process whereby "incidental taking" of a listed species may be authorized for a private project, provided the project has avoided the species to the maximum extent feasible, and that mitigation is provided for the unavoidable taking. The Act is administered by the U.S. Fish and Wildlife Service.

Consistency: According to the biological surveys conducted on the project site, there are several federally-protected species present including the California tiger salamander, the western pond turtle, Opler's long horn moth, the Santa Clara dudleya and the most beautiful (or uncommon) jewelflower. The latter three species are endemic to the serpentine grassland which occurs on the northeast hillside, which would not be disturbed by the proposed development. One of the stock ponds that provide habitat for the tiger salamander would be filled as part of the golf course. However, these potential impacts would be fully mitigated by the creation of replacement ponds and the preservation of suitable adjacent upland in the permanent open space area of the site, as discussed in Section III. G. *Biological Resources*. With the implementation of these mitigation measures, which would be subject to the approval of the U.S. Fish and Wildlife Service, proposed project would not be in violation of the federal Endangered Species Act.

B. STATE POLICIES

Section 1603 of the State Fish and Game Code

Administered by the California Department of Fish and Game (DFG), Section 1603 applies to private projects which would result in the alteration of bed, channel, or bank of any river, stream or lake and associated riparian corridors. It requires Streambed Alteration Agreements for such activities, with specific requirements for minimizing siltation and restoring damage to riparian habitat.

Consistency: A Section 1603 Streambed Alteration Agreement would be required for the proposed filling and alteration of one of the on-site ponds, and the bridge crossings and minor channel realignments of West Branch Llagas Creek. With the creation of new ponds and the enhancement of riparian habitat on the site as proposed, and with the execution of a Streambed Alteration Agreement, the project would be consistent with Section 1603 of the Fish and Game Code.

Wetlands Policy

The state wetlands policy calls for the protection of marshlands and other designated wetland areas. This policy is administered by the DFG under Sections 1601-1603 of the Fish and Game Code in conjunction with streambed alteration agreements.

Consistency: Compliance with State Wetlands Policy would occur through mitigation for any removal of wetlands as required under the federal Clean Water Act, as discussed above. Mitigations specifically required by DFG would be included as conditions of the Streambed Alteration Agreement. This would ensure that the project is consistent with the State Wetlands Policy.

California Endangered Species Act

The California Endangered Species Act (CESA) was enacted in 1984 to protect rare, threatened, and endangered species in California. These species are defined as species whose continued existence is jeopardized. CESA establishes a policy that state agencies such as DFG should not approve projects that would jeopardize listed species or cause the destruction or adverse modification of essential habitat for listed species.

Consistency: There are no state-listed species known to be present on the site, although there are several state species of special concern present, including the California tiger salamander, the western pond turtle, the American badger, potentially the burrowing owl, and other raptors. Impacts to these species would either be avoided or fully mitigated as discussed in Section III. *G. Biological Resources*. As such, the project would not be in violation of the state Endangered Species Act.

California Clean Air Act

While the state air quality standards have existed for many years, there was no legislative requirement that they be attained until 1988, when the California Clean Air Act was enacted. The Act empowers regional air quality management districts with new authority to design, adopt, implement, and enforce comprehensive plans for attaining and maintaining both the federal and the more stringent state air quality standards by the earliest practical date. Among its provisions, the California Clean Air Act provides air districts with the authority to establish new controls on mobile sources of pollution.

The area-wide plan for the Bay Area required by the California Clean Air Act was adopted in October 1991. The plan proposes the imposition of controls on stationary sources (factories, power plants, industrial sources, etc.) and Transportation Control Measures (TCMs) designed to reduce emissions from automobiles, including indirect sources, such as shopping centers, airports, etc.

Consistency: Since the proposed project would not result in the exceedance of any state air quality standard, development of the site would be consistent with the California Clean Air Act of 1988.

C. REGIONAL PLANS AND POLICIES

Association of Bay Area Governments (ABAG) Environmental Management Plan

ABAG's San Francisco Bay Area Environmental Management Plan was prepared in 1981 to address the issues of regional water quality, water supply, solid waste, and air quality in an attempt to meet state and federal standards. The plan also designates the agencies responsible for executing the appropriate activities.

Consistency: As discussed in this EIR, the proposed project would not result in significant air quality impacts, provides for adequate water supply, and includes mitigations for potential water quality impacts, and provides for the reduction of solid waste generation. As such, the project would be consistent with ABAG's Environmental Management Plan.

ABAG Regional Plan 1990-2010

This plan updates the ABAG Regional Plan 1970-1990, and combines policies from subsequently adopted plan elements and other ABAG actions. This plan describes regional areas, and policies and strategies for regional planning in the Bay Area. A major thrust of the plan is to reduce travel distances by promoting the construction of housing near employment sites, and recreational opportunities near population centers.

Consistency: The proposed project involves the establishment of a public access golf course facility within driving range of the urbanized area of Santa Clara County, which currently has a well-documented shortage of golf courses relative to demand. To the extent that the project would avoid longer distance driving to golfing opportunities further from the urbanized area, it would help implement the ABAG Regional Plan. In addition, the provision of overnight accommodations at the site would reduce trips for those who would otherwise seek lodging off-site, thus having a beneficial effect on overall traffic congestion.

1995 Draft Bay Area Air Quality Management District CEQA Guidelines

The 1995 Draft Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines consist of a comprehensive guide for assessing the air quality impacts of projects and plans. The document contains an overview of air quality programs and standards, and provides criteria for determining significant local and regional air quality impacts. The guidelines define a significant impact on local air quality as a substantial increase in carbon monoxide emissions on the local street network, or exceedance of state and federal carbon monoxide concentration standards. Under these guidelines, project emissions of regional criteria pollutants such as reactive organic gases, oxides of nitrogen (precursors of ozone) and PM-10 (particulates) are considered to be significant if they exceed 80 pounds per day.

Consistency: Based upon the BAAQMD Guidelines, the proposed project would not result in a significant local or regional air quality impact, as discussed in Section III. M. *Air Quality*. Therefore, the project would be consistent with the BAAQMD CEQA Guidelines.

1994 Bay Area Clean Air Plan

The 1994 Clean Air Plan ('94 CAP) establishes regional policies and guidelines to meet the requirements of the 1988 California Clean Air Act. The '94 CAP mandates compliance with the state air quality standards and establishes rates of progress toward this goal. Each non-attainment area is required to submit detailed plans to provide for new control programs and schedules for their implementation.

Consistency: The proposed project would be consistent with the 1994 Clean Air Plan since it would not result in significant increases in air pollution emissions.

Santa Clara County Congestion Management Program

In accordance with Proposition 111, the County of Santa Clara completed preparation of the first Santa Clara County Congestion Management Program (CMP) in 1991 (a revised CMP was adopted in October 1995). The CMP legislation requires that all urbanized counties in California prepare a Congestion Management Program in order to obtain each county's share of the increased gas tax revenues. The CMP legislation requires that each CMP contain five mandatory elements: 1) a system definition and traffic level of service standard element; 2) a transit service and standards element; 3) a transportation demand management and trip reduction element; 4) a land use impact analysis element; and 5) a capital improvement element. Santa Clara County's CMP includes the five mandated elements, in addition to a county-wide transportation model and database element, an annual monitoring and conformance element, and a deficiency plan element.

Consistency: A CMP analysis is required when a project generates more than 100 peak hour trips, and when these trips would affect CMP roadway facilities, which consist of regional roadways. Since the project would generate close to 100 peak hour trips in the p.m. peak hour, the traffic analysis for this project was conducted in accordance with the CMP methodology. (See Section III. K. *Traffic and Circulation*.)

D. SANTA CLARA COUNTY POLICIES AND REGULATIONS

General Plan

The following discussion presents the relevant policies of the Santa Clara County 1995 County General Plan, with an analysis of the project's consistency with the applicable policies. Since the project site is largely within the Hillside designation, the principal measure of GP consistency involves the Hillside policies, as discussed below.

Hillside

The majority of the project site is designated "Hillside" on the Land Use Plan of the Santa Clara County 1995 General Plan. The "Hillside" policies applicable to the project are as follows:

- R-LU 16 Hillside: Mountainous lands and foothills unsuitable and/or unplanned for annexation and urban development. Lands so designated shall be preserved largely in natural resource-related and open spaces uses in order to:
- a. support and enhance rural character;
 - b. protect and promote wise management of natural resources;
 - c. avoid risks associated with the natural hazards characteristic of those areas; and
 - d. protect the quality of reservoir watersheds critical to the region's water supply.
- R-LU 18 The range of allowable land uses shall consist of:
- a. agriculture and grazing;
 - b. mineral extraction;
 - c. parks and low-density recreational uses and facilities;
 - d. land in its natural state;
 - e. wildlife refuges;
 - f. very low density residential development; and
 - g. commercial, industrial, or institutional uses, which by their nature

- 1) require remote, rural settings; or
- 2) which support the recreational or productive use, study or appreciation of the natural environment.

R-LU 19

The standard allowable density of residential development shall be that of one dwelling unit per 160 acres, unless the development is proposed as a "cluster development." If development is proposed as a residential cluster, the allowable density shall be as determined by the "20-160 acre variable slope-density formula." Residential development proposals must be designed as a cluster in order to utilize the 20-160 acre variable slope-density formula.

- a. If the average slope of the parcel is 10% or less, the average area per dwelling unit shall be 20 acres.
- b. If the average slope of the parcel is 50% or above, the average area per dwelling unit shall be 160 acres.

R-LU 20

Proposed cluster residential developments shall adhere to the following:

1. Developed Area: the building envelopes for all residences and the locations of all other permitted uses proposed as accessory structures shall be specified in the design, the combined area of which shall not exceed 10% of the gross acreage of the site:
 - a. if the property is under Land Conservation (Williamson Act) contract, the contract must be canceled or modified to exclude the portion of the site that is to be developed;
 - b. no individual parcel created for residential development shall be less than 2 acres in size;
 - c. the open space area shall be privately controlled and not accessible to the public unless the area is deeded to a public agency or entity willing to undertake responsibilities of ownership, maintenance, and public access [designated trail corridors may traverse such areas if proposed as part of the Regional Parks, Trails, and Scenic Highways Plan]; and
 - d. land uses allowed within the area dedicated as permanent open space shall be limited to agricultural or other limited resource-related uses, and to non-commercial recreational facilities of an ancillary nature to the cluster residential development and for use by residents only.
2. Open Space: it is mandatory that no less than 90% of the land area shall be preserved permanently as open space through dedication of an open space or conservation easement precluding any future development:
 - a. those portions of the land permanently preserved as open space shall be configured as large, contiguous and usable areas;
 - b. the open space may be dedicated through easements over portions of individually-owned parcels or may be configured as separate parcels owned in common or individually.

R-LU 21

Design of the cluster development shall incorporate the following basic principles:

1. Site layout shall demonstrate efficiency in the location and length of roadways, drive-ways, and other basic infrastructure improvements or extensions.
2. Roads shall be of adequate design, capacity, and construction to accommodate traffic associated with the development safely, efficiently, and with minimal long term maintenance needs.
3. The locations of roads, building sites, septic system leach fields, or their major features of development must be accurately identified on the proposed subdivision map, and they shall:

- a. avoid areas of natural hazards and avoid adverse impacts upon natural and heritage resources.
 - b. be required to mitigate or reduce potentially significant adverse environmental impacts to an insignificant level, particularly regarding water quality, through such means as adequate setbacks from water resources, avoidance of areas with high percolation rates and/or high ground water tables.
4. Building sites and access roads should be located such that areas of the site which pose a significant hazard, such as landslides, very steep slopes, fault traces, or floodways, are placed within the portion of the site that is dedicated as permanent open space.
 5. Roads, building sites, and other facilities shall not be allowed to create major, lasting visible scars on the landscape.
 6. Structures on or near ridgelines shall be located, constructed, and/or landscaped so that they do not create a significant adverse visual impact as seen from the Valley floor.

R-LU 25 Non-residential land uses allowed in "Hillsides" areas shall be of a generally low density or low intensity nature, depending on the use, as is consistent with the basic intent of the Hillsides designation to preserve the resources and rural character of the land. Non-residential uses shall:

- a. avoid or minimize any potentially significant adverse environmental impacts;
- b. provide adequate access to safely accommodate potential traffic without significantly impacting local transportation routes;
- c. demonstrate no significantly increased risks associated with natural hazards;
- d. not create adverse visual impacts as viewed from the Valley floor or from adjacent public recreational areas; and
- e. cause no significant increase in the demand for public services or infrastructure, including potential impacts on school districts.

R-LU 27 Land uses proposed for inclusion within the Hillside zoning district may be evaluated for conformity with the intent of this land use designation by various measures of land use intensity, including but not limited to:

- a. wastewater generation rates;
- b. traffic generation rates;
- c. extent of grading, vegetation removal, drainage modifications, or other alteration of the natural environment; and
- d. noise or other nuisance potential.

R-LU 28 For all uses allowed in Hillsides areas other than agricultural and single-family residential land uses, open space preservation by means of easement dedication may be required in order to:

- a. protect the public health, safety and general welfare;
- b. prevent or mitigate potentially significant adverse environmental impacts; and/or
- c. to create perimeter areas that adequately buffer neighboring properties from adverse off-site impacts of the proposed land use.

R-LU 29 The nature and duration of an open space or conservation easement shall be commensurate with:

- a. the nature of the land use;

- b. the duration to which that use has been entitled through County permitting procedures; and
- c. the extent of alterations made to the natural landscape.

Analysis: The majority of the project site is designated Hillside under the County's Land Use Plan. First and foremost, the project conforms with the applicable provisions of the General Plan and Hillside zoning ordinance governing allowable uses for areas designated Hillside. The proposed golf course represents a low-intensity, low-density recreational land use as prescribed in the Resource Conservation Area and Hillside policies of the General Plan and the Hillside zoning ordinance, which allows such uses with securing of a conditional use permit. The golf course would utilize and complement the existing rural, open space character of the project site, also in conformance with the intent of the General Plan and Hillside zoning ordinance.

Secondly, the project's proposed Hillside residential cluster subdivision conforms precisely with the General Plan policies and zoning ordinance provisions governing maximum allowable density of development. Application of the Hillside 20-160 acre slope-density formula to the project results in an average area per dwelling unit of approximately 35 acres. Clustering of the project site's Hillside residential development potential allows for efficient design and infrastructure patterns, minimal visual and environmental impacts, and preservation of the vast majority of the project site's 1600+ acres in permanent open space, as intended by the Hillside policies of the General Plan. The location of the clustered residential development is the environmentally superior choice of alternative locations within the overall project site, and furthermore maximizes the functional value and contiguity of open space lands, consistent with the intent of Hillside policies. The project also includes permanent open space dedication for over 90 percent of the Hillside-designated areas, exclusive of the golf course itself, as required by the General Plan and Hillside zoning ordinance for clustered subdivision proposals.

Thirdly, the project would not result in significant impacts to the environment and would not generate a significant increase in demand for public services, as discussed in detail in this EIR.

Fourthly, the design of the Hillside cluster subdivision conforms with the policies and ordinance provisions intended to govern the design of such projects, as found within the Hillside General Plan policies, and the Hillside and Cluster ordinances (Articles 14 and 52). Further, detailed conformance with the intent of applicable policies is to be achieved through the design and conditions applied to the actual cluster subdivision required of such a project.

Fifth, the proposed ancillary development to the golf course, particularly the clubhouse/overnight accommodations, conforms with the intent of the General Plan and Hillside zoning ordinance that such developments be low in density and intensity, in keeping with the rural character of the area, and of design and location which blends harmoniously with the natural setting. The project involves 45 units of overnight accommodations. That number of units is not inconsistent with the scale of the overall project, and the proposal to situate units on the side of the lower foothills minimizes their intrusiveness and bulk. The clubhouse/overnights facility is of a clustered, unified design, rather than a scattered, sprawling layout, further consistent with the intent of GP policy and zoning. Further detailed conformance with the intent of this policy is to be achieved through architectural and site review procedures subsequent to use permit approval.

The project is the first proposed golf course to take advantage of the provision of the Hillside ordinance which allows overnight accommodations in conjunction with the project. As such, the approval of a project of this nature with the proposed number of units could potentially serve as precedent for other similar uses proposed for rural hillside areas which also involve overnight accommodations. Such uses currently allowed under Hillside zoning include "hostels, lodges, group retreats, education retreats, guest ranches, and campgrounds..." In recognition of the need for standards defining the maximum allowable density of development for such uses, the

General Plan includes recommendation R-LU(i) 9 and 10 for studies to determine allowable densities of uses which involve overnight accommodations.

Until those studies are completed and their recommendations implemented through new policies or regulations, the number of overnight accommodations approved for the Lion's Gate project will stand as the only benchmark of what the County considers an "appropriate" development density for such uses. To reiterate, the current policy of the General Plan and the Hillside zoning ordinance require that the number of overnight units proposed be consistent with the scale of overall project. The Lion's Gate proposal does not conflict with this policy, but it must be recognized that approval of the Lion's Gate project makes it even more incumbent upon the County to perform the studies called for in the General Plan before additional proposals are made. [Note: an interpretation by the Board of Supervisors in 1995 permitted the Lion's Gate and Los Gatos County Club golf course projects from having to be held up until such time as the County undertakes the studies described in R-LU(i) 9].

Sixth, the project proposes no dedication of development rights, conservation or open space easements over the lands intended for the golf course. GP policy states that such open space dedication is not mandatory, but may be required for public health and safety reasons, to mitigate environmental impacts of the course design, and to create perimeter buffer areas with neighboring properties as needed to prevent off-site impacts of the project, if any. As none of these preconditions or prerequisites exist which would require dedication of development rights or other means of open space preservation for the golf course itself, no easements are proposed, consistent with the intent of Hillside policy on the subject.

Agriculture

Approximately 260 acres of the project site is designated "Agriculture-Medium Scale" by the General Plan's Land Use map. Of the two parcels designated Agriculture, one abuts Watsonville Road at the northwestern end of the Lion's Gate project site, while the other abuts Turlock Avenue at the southeast corner of the project site (see Figure 8). The project proposes that each of these parcels' designation be changed from Agriculture-Medium Scale to Hillside, in order to facilitate the clustering of the permitted residential density for the site on the most suitable areas for development, and to preserve the central and westernmost portions of the site in open space.

Currently applicable policies governing areas designated Agriculture include the following:

- | | |
|---------|--|
| R-LU8 | Santa Clara County is enriched by a special combination of the very finest soils, a very favorable, dependable growing climate, and generally adequate water supplies. Lands in agricultural uses contribute to the economy and quality of life enjoyed by county residents. This combination of factors makes it highly desirable that certain lands be preserved for their intrinsic value as agricultural land and for productive agricultural land uses. |
| R-LU 10 | Lands designated Agriculture include those having Class I, II and III soils which generally have been in agricultural production and where agricultural uses are most appropriate. |
| R-LU 11 | Allowable land uses shall be limited to: <ul style="list-style-type: none">a. agriculture and ancillary uses;b. uses necessary to directly support local agriculture; andc. other uses compatible with agriculture which clearly enhance the long term viability of local agriculture and agricultural lands. |
| R-LU 15 | For areas designated 'Agriculture-Medium Scale', minimum parcel sizes shall be no less than 20 acres. |

Analysis: The overall project and proposed change of land use designation for the 115-acre parcel along Watsonville Road would effectively result in no change from the current on-site land use which is grassland for grazing. This parcel has never been in cultivation for any crop other than hay, and will remain as grasslands available for hay cultivation. The subdivision and development potential for this property is the same under either the Agriculture or Hillside land use designation, by virtue of its having an average slope of 10% or less overall. The benefit of the proposed change of designation is that all development potential may be transferred to a more preferable site for clustered residential development, leaving the 115-acre parcel in permanent open space. Without the change of land use designation, this marginally viable agricultural area along Watsonville Road, situated between scattered pockets of Rural Residential areas, might well become developed in time with inefficient 20-acre estate home sites, as agriculture and uses supportive of agriculture become less common in the northern Watsonville Road corridor. Consequently, under the proposed project, the change of land use designation is in actuality consistent with the intent of County policy that agricultural and open space lands remain in rural and in open space uses. The effect of this change is that the parcel would be preserved in its undeveloped state, and uses would be far more restricted than under the current designation and zoning for the land.

Regarding the 144-acre parcel at the southeast end of the site adjacent to Turlock Avenue, the change of land use designation is proposed in order to utilize the most suitable area within the project site for most of the proposed clustering of residential home sites. The proposed development of this parcel of land would result in the loss of approximately 100 acres of prime farmland. The impact of this loss is reduced by the fact that agricultural cultivation of this site is no longer economically feasible. (See Section III. B. *Agriculture* for a full discussion.) Furthermore, this site is isolated relative to other areas designated for Medium Scale Agriculture, and lands to the east within San Martin are designated for mixed agriculture, and residential development under the County's Rural Residential designation, indicating that medium-scale agriculture in the general vicinity does not have a long-term future under current County policy. Instead, small scale agricultural uses and residential "ranchettes" predominate the San Martin area. To the south of the southeastern boundary of the site, there is a narrow strip of land along the base of hillside area that is designated "Agriculture-Medium Scale." This area is currently in pasture and horse ranches. Thus the change to "Hillside" on the project site is unlikely to affect agricultural production on these lands, since they are currently not in cultivation.

To reiterate, the purpose of the General Plan Amendment is to allow partial clustering of the permitted density under the Hillside designation onto the eastern Am parcel of the project site. Under the proposed project, the portion of this parcel nearest to Turlock Avenue would become a buffer zone, thus minimizing potential interface impacts with ongoing agricultural operations to the east. This would allow the central portion of the Lion's Gate site to be developed for only the golf course and related facilities. Due to the flatness of the Am areas of the site, the overall density permitted under the Hillside designation would be the same as the under the existing Am designation at 20 acres minimum. The ability to keep residential uses out of the central area of the site would be more efficient in terms of provision of internal roads and utilities, and would be beneficial for wildlife (e.g., allow maximum protection of upland habitat for the California tiger salamander and the western pond turtle, minimize the removal of valley oak trees, and generally minimize mortality and disturbance to wildlife.)

In summary, while the proposed project includes a change of land use designation which would result in the conversion of agricultural land to a developed state, the net overall value of this conversion may be beneficial rather than adverse.

Resource Conservation Areas

The "Hillside" and "Agriculture" designations of the General Plan fall under a broader category of land uses designated as "Resource Conservation Areas" which encompasses all non-urban or rural land uses. Other land use designations within this category include Baylands and Ranchlands, among others. The relevant Resource Conservation Area policy states:

- R-LU 3 The general intent of each "Resource Conservation Area" designation is to encourage land uses and densities appropriate to the rural unincorporated areas that also:
- a. help preserve rural character;
 - b. conserve natural, scenic, and cultural resources;
 - c. protect public health and safety from natural and man-made hazards;
 - d. preserve agriculture and prime agricultural soils;
 - e. protect watersheds and water quality;
 - f. enhance air quality; and
 - g. minimize the demand for and cost of public services and facilities.

Analysis: The proposed golf course and residential development represents a low-intensity land use which would help preserve the rural character of the site, as well as conserve scenic and natural resources while protecting users and residents from natural and man-made hazards. In particular, the clustering of the proposed residential subdivisions outside the valley itself, and the preservation of over 1,200 acres of the site as permanent open space, would minimize the loss of trees, wetlands and upland habitat for the California tiger salamander and western pond turtle, as well as minimizing direct mortality and disruption to wildlife generally. The proposed project would therefore be consistent with the Resource Conservation Areas policies of the General Plan.

Rural Residential Areas

The 32-acre portion of the site located just west of Coolidge Avenue (Santa Teresa Boulevard) and north of Highland Avenue is designated Rural Residential on the Land Use Plan of the 1995 General Plan. The "Rural Residential Areas" policies applicable to the project are as follows:

- R-LU 57 Residential, agricultural and open space uses are the primary uses. Commercial, industrial and institutional uses may be established only where they serve the needs of the resident population and result in a net overall reduction of travel demand.
- R-LU 58 The allowable density of development shall be 5-20 acres per dwelling, depending upon the average slope of the land, as based upon the County's "5-20s" slope density formula. Minimum parcel size shall be 5 acres, unless development is proposed as a cluster subdivision. (See R-LU 59-60)
- R-LU 59 Residential development may be clustered, provided that the open space portions of the development are protected as permanent open space.
- R-LU 60 The minimum parcel size within a Rural Residential cluster subdivision shall be no less than 1 acre (density to be determined by 5-20 acre variable slope density formula).

Analysis: The cluster subdivision proposed for the Rural Residential area of the project site conforms with the applicable General Plan policies listed above.

Parks and Recreation

The General Plan policies on Parks and Recreation are applicable to the proposed project are set forth below. (It should be noted that the Countywide Trails Master plan, which is an element of the General Plan, is discussed in a subsequent subsection.)

Regional Parks and Public Open Space Lands

- R-PR 14 Privately-owned recreational lands uses and facilities within rural unincorporated areas, including but not limited to golf courses, campgrounds, recreation vehicle (RV) parks, and similar uses, should be compatible with the landscape and resources of the areas in which they are proposed. To ensure such compatibility, potentially significant impacts often associated with such land uses should be avoided or reduced to less than significant levels, including:
- a. water demand;
 - b. traffic generation;
 - c. wastewater generation and disposal;
 - d. alteration of natural topography, drainage patterns, habitat, or vegetative cover;
 - e. use of harmful chemicals, such as pesticides, and herbicides;
 - f. riparian area or heritage resource impacts;
 - g. loss of prime soils or other impacts upon local agriculture;
 - i. visual impacts; and
 - j. impacts on public services and facilities, including schools.
- R-PR 15 In addition to review of environmental impacts, review of proposed golf courses and ancillary uses shall also take into account the following:
- a. any pertinent joint City-County area plans;
 - b. applicable land use or other General Plan policies of the proximate city(s);
 - c. the location of the proposed site relative to city Urban Service Areas; and
 - d. the intended scale or "service area" of the proposed golf course (i.e., intended to primarily serve a local community or intended to serve users from a larger service area).

Analysis: The golf course element of the proposed project would be compatible with the landscape and resources of the area, and would mitigate or avoid the potential environmental impacts listed in policy R-PR 14. (Note: The golf course itself would not involve lands designated as "prime farmland".) Therefore, the proposed project would be consistent with the General Plan policies listed above.

Scenic Highways

The Regional Parks, Trails, and Scenic Highways element of the County General Plan designates Coolidge Avenue, Turlock Avenue, and the connecting segment of Highland Avenue at the eastern end of the side, and Watsonville Road at the western end of the site as scenic routes. The applicable General Plan policies on Scenic Highways are as follows:

- P-PR 39 The natural scenery which exists along many of Santa Clara County's highways should be protected from land uses and other activities which would diminish the aesthetic beauty.
- P-PR 40 Land use should be controlled along scenic roads so as to relate to the location and functions of these roads and should be subject to design review and conditions to assure the scenic quality of the corridor.
- P-PR 43 Signs should be strictly regulated, with off-site signs and billboards prohibited along scenic routes.

- P-PR 45 New structures should be located where they will not have a negative impact on the scenic quality of the area, and in rural areas they should generally be set back at least 100 feet from scenic roads and highways to minimize their visual impact.
- P-PR 46 Landscaping with drought-resistant native plants should be encouraged adjacent to scenic roads and highways.
- P-PR 47 Activities along scenic highways that are of a substantially unsightly nature, such as equipment storage or maintenance, fuel tanks, refuse storage or processing and service yards, should be screened from view.

Analysis: In the areas of the project site adjacent to these designated scenic roadways, open space buffers would be created. Along Coolidge Avenue, the Rural Residential cluster subdivision would be set back 300 feet from the roadway and would replace the declining plum and walnut trees with a landscaped berm and vineyards to provide visual screening and preserve the existing rural atmosphere. Along Turlock Avenue to the south, the Hillside cluster subdivision would be set back 200 to 1,400 feet from the roadway and would have a landscaped berm planted with Black Walnuts to provide further screening. Along Watsonville Road to the west, the golf course would be approximately one mile east of the roadway, and would be visually screened by a low topographical saddle across the valley. Any signs, fences or entry features near the project entrance on Highland Avenue would be subject to design review which would ensure that they are designed to be unobtrusive and aesthetically harmonious with the scenic quality of the setting. In consideration of the above, the project would be consistent with the Scenic Highways policies of the General Plan.

Resource Conservation

Water Supply, Quality, and Watershed Management

The following General Plan policies on water supply and quality are applicable to the project:

- R-RC 8 The strategies for assuring water quantity and quality for the rural unincorporated areas shall include:
- a. Require adequate water quantity and quality as a pre-condition of development approval.
 - b. Reduce the water quality impacts of rural land use and development.
 - c. Develop comprehensive watershed management plans.
- R-RC 9 Development in rural unincorporated areas shall be required to demonstrate adequate quantity and quality of water supply prior to receiving development approval.
- R-RC 10 For lands designated as Resource Conservation Areas (Hillsides, Ranchlands, Agriculture, and Baylands) and for Rural Residential areas, water resources shall be protected by encouraging land uses compatible and consistent with maintenance of surface and ground water quality.
- a. Uses that pose a significant potential hazard to water quality should not be allowed unless the potential impacts can be adequately mitigated.
 - b. The amounts of impervious surfaces in the immediate vicinity of water courses or reservoirs should be minimized.

- R-RC 13 Sedimentation and erosion shall be minimized through controls over development, including grading, quarrying, vegetation removal, road and bridge construction, and other uses which pose such a threat to water quality.
- R-RC 14 Use and disposal of agricultural chemicals, such as fertilizers, pesticides and herbicides, shall be managed to minimize the threat of water pollution.

Analysis: The proposed project includes provisions for adequate water supply and the acceptable functioning of wastewater disposal systems (see Sections III. P. and Q. of this EIR), in addition to mitigation measures to minimize degradation of surface and groundwater quality during the construction phase and in the operation of the golf course. Therefore, the project would be consistent with these water-related Resource Conservation policies of the General Plan.

Habitat and Biodiversity

The following General Plan policies on Habitat and Biodiversity are applicable to the project:

- R-RC 37 Riparian and freshwater habitats shall be protected through the following general means:
- a. setback of development from the top of the bank;
 - b. regulation of tree and vegetation removal;
 - c. reducing or eliminating use of herbicides, pesticides, and fertilizers by public agencies;
 - d. control and design of grading, road construction, and bridges to minimize environmental impacts and avoid alteration of the streambed and stream banks (free-span bridges and arch culverts, for example); and
 - e. protection of endemic, native vegetation.
- R-RC 37 Lands near creeks and streams shall be considered to be in a protected buffer area, consisting of the following:
- a. 150 feet from the top bank on both sides where the creek or stream is predominantly in its natural state;
 - b. 100 feet from the top bank on both sides of the waterway where the creek or stream has had major alterations; and
 - c. In the case that neither (a) nor (b) are applicable, an area sufficient to protect the stream environment from adverse impacts of adjacent development, including impacts upon habitat, from sedimentation, biochemical, thermal and aesthetic impacts.
- R-RC 38 Within the aforementioned buffer areas, the following restrictions and requirements shall apply to public projects, residential subdivisions, and other private non-residential development:
- a. No building, structure or parking lots are allowed, exceptions being those minor structures required as part of flood control projects.
 - b. No despoiling or polluting actions shall be allowed, including grubbing, clearing, unrestricted grazing, tree cutting, grading, or debris or organic waste disposal, except for actions such as those necessary for fire suppression, maintenance of flood control channels, or removal of dead or diseased vegetation, so long as it will not adversely impact habitat value.
 - c. Endangered plant and animal species shall be protected within the area.

- R-RC 39 Within areas immediately adjacent to the stream buffer area, new development should minimize environmental impacts on the protected buffer area, and screening of obtrusive or unsightly aspects of a project should be considered as a means of preserving the scenic value of riparian areas.
- R-RC 43 Large scale grading and clearing of land should not be allowed if it will significantly degrade valuable habitat or impair surface water quality.
- R-RC 44 Healthy, mature specimen trees should be protected from cutting.
- R-RC 47 Impacts from new development on woodland habitats should be minimized by encouraging:
- a. clustering of development to avoid critical habitat areas, where clustering is permitted;
 - b. inclusion of important habitat within open space areas for projects requiring open space dedication;
 - c. siting and design of roads, utility corridors and other infrastructure to avoid fragmentation of habitat; and
 - d. acquisition or avoidance of critical habitat areas.
- R-RC 49 Retention and planting of native plant species shall be encouraged, especially for landscape uses.
- R-RC 51 Preservation of habitat linkages and migration corridors should be encouraged where needed to allow for species migration, prevent species isolation, and otherwise compensate for the effects of habitat fragmentation.

Analysis: The proposed project has been designed to minimize impacts on biological resources. The extensive oak woodlands covering the southern areas of the site would be largely avoided by the project, with the possible exception of two proposed lots where limited tree removal would likely occur (although the building envelopes for these lots contain minimal tree cover). The ecologically sensitive serpentine grasslands on the northeastern hillsides would also be avoided and protected with perimeter fencing to prevent incursions by construction activity and future residents. The on-site creek would not be altered except for bridge crossings and minor channel realignments, and would be subject to a comprehensive riparian restoration and enhancement plan. The large specimen riparian trees would be preserved and incorporated into the project design. Very limited tree removal (i.e., 18 trees) is proposed only where it is unavoidable for project feasibility.

General Plan policy R-RC 37 recommends 150-foot setbacks for creeks which are predominantly in their natural state, and lesser setbacks for altered streams, and establishes environmental performance measures for development along degraded or altered streams. The County's interim Environmental/Design Guidelines for Golf Courses indicates a setback of 75 to 150 feet for structures, paved roadways and parking areas. Since the quality of the riparian habitat on-site has been degraded due to many years of livestock grazing, smaller buffers than 150 feet are appropriate for the project. The nearest proposed paved areas would be the clubhouse parking areas, which are proposed at a minimum of 75 feet from the creek bank. In addition, all parking lot runoff would be piped to off-channel retention basins and would not be allowed to enter the creek. With the exception of roadway crossings, no other structures or paved areas would be located within 150 feet of the creek channel. Most of the proposed turf areas would also be set back at least 75 feet from creek banks, although in a few instances the edge of turf is proposed as close as 25 feet from the channel. The biological report for the project states since that the value of much of the riparian habitat along the creek has been degraded, setbacks as small as 10 feet would be appropriate to protect habitat values in given situations. (It is important to note that the 10-foot minimum setback applies only to turf and rough areas. These turfed areas adjacent to the riparian corridor are used by wildlife, and thus would not inhibit wildlife movement along the creek.) Impacts to the affected streambeds and

riparian zones would be minimized through selection of the least intrusive bridge designs and construction methods. The project would include an extensive replanting and riparian enhancement program, including the planting of over 1,700 sycamores and 454 valley oaks, many of which would be planted along the main creek channel and tributary drainages. The replacement trees were grown from acorns and seeds collected from the Lion's Gate site. Enhancement of the riparian areas would also be facilitated by discontinuation of the cattle grazing. With the incorporation of the proposed setbacks, drainage measures and habitat enhancement plan, the Lion's Gate project would meet the intent of the General Plan to protect the stream environment from adverse impacts. In consideration of the above, the project would be consistent with the Habitat and Biodiversity policies of the General Plan.

Agriculture and Agricultural Resources

The following General Plan policies on agricultural resources are applicable to the project:

- R-RC 57 Agriculture shall be encouraged and prime agricultural lands retained for their value to the overall economy and quality of life of Santa Clara County, including:
- a. local food production capability;
 - b. productive use of lands not intended or suitable for urban development; and,
 - c. preservation of a diminishing natural resource, prime agricultural soils.

Analysis: As discussed previously under "Agriculture," the project would result in the loss of approximately 110 acres of "prime farmland" on the site. The impact of this loss is somewhat reduced by the fact that agricultural production is no longer economically viable on this site, and by the fact that the project includes the planting of 110 acres of vineyards in areas not currently under cultivation. The development of this area with a cluster residential subdivision would be preferable to the creation of seven 20-acre residential lots, as currently permitted, which would be a wasteful use of this land, and also would not result in the creation of an economically viable unit for agricultural production. By clustering the residential lots on the western portion of this parcel, and thereby creating an open space buffer at the edge of the project, the potential interface conflicts with agricultural operations to the east would be minimized.

Scenic Resources

The Regional Parks, Trails, and Scenic Highways element of the County General Plan designates Coolidge Avenue, Turlock Avenue and Watsonville Road as County scenic routes in the project vicinity. The following General Plan policies on scenic resources are applicable to the project:

- R-RC 97 Hillsides, ridgelines, scenic transportation corridors, major county entryways, stream environments, and other areas designated as being of special scenic significance should receive utmost consideration and protection due to their prominence, visibility, and overall contribution to the quality of life in Santa Clara County.
- R-RC 99 Signs allowable under the provisions of the zoning ordinance should be harmonious with the character of the area in which they are located and should be of the highest design standards.
- R-RC 100 Roads, building sites, structures and public facilities shall not be allowed to create major or lasting visible scars on the landscape.
- R-RC 101 Structures on ridgelines must be located, constructed or landscaped so that they do not create a major negative visual impact from the valley floor. Land should be divided in such a way that building sites, if possible, are not located on ridgelines.

R-RC 102 Development in rural areas should be landscaped with fire resistant and/or native plants which are ecologically compatible with the area.

Analysis: Most of the project would not be visible from off-site vantage points. Landscaped berms along the eastern frontage would screen much of the residential development from the east. In addition, the residential subdivisions would be clustered and set back away from public roadways behind buffer zones such that the overall effect of the project would be very unobtrusive to the overall rural scene.

Health and Safety

Noise

The following noise policies of the General Plan are applicable to the project:

- R-HS 1 Significant noise impacts from either public or private projects should be mitigated:
- R-HS 3 New development in areas of noise impact (areas subject to sound levels of 55 DNL or greater) should be approved, denied, or conditioned so as to achieve a satisfactory noise level for those who will use or occupy the facility (as defined in "Noise Compatibility Standards for Land Use" and "Maximum Interior Noise Levels for Intermittent Noise"). (The above referenced tables, found on pages B-53 and B-54 of the General Plan, contain detailed noise standards for various land uses.)

Analysis: As discussed in Section III. L. Noise, the potential traffic noise impacts along the eastern project frontage, north of Highland Avenue, would be largely avoided by clustering the Rural Residential development beyond the noise impact zone of Coolidge Avenue, as proposed. Potential noise impacts from construction equipment and power mowers would be mitigated. Thus, the project would be consistent with the Noise policies of the General Plan.

Natural Hazards

The following General Plan policies on Natural Hazards apply to the project:

- R-HS 9 Development in rural unincorporated areas affected by natural hazards should be designed, located, and otherwise regulated to avoid or reduce associated risks to an acceptable level:
- a. In areas of highest potential hazard, such as floodways, active landslides, fault traces, and airport safety zones, no new habitable structures shall be allowed.
 - b. In other areas of lesser hazards, there shall be no major structures for involuntary occupancy, such as schools, hospitals, correctional facilities or convalescent centers.
- R-HS 16 No new building site shall be approved on a hazardous fault trace, active landslide, or other geologic or seismic hazard area that poses a significant risk.
- R-HS 27 The County should encourage the use of fire-retardant building materials and landscaping not already required by County development and building codes when new development and rebuilding are proposed in areas of high or extreme fire hazard.

Analysis: No new structures are proposed in the vicinity of known active fault traces or landslides. The surrounding hillsides have areas of potential and existing slope stability problems which may be subject to occurrences of landsliding or debris flows, potentially resulting in hazards to proposed structures sited within or

downslope of such areas. In addition, some proposed structures may be located near inactive fault contacts that could undergo sympathetic movement during a major earthquake. Potential damage from landslides would be avoided by setting structures back from known landslide deposits, by repairing landslides, or by implementing other slope stabilization measures. Earthquake damage would be avoided by setting structures back from fault traces if necessary, subject to the recommendations of the subsequent design-level geotechnical studies. All construction and grading would be performed in conformance with the detailed geotechnical recommendations.

The potential for shallow flooding at the eastern end of the site would be mitigated by the creation of a 20-acre lake for stormwater detention, by establishing dwelling pads above 100-year flood elevations, and by designing the project to allow for unobstructed passage of flood waters. Fire hazards would be avoided or mitigated through compliance with applicable codes and Fire Marshal's conditions. These would include provision of adequate water storage and fire flows, installation of hydrants, automatic sprinkler systems, spark arresters for chimneys, fire retardant roofing materials and keeping combustible vegetation a minimum distance from structures. In consideration of the above, the project would minimize the effects of potential natural hazards on the site, and thus would be consistent with the Natural Hazards policies of the General Plan.

Wastewater Disposal

The following General Plan policies on Wastewater Disposal are applicable to the project:

- R-HS 42 All new septic systems shall be located only in areas where:
- a. there is reasonable assurance that they will function effectively over a long period;
 - b. they can be designed to have a minimum negative impact on the environment; and
 - c. they will not contaminate wells, or surface and groundwater supplies.
- R-HS 43 Septic systems shall not be allowed where site characteristics impede their operation, including sites with:
- a. high groundwater conditions;
 - b. highly permeable soils where wastewater will percolate in excess of one minute per inch;
 - c. limited depth to bedrock; or
 - d. gradients in excess of 20% without appropriate studies.
- R-HS 44 Alternative or specially engineered wastewater systems may be allowed for commercial or industrial uses, providing:
- a. the County has approved a program which ensures that the system's long term maintenance, operating, monitoring and liability costs are provided for by the owner of the facility;
 - b. the proposed system has a track record of safe and effective long term operation under conditions similar to those in Santa Clara County;
 - c. the proposed system includes adequate measures to prevent environmental damage in the event of system failure;
 - d. is appropriate to the site for which it is proposed;
 - e. is in compliance with all the other pertinent County policies and regulations; and
 - f. with Regional Water Quality Control Board wastewater discharge requirements.
- R-HS 45 Alternative wastewater treatment and disposal systems may be allowed for individual residential development only if:
- a. a traditional septic system adequate to serve the proposed development could be constructed, if needed;

- b. it can be shown that the alternative system will function more effectively than a septic tank system and be beneficial to the environment;
- c. the density of the proposed residential development is consistent with the density normally allowed within that property's General Plan land use designation;
- d. the proposed system has a track record of safe and effective long term operation under conditions similar to those in Santa Clara County;
- e. the proposed system is in compliance with all other pertinent County policies and regulations;
- f. the system is appropriate to the site for which it is proposed;
- g. the proposed system includes adequate measures to prevent environmental damage in the event of system failure, such as discharge of inadequately treated effluent to the land (e.g., surface, lakes, streams, etc.);
- h. the proposed system will operate in full compliance with Regional Water Quality Control Board waste water discharge requirements; and
- i. the County has approved a program which ensures that the system's long term maintenance, operating, monitoring and liability costs are provided for by the owner of the facility. Such a program may include, but is not limited to, recorded contractual obligations, permit fees or insurance policies; special permit conditions; and, performance bonds for system replacement.

R-HS 46 Alternative waste water disposal systems intended to serve two or more residences may be allowed only if:

- a. they comply with all provisions of the preceding policy; and
- b. there exists an appropriate public entity which has agreed to, and is financially able to, assume full responsibility for the system's long term maintenance, operating, monitoring and liability costs.

Analysis: The proposed wastewater treatment facilities conform with the above policies in all respects. If necessary, a traditional septic system could be constructed to serve the residential development. However, given the historically high nitrate levels in the Llagas Groundwater Basin, it would be beneficial to the environment to utilize the proposed alternative system here instead. (See Section III. Q. *Wastewater Treatment and Disposal* for a detailed discussion of the proposed treatment system.)

The wastewater system proposed for the project would require the approval of the County Department of Environmental Health and the Central Coast Regional Water Quality Control Board, which would in effect implement the above policies. Therefore, the project would be consistent with the Wastewater Disposal policies of the General Plan.

San Martin Planning Area Policies

The easterly 176 acres of the project site along Coolidge Avenue and Turlock Avenue lie within the San Martin Planning Area. The following San Martin Planning Area policies of the General Plan are applicable to the proposed project.

Allowable Densities and Minimum Parcel Sizes

R-LU 138 The density of development for lands designated 'Rural Residential' within the San Martin Area shall be as determined by the "5-20 acre variable slope density formula."

- R-LU 139 The density of development for lands designated other than 'Rural Residential' within the San Martin Planning Area shall be determined by the allowable densities of their base General Plan land use designation.
- R-LU 140 Residential development within the Rural Residential Areas of San Martin shall be allowed to cluster provided that the open space portions of the development are protected as permanent open space. The minimum parcel size within a rural residential cluster subdivision shall be no less than 1 acre.

Agricultural Land Uses

- R-LU 141 Agricultural uses should be encouraged to continue.
- R-LU 142 New development should be compatible with existing agricultural uses.

Analysis: The 32-acre area designated Rural Residential along Coolidge Avenue reflects the permitted density prescribed by policy R-LU 138, and is proposed to be clustered as permitted under policy R-LU 139, with the open space area protected as permanent open space. The 144-acre area along Turlock Avenue to the south would be permitted to be subdivided into seven 20-acre lots under both existing "Am - Agriculture-Medium Scale" General Plan designation and the proposed "Hillsides" designation. The clustering provision applicable to the "Hillsides" designation would actually allow density from the adjacent Hillside areas to be clustered onto this parcel, and would also allow the residential lots to be set back from adjacent farmlands, which would be consistent with the agricultural protection policies of R-LU 141 and 142.

South County Joint Area Plan Policies

The South County Joint Area Plan includes the Cities of Morgan Hill and Gilroy, and the unincorporated areas of the County south of San Jose's Sphere of Influence. The intent of the Joint Area Plan is to provide for orderly urban growth and development in a manner which is consistent with the ability to provide public facilities and services. The applicable policies of the Joint Area Plan are as follows:

- SC 1-7 Urban development should occur in the cities in an orderly and contiguous pattern, managed and scheduled consistent with the ability to provide public facilities and services. Land uses in rural areas should be low-intensity and limited in number. Public services to rural areas should be appropriately limited.
- SC 1-10 Urban development should occur only in the cities and where the full array of urban services can be provided.
- SC 1-11 Those public services which are provided to rural areas by the County or special districts should be provided at a minimum level.

Analysis: The proposed project reflects a low-intensity rural level of development for the site consistent with policy SC 1-7. Public services would be provided by the County except for domestic water which would be provided by the West San Martin Water Works, and wastewater treatment and disposal which would be administered by a Community Services District, as provided for under Policy SC 1-11.

Countywide Trails Master Plan Update

Adopted by the County Board of Supervisors in November 1995, this document is a comprehensive update of the trails plan from the 1980 County General Plan, and has been incorporated into the 1995 County General Plan. The Plan includes trails policies and strategies, a master plan map with trail routes and bicycle-only routes, and guidelines for trail design. The Plan also includes a list of high priority trails to be developed at the earliest opportunity. The Draft Trails Master Plan map indicates 3 proposed trails within or adjacent to the Lion's Gate site. These include the following: Trail R1-A (bike) - Juan Bautista de Anza National Historic Trail Northern Bicycle Retracement Route, which is proposed as a bike trail within the right-of-way of Coolidge Avenue-Santa Teresa Boulevard to the east; Trail S7 - Morgan Hill Cross-Valley Sub-regional Trail, which is proposed as a combined hiking, bicycle and equestrian trail within the Watsonville Road right-of-way to the west; Trail S8 - San Martin Cross Valley Subregional Trail, which is proposed as a combined hiking, off-road bicycle and equestrian trail which would traverse the Lion's Gate site from east to west. The specific alignment of Trail S8 would be coordinated between the landowner/developer and the County to fit the trail route with the proposed development. Trails S7 and S8 both received priority ranking in the vicinity of the Lion's Gate project. Trail S8 from Santa Teresa Boulevard east along San Martin Avenue to New Avenue received the highest priority ranking of any of the trails proposed in the unincorporated areas of the County. Trail R1-A (bike) has not received a priority rating because it is located primarily within City boundaries.

The applicable policies of the Countywide Trails Master Plan are as follows:

- | | |
|------------------------------|---|
| PR-TS 1-7
C-PR 24 | Encourage private developers to incorporate trail routes identified on the Countywide Trails Master Plan Map into their development project designs. |
| PR-TS 3.7
C-PR38 | Development projects proposed on lands that include a trail as shown on the Countywide Trails Master Plan Map may be required to dedicate and/or improve such trail to the extent there is a nexus between the impacts of the proposed development and the dedication/improvement requirement. The dedication/improvement requirement shall be roughly proportional to the impacts of the proposed development. |
| PR-TS (i) 3.1
C-PR (i) 30 | Accept and require, to the extent necessary to mitigate the impacts of the proposed development, trail and pathway easements, right-of-way dedications and/or improvements as part of land development approvals in areas planned for inclusion in the countywide trail system of the General Plan (Implementors: County, Cities). |
| PR-TS 6.3 | Public improvement projects, such as road widenings, bridge construction, and flood control projects, that may impact existing or proposed trails should be designed to facilitate provision of shared use. |

Analysis: The proposed Lion's Gate project may be required to dedicate and/or improve right-of-way for Trail S8 - San Martin Cross Valley Sub-regional Trail, as stipulated in policy P-TS 3.7. The general alignment of the proposed trail can be accommodated within the Lion's Gate site plan by routing the trail to the north and west of the proposed golf course. Provisions for sections of Trail R1-A (bike) along the Coolidge Avenue frontage, and Trail S7 along the Watsonville Road frontage of the site would be included in roadway dedications and improvements required for the on-site segments of these roadways.

San Martin Integrated Design Plan

The San Martin Community Design Plan consists of guidelines for the design of development, roadways and drainage facilities which are intended to ensure that the desired rural character is incorporated into new development and improvement projects. The plan focuses on the creation of a cohesive "village core" for San Martin, including guidelines for urban design, architecture, streetscapes, parking, landscaping, signage, lighting and fencing. The document includes detailed guidelines for clustering rural development in a manner that improves rural atmosphere and minimize visual impacts. The plan encourages the use of rural architectural styles for single-family dwellings. The plan also includes design guidelines for the safe and aesthetically pleasing integration of County trails within the circulation system.

Analysis: The two proposed cluster subdivisions at the eastern end of the site are located within the San Martin Planning Area. The proposed design of these clusters reflects the specific guidelines in the Plan including providing generous setbacks from roadways and streams, and the creation of on-site detention ponds for flood control.

Report of the Preservation 2020 Task Force

The Report of the Preservation 2020 Task Force, adopted in 1987, evaluated open space opportunities throughout the County on lands not then in public ownership or control. The report identified candidate open space and park sites according to priority of acquisition or protection. The report described techniques for implementing open space preservation, including the clustering of development to avoid viewshed areas.

The Hayes Valley was identified in the report as a candidate for preservation, although it ranked as number 26 out of 42 open space acquisition priorities, and was not listed as a park (active recreation) acquisition priority. The report listed the watershed, viewshed, and ability to buffer urbanization as primary resources to be protected at the Hayes Valley site.

Analysis: The development of a portion of the Hayes Valley site would preclude it from possible future acquisition as open space. However, under the proposed project 1,265 acres would be preserved as permanent open space and 263 acres would be maintained as managed recreational open space in the form of a golf course. Together these open space uses would comprise over 90 percent of the total site area. Thus the project would be largely consistent with the objectives of the Preservation 2020 Program with respect to the Hayes Valley site.

County Ordinances and Regulations

Zoning Ordinance

Hillside (HS) Zoning District

Most of the project site is subject to Hillside (HS) zoning. The intent of this zoning district is to:

"preserve mountainous land unplanned or unsuited for city development in an open space manner and promote uses which support and enhance a rural character which promote wise use of natural resources, and which avoid the risks imposed by natural hazards found in these areas. Development shall be limited to avoid augmented need for public services and facilities".

Permitted uses as a matter of right within the HS zone include agricultural and certain residential uses. Uses permitted subject to securing a use permit include residential cluster subdivisions, limited retail, transportation, and cultural, educational and recreational uses, including golf courses. Section 14-4.2 of the Hillside zoning regulations specifically addresses golf courses with the following provisions:

- (b) Golf courses, including clubhouse, small golf equipment supply rental and retail store, swimming pools, tennis courts, office, maintenance building or yard, restrooms, showers, waiting room, bar and restaurant, overnight accommodations, provided such accommodations are for temporary guests only, and that the scale of such accommodations are consistent with both the scale of the golf course development and the rural character of the zoning district. Architectural and site approval shall be secured for the establishment and conduct of this use as provided in Article 51 of this ordinance.

Specific findings:

- (1) The use, as designed, shall not substantially alter the natural environment.
- (2) If the parcel is not served by sanitary sewers, a suitable location exists on the site which can safely handle the size of the expected sanitation waste generation. Leachfields are placed on natural slopes of 30% or less unless they meet or exceed all Health Department requirements.

The Hillside zoning district provides for clustering of residential development, with the permitted density determined by a slope-density formula which is used to derive average lot sizes ranging from 20 to 160 acres depending on average slopes. The clustering provision provides an exception to the 160-acre minimum parcel size in the interest of concentrating permitted development on the least environmentally disruptive sites, and to provide economy in road lengths and driveways. The residential lots created under a Hillside cluster permit must have 2-acre minimum parcel sizes, with 90 percent of the overall site area retained as permanent open space.

In addition, Section 14-3.2 of the Hillside Zoning Ordinance allows on-site housing for caretaker and farm labor use in conjunction with the use of the property. It has been the practice of Santa Clara County to allow labor housing in projects other than farms.

Development standards applicable in the HS zone include a height limit of 35 feet or three stories, and a minimum building setback of 30 feet from property lines, among other requirements.

Rural Residential (RR) Zoning District

The 32-acre parcel located west of Coolidge Avenue and north of Highland Avenue is zoned Rural Residential 5-acre minimum lot size (RR-5 ac). The intent of this zoning district is to:

"permit rural residential development at variable densities in certain unincorporated areas of the County, and to limit the expansion of rural residential areas. Agricultural and open space uses are permitted which are compatible with residential uses..."

Permitted uses as a matter of right within the RR zone include agricultural and certain residential uses. Uses permitted subject to securing a use permit include bed and breakfast lodges, park and ride lots, recycling centers, churches, golf courses and driving ranges, swim and racket clubs, kennels, etc.

The minimum lot size for purposes of determining development density is 5 acres, although lot sizes as small as 1 acre are permitted in this zone under the cluster development permit provisions contained in Article 52 of the

County zoning ordinance. Minimum setbacks for dwellings is 30 feet from all property lines and ultimate street rights-of-way. Maximum dwelling height is 35 feet, with no more than two stories.

Exclusive Agriculture (A-20) Zoning District

There are two parcels on the Lion's Gate site that lie within the Exclusive Agriculture (A-20) zoning district. These include the 144-acre parcel at the southeast corner of the site, west of Turlock Avenue, and the 115-acre parcel located at the west end of the site, east of Watsonville Road. (The project includes a proposal to amend the General Plan designations for these parcels to "Hillsides," and to rezone them to the "HS" zoning district.)

The general intent of the Exclusive Agriculture district is to preserve and encourage agriculture, and also to retain in agricultural use those lands which may be suitable for urbanization until such time as public facilities and services can be economically provided, consistent with community plans and objectives.

Permitted uses include a broad range of agricultural activities, as well as residential, retail, cultural, educational and recreational uses, agriculture-related manufacturing, and other uses.

Lot sizes are determined by the combining district, which in this case specifies 20-acre minimum parcel sizes.

Architecture and Site Approval

All applications for use permits (except for certain uses within Agricultural districts) also require ASA approval to review the quality of architectural and site design of proposed development projects. The ASA Guidelines include detailed standards for architecture, site design, grading, landscaping, parking, signs, lighting and energy efficiency. One goal of the ASA Guidelines in Hillside zones is to promote development that blends into the natural landscape through appropriate exterior colors and landscaping.

Design Review

Article 43 of the County Zoning Ordinance contains provisions governing the construction of any building or structure within 100 feet of a designated County scenic road, including in this case Coolidge, Highland and Turlock Avenues in the east, and Watsonville Road in the west. The intent of Article 43 is to promote excellence of development, protect recreational and scenic features, and to maintain the open character of the designated scenic roads. The ordinance stipulates that any development proposed within 100 feet of a scenic road shall receive Design Review and thus be subject to the "Development Guidelines for Design Review." The intent of the Design Review Guidelines is to go beyond ASA approval to ensure that the placement and appearance of any structures and associated grading and landscaping be compatible with the character of the neighborhood, adjacent development, and the natural environment.

Analysis: The project as proposed is consistent with the applicable provisions of the County Zoning Ordinance. The proposed golf course and related facilities are permitted under Section 14-4.2 of the Hillside zoning provisions. As discussed elsewhere in this EIR, the golf course would satisfy the required findings relating to non-substantial alteration of the natural environment, and the required wastewater disposal finding. The entire project would be subject to Architecture and Site Approval, and the areas within 100 feet of designated County scenic roads would be subject to Design Review.

The project would not conform with the intent and provisions of the A zoning district currently applicable to the 144-acre parcel adjacent to Turlock Avenue. The proposed land use designation change to Hillsides and subsequent clustered residential development would convert these lands to non-agricultural uses. The project as proposed would be consistent with the Hillside and Rural Residential zones.

Other Local Jurisdictions

Local Agency Formation Commission (LAFCO)

The Santa Clara County LAFCO has approval authority for annexations, detachments, changes or organization and formation of new governmental entities. Expansions of urban service area boundaries and governmental special districts are also subject to LAFCO approval. The proposed project would not involve any annexation, but the proposed Community Services District (CSD) for the project would be subject to LAFCO approval.

III. ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

A. LAND USE

Environmental Setting

On-Site Land Uses

The majority of the Lion's Gate site is used for cattle grazing, except for the 144-acre field in the southeast corner of the site, and a 32-acre former plum and walnut orchard at the eastern end of the site north of Highland Avenue. The existing structures on the site consist mainly of a ranch complex located near the eastern end of the site. This complex includes 4 residences, a number of barns and sheds, and an old creamery building associated with a former dairy operation. (Adjacent to the main ranch complex, on the north side of creek channel, there is a residence and outbuildings on a 20-acre parcel that is not part of the project site.) There is also a house and barn located to the east of the main ranch on the north side of Highland Avenue near Turlock. Also, there is an unused barn at the southwestern corner of the site on Watsonville Road. Other man-made agricultural features also exist on the property, including fences, corrals, stock ponds and several water troughs located near natural springs.

There are two separate high voltage power line corridors that traverse the site generally from north to south. The east-central portion of the site is crossed by a 115 kV transmission line on steel towers, and the western portion of site is traversed by a 115 kV transmission line on wooden poles.

Surrounding Land Uses

The Lion's Gate site is located adjacent to the unincorporated community of San Martin, which consists mainly of a mixture of low density residential uses, commercial uses, and a variety of agricultural operations on relatively small parcels. The South County Office Building and Courthouse is located less than one mile to the east on Highland Avenue, and the South County Airport is located just over one mile to the east. The nearest urban or suburban density development is located in the City of Morgan Hill, one mile north of the Lion's Gate site.

The land uses in the immediate vicinity of the Lion's Gate site consist of a mixture of residential and agricultural uses. To the north, the site is flanked by an estate residential development with homes built on 20-acre lots. One of these homes is located on top of the northern ridge flanking the Lion's Gate site and overlooks the central portion of the site, while all other dwellings in that development are situated on the northern slope of the ridge and beyond sight of the project site.

To the north and east of the existing 32-acre orchard parcel in the northeast corner of the site, there is a small concentration of rural residential development on lots ranging from 1 to 5 acres or larger.

The properties to the east and southeast, across Turlock Avenue, are mainly in pasture or used for the cultivation of row crops, with a few scattered residences. The nearest residences include a ranch directly opposite the site across Turlock Avenue, and a horse ranch adjacent to the site at the southeast boundary.

At the western end of the property along Watsonville Road, the existing land use pattern is characterized by low-density residential and small farms.

To the south and southwest, across the southern ridgeline, the predominant land uses include cattle ranching and smaller agricultural uses with scattered residences.

Ordinances and Regulations that Address Land Use

County Zoning Ordinance: Comprising the primary means of land use control, the zoning ordinance specifies appropriate uses and densities for unincorporated lands in the County, and establishes development standards for lot sizes, setbacks, building height, parking and so on. The zoning ordinance functions as the implementation mechanism for land use policies set forth in the County General Plan (see Section II. *Consistency with Plans, Goals and Policies* for a full discussion of land use policies and zoning provisions applicable to the project).

The zoning ordinance includes procedures for the granting of use permits for development. Use permits are approved by the Planning Commission which must make a number of required findings, and can add further findings to protect the environment. The required use permit findings are as follows:

- (1) Safe access (including access for fire and emergency vehicles), adequate off-street parking and loading and unloading areas (if applicable) shall be provided;
- (2) Waste and sanitation facilities shall satisfy applicable county, state and federal requirements;
- (3) The use shall not adversely affect water quality;
- (4) The use shall not be detrimental to the adjacent area because of excessive noise, odor, dust or bright lights;
- (5) The use shall not cause traffic congestion adversely affecting the surrounding area;
- (6) Erosion on the site shall be controlled; and
- (7) Adequate storm drainage exists or shall be provided.

An additional required finding reads: "The proposed use will not cause a substantial adverse impact upon the environment, or will provide public benefits which outweigh the impact."

The zoning ordinance also contains specific standards to regulate bright lights, signs and development along designated scenic roads (see below).

Architecture and Site Approval (ASA): All applications for use permits (except for certain uses within Agricultural districts) also require ASA approval, to review the quality of architecture and site design of proposed development projects. The ASA Guidelines include detailed standards for architecture, site design, grading, landscaping, parking, signs, lighting and energy efficiency. For example, one goal of the ASA Guidelines in the Hillside zone is to promote development that blends into the natural landscape through appropriate exterior colors and landscaping.

Design Review for Scenic Road Corridors: Article 43 of the County Zoning Ordinance contains provisions governing the construction of any building or structure within 100 feet of a designated County scenic road (Coolidge, Highland and Turlock Avenues to the east, and Watsonville Road to the west are designated County scenic roads). The intent of Article 43 is to promote excellence of development, protect recreational and scenic features, and to maintain the open character of the designated scenic roads. The ordinance stipulates that any development proposed within 100 feet of a scenic road shall receive Design Review and thus be subject to the "Development Guidelines for Design Review." The intent of the Design Review Guidelines is to go beyond ASA approval to ensure that the placement and appearance of any structures and associated grading and landscaping be compatible with the character of the neighborhood, adjacent development, and the natural environment.

Noise Ordinance: The County's Noise Ordinance establishes noise standards to control unnecessary, excessive and annoying noise and vibration. It sets maximum noise standards for both exterior and interior settings

according to sensitivity of the land use. Limits are also established for specific types of noise and generators (e.g., construction/demolition, loudspeakers, animals, etc.).

Significance Criteria

With respect to land use, Appendix G of the CEQA Guidelines states that a project will normally have a significant effect on the environment if it will: "(a) Conflict with adopted environmental plans and goals of the community where it is located," "(u) Disrupt or divide the physical arrangement of an established community," and "(w) Conflict with established recreational, educational, religious or scientific use of the area."

Impacts and Mitigation

Impact 1. **The proposed General Plan Amendment would result in a potential change in the character of development permitted on portions of the site. (Less-than-Significant Impact)**

The project includes a proposed General Plan Amendment under which the approximately 260 acres of the site designated "Am - Agriculture-Medium Scale" would be redesigned to "H - Hillside." This amendment would not alter the overall density of residential development permitted on the site. Under the "Am" designation currently in effect, these lands could be subdivided into parcels of 20 acres. Under the proposed Hillside designation, these lands would be subject to the slope-density formula of the Hillside zoning ordinance under which permitted densities would range from one lot per 20 acres to 160 acres on a sliding scale with permitted lot sizes becoming larger with increases in average slope. Given that the lands included in the proposed General Plan Amendment consists of slopes of less than 10 percent, the resulting minimum lot size under the Hillside slope-density formula would also be 20 acres. Thus the overall development density permitted on the site would not be altered by the General Plan Amendment.

However, under the "Hillside" designation, the permitted density would be clustered on 10 percent of the land, with the remaining 90 percent preserved as permanent open space, instead of having the entire area divided into 20-acre parcels. The General Plan Amendment would in effect allow the inclusion of the density from the current "Am"-designated lands with the density from the larger "Hillside"-designated area in order to create a single cluster subdivision and maximize and consolidate the permanent open space created. Under the proposed development plan, this flexibility has been used to cluster the development away from the outer edges of the site, thus creating permanent buffer zones along the Watsonville Road and Turlock Avenue frontages of the site.

By allowing the cluster subdivision to be confined to the western end of the eastern "Am" parcel and adjacent lands to northwest, the General Plan Amendment would avoid the necessity of locating the residential lots in the central valley area of the site. Thus much of the existing visual amenity and habitat value of this central area would be maintained. By avoiding the placement of residential streets and homesites in the interior valley, the proposed development plan would minimize the removal of trees, wetlands, and upland habitat for the California tiger salamander and western pond turtle, as well as minimizing direct mortality and habitat disruption to wildlife generally.

(The impact of the loss of 110 acres of prime farmland is discussed in Section III. B. *Agriculture*.)

Mitigation 1. No mitigation required.

Impact 2. The proposed project may potentially be incompatible with existing adjacent uses. (Less-than-Significant Impact)

Under the proposed development plan, buffer zones would be created at the eastern and western ends of the project site where there are concentrations of existing rural development. On the north site boundary, the single existing dwelling that overlooks the site from the northern ridge would be at least 1,000 feet from the proposed golf course.

The existing residences directly to the north of the proposed Rural Residential subdivision north of Highland Avenue would be 400 feet from the edge of the nearest proposed lots. The existing concentration of rural residential development directly east of the proposed Rural Residential subdivision would be over 400 feet from the nearest proposed dwelling site, with the intervening areas screened with a landscaped berm and a vineyard. Apart from temporary construction noise during site development and short-term construction traffic, the proposed lots would not result in a land use impact upon the existing dwellings in the vicinity.

The existing ranch opposite Turlock Avenue from the main subdivision would be located approximately 500 feet from the nearest proposed residential lot to the west, and approximately 500 feet from the proposed equestrian center to the southwest. The area nearest to this existing ranch would consist of the landscaped berm and proposed lake. The existing horse ranch adjacent to the southeast property boundary would be approximately 300 feet from the proposed equestrian center. For both of these existing ranches, most of the nearby project elements would be screened from view by the 4-foot high landscaped berm to be constructed along the western and southeastern project boundaries. Any potentially adverse effects from the equestrian center, such as odors or vectors, would be controlled by the management plan (as required under Title 23, Chapter 15 of the California Code of Regulations) which is described in Section I. *Project Description*, and through compliance with Article 47 of the County Zoning Ordinance, which provides for the regulation of horses in a manner that prevents nuisances from occurring. (For further discussion, see Section III. *N. Hazardous Materials, Public Health and Safety*.)

Since most of proposed site alterations would occur out of sight of surrounding vantage points, and would not involve construction on the highly visible ridges or hillsides, much of the open space character of the site would remain after project development.

The existing ranch house at the end of Highland Avenue, north of the creek, is not included as part of the project, and could be subject to potential project impacts. This dwelling would be subject to potential noise and dust during construction of the golf course, residential cluster subdivisions and main access road. These temporary construction impacts would be mitigated as discussed in Sections III. *L. Noise*, and III. *M. Air Quality*.

At the west end of the site, there are several residential/ranch properties adjacent to the project site along Watsonville Road. The nearest proposed development to these residences would be the golf course maintenance facility, which would be located 3/4 mile from the nearest

existing residence. The proposed maintenance access road off Watsonville Road would be at least 800 feet from the nearest existing residence. The project would not result in potential land use impacts at the western end of the site.

The aesthetic compatibility of the project siting and design details with adjacent uses and the natural setting would be assured through compliance with Design Review Guidelines and the Architecture and Site Approval Guidelines, as required for this project.

There is a potential for off-site impacts from the project due to the generation of traffic and related noise, as well as potential visual impacts. However, as discussed under the respective subject headings of this EIR, these impacts would not be significant.

Mitigation 2. **No mitigation required.**

Conclusion. **The project would not result in significant land use impacts.**

[Note: The open space impacts of the project are discussed in Section III. C. *Parks, Recreation and Open Space*.

B. AGRICULTURE

Environmental Setting

Under current conditions, the majority of the site is used for cattle grazing. The approximately 144-acre field located west of Turlock Avenue and south of Highland Avenue has been cultivated in the past for barley, corn, alfalfa, etc., but has been used only for growing hay and grazing in recent years. To the north of this field is a 32-acre plum and walnut orchard which is in decline, and is no longer maintained. According to the applicant, active cultivation of the field and orchard areas of the property were discontinued 8 years ago because it was no longer economically feasible for the resident rancher/lessee to continue cultivation here. (See Appendix B - "Economic Analysis of Agricultural Operations.")

There are no Williamson Act contracts in effect on any portion of the project site.

An examination of aerial photographs going back to 1936 indicates that the interior of the valley has occasionally been dry farmed for hay, although grazing of annual grasses has historically been the more frequent use of the land.

The agricultural potential of the site was investigated based on the Soil Survey of Eastern Santa Clara County by the USDA Soil Conservation Service (SCS). The SCS soil mapping indicates that there are 15 soil series on the site. All of the soils are classified within 8 broad "Land Capability Classes," with Class I and II soils being the most fertile and well suited for agricultural land uses. In addition, a second land capability rating system called the Storie Index is specific to California. Under the Williamson Act, agricultural lands are considered prime if they have a Storie Index rating of 80 to 100 points.

According to the soil survey maps, the 1,676-acre project site contains approximately 220 acres of Class II soils and no Class I soils, with the remaining soils having an agricultural capability rating of III or lower. The Class II soils on the site consist primarily of Los Robles clay loams (LrC and LrA), which are found along the on-site reach of West Branch Llagas Creek, and in the field west of Turlock Avenue and south of Highland Avenue, as well as in the southeast portion of the former plum and walnut orchard north of Highland Avenue. Los Robles loams have a Storie Index rating of 81 points, indicating they are also prime soils under this rating system. The only other Class II soil type on the site is Cropley clay (CrA) which is found adjacent to Turlock Avenue and comprises the eastern portion of the on-site field. Cropley clay has a Storie Index rating of 47 points, indicating that this is not considered a prime soil under this rating system. The total area covered by these Class II soils represents approximately 13 percent of the overall area of the project site. In addition, there are approximately 200 acres of Class III soils, consisting of Keefers clay loam (KeA and KeC2), which comprise the remainder of the valley floor west to Watsonville Road. Keefers clay loams are not included in the Storie Index rating system.

Of the approximately 220 acres of Class II soils on the site, approximately 110 acres are designated as "Prime Farmland" on the Important Farmlands of Santa Clara County, a map prepared by SCS in 1976. This designated area comprises the eastern, southern and central portions of the field west of Turlock Avenue. An additional 20 acres in the western portion of the field are designated as "Additional Farmland of Statewide Importance" on the SCS map. In addition, an area of approximately 300 acres of Class II and III soils, running along the length of the valley floor, are designated as "Additional Farmland of Local Importance" on the 1992 update of the Important Farmlands map. This designation reflects the previous use of this area for dry farming of hay.

Ordinances and Regulations that Address Agriculture

County Zoning Ordinance: The "A-Exclusive Agriculture" zoning district is used to implement the General Plan policies for the "Agriculture" land use designation. The intent is to preserve and encourage agriculture for the vital contributions agriculture production makes to the economy and quality of life within the County. It provides for agricultural uses and uses compatible with agriculture, and permits lands best suited agriculture and related uses to be used for such purposes.

Agriculture Disclosure and Dispute Resolution Ordinance: Adopted in April 1993 by the Board of Supervisors, this ordinance is intended to recognize and support the right to farm agricultural lands and permit properly conducted agriculture operations within the County. This "Right to Farm" ordinance requires that an agricultural disclosure statement be included in the real estate transfer document. This disclosure statement informs the buyer that property is located in an agricultural area and they may be subject to certain inconveniences as a result of agricultural operations including noise, odor, dust, etc. The County has determined that inconveniences or discomforts associated with such agricultural operations shall not be considered a nuisance if such operations are consistent with accepted agricultural customs and standards. In cases where disputes arise regarding agricultural operations, the County has established a grievance committee to assist in the resolution of such disputes.

Significance Criteria

With respect to agricultural land, Appendix G of the CEQA Guidelines states that a project will normally have a significant effect on the environment if it will: "(y) Convert prime agricultural land to non-agricultural use or impair the agricultural productivity of prime agricultural land."

Impacts and Mitigations

Impact 1. **The development of the site would result in the loss of approximately 180 acres of Class II soils, including approximately 110 acres designated as "Prime Farmland" or "Farmland of Statewide Importance." (Potential Significant Impact)**

The conversion of much of the existing field west of Turlock Avenue would represent a loss of fertile agricultural land. This site would be covered by residential lots, roadways and a lake and would not likely be used for agricultural cultivation again. (The use of a 20-acre portion of this field for the equestrian center would represent an agricultural use and would not be counted as a loss of farmland.) The development of the orchard parcel north of Highland Avenue would result in the loss of some Class II soils found on this parcel. In addition, the development of the golf course and related facilities would result in the conversion of approximately 200 acres of Class III soils in the interior of the valley. As discussed under "Environmental Setting" above, the lands at the eastern end of the site have not been in cultivation for crops for at least the past 8 years, and the lands in the interior of the site have been used only for grazing or growing hay. The continued farming for row crops and orchard crops is no longer economically viable in the eastern portions of the site. Consequently, these parcels have been left unused or have been used for grazing for the past several years.

As discussed in the report "Economic Analysis of Agricultural Operations" contained in Appendix B of this EIR, it is not economically feasible to maintain a farming operation on the

Lion's Gate site, given the high property tax rates and land carrying costs. Even assuming that this were a family farm with no long-term debt and minimal property taxes (i.e., at or below tax levels that would apply if these lands were covered by Williamson Act contracts), a farming operation here would only cover costs at best, with no return on investment. This is due to several factors including the relatively high cost of labor and supplies in Santa Clara County, the relatively low yields per acre, and because the small size of the operation cannot achieve economics of scale under which fixed overhead costs can be spread over a large operation.

Therefore, although the loss of prime farmland resulting from this project represents a potential significant impact, the severity of the impact is reduced by the fact that this land is no longer economically viable for agriculture.

The project is unlikely to initiate the conversion of other agricultural lands nearby. All of the adjacent agricultural lands to the east are designated Rural Residential in the 1995 County General Plan. This designation allows for 5-acre minimum lot sizes, and represents an acknowledgement of the general parcelization pattern of the San Martin area into lot sizes which are too small to be viable for agricultural operations. A number of the nearby parcels to the south and east of the project site currently do not have Williamson Act contracts in effect, indicating a general intention by the owners to convert these properties to non-agricultural uses within the foreseeable future.

Mitigation 1. The loss of approximately 110 acres of prime farmland would be offset by the planting of vineyards in areas not proposed for development.

As noted under "Project Description," 10 acres of vineyard would be planted along the eastern project frontage on Coolidge Avenue. Additionally, approximately 100 acres of vineyard would be planted in the field at the western end of the project along Watsonville Road. The planting of the vineyards, combined with the fact that agricultural cultivation of this property is not economically viable, as discussed above, would reduce the impact of the loss of agricultural land to non-significant levels.

Impact 2. The residential lots proposed at the eastern end of the site would potentially create land use conflicts with nearby agricultural operations. (Potential Significant Impact)

Ongoing agricultural operations occur to the east across Turlock Avenue. The proximity of residential uses and productive farmland often leads to nuisance complaints from new residents about agricultural practices related to spraying, odors, dust, and noise. In turn, farmers often complain about trespassing, vandalism, damage to crops, urban pets, and other infringements on farming operations. These potential effects are somewhat limited at the project site, since the interface conflicts with agricultural lands would be confined to the eastern edge of the site. In the southeast corner of the project, the proposed equestrian center would be located adjacent to the existing horse ranch to the south. Given the similarity of these activities, no interface conflicts are anticipated along this boundary.

As noted above, a number of the nearby parcels to the south and east of the project site currently do not have Williamson Act contracts in effect, indicating a general intention by the owners to convert these properties to non-agricultural uses within the foreseeable future.

Mitigation 2. The creation of buffer zones along the eastern edge of the site would minimize the potential for interface conflicts with existing farming operations.

The cluster residential subdivision proposed for the on-site field south of Highland Avenue would be set back from 200 to 1,400 feet from Turlock Avenue. In the Rural Residential subdivision proposed for the orchard site north of Highland Avenue, the nearest lot would be approximately 300 feet west of Coolidge Avenue. These setback distances would create an open space buffer zone adequate to mitigate potential conflicts between the proposed residential uses and the existing agricultural operations. In addition, the landscaped berms proposed along the eastern site frontages would further reduce potential interface conflicts. Although no interface conflicts are anticipated between the proposed equestrian center in the southeast corner and the adjacent horse ranch, a 4-foot landscaped berm is also proposed for this boundary. (See Section III. N. *Hazardous Materials, Public Health and Safety* for a discussion of potential odor and vector problems.)

In addition, under the County's Right-to-Farm Ordinance, purchasers of residential lots in the project would be required to be notified of the nature of farm nuisances in the real estate transfer documents.

Conclusion. The conversion of Class II soils to residential uses proposed for the project would represent a potential significant impact. The severity of the impact is reduced because these on-site soils are no longer economically viable for agricultural production. In addition, the planting of vineyards on the project site would off-set the loss of prime farmland, which combined with the lack of economic viability of cultivation at the property reduces the impact to less-than-significant levels. The potential land use conflicts between the residential and equestrian uses proposed in the project, and the existing agricultural operations in the vicinity would be mitigated to less-than-significant levels by open space buffer zones and landscaped berms along the eastern and southeastern edges of the site, as proposed in the project.

C. PARKS, RECREATION AND OPEN SPACE

Environmental Setting

Much of the project site is in a natural or semi-natural open space condition. The site offers a variety of open space experience, from the expansive views available from the low hillside areas in the north, to the extensive oak woodland covering the southern ridges of the site.

Previous Parks and Open Space Planning Efforts Involving Hayes Valley

Hayes Valley Reservoir: In the early 1970s, the Hayes Valley site was under serious consideration as the site of the proposed "Hayes Valley Reservoir." Under the plan proposed at that time, dams would have been constructed at the eastern and western ends of the valley to create a water surface area of 400 acres. The reservoir would have been a major storage facility for the Santa Clara Valley Water District, with a planned capacity of 45,000 acre-feet. The reservoir was also the focus of a major recreation planning effort by the Santa Clara County Parks and Recreation Department. A broad variety of recreational facilities were envisioned for the reservoir and the surrounding hillside areas including boating, fishing, swimming, picnicking, camping, horseback riding, bicycling and hiking. The main activity area was planned for the Watsonville Road side of the site, while a smaller center on the east side near the existing ranch was to include horse stables and a group camp area. The Hayes Valley Reservoir concept was ultimately abandoned by the Water District and the County Parks and Recreation Department.

Preservation 2020: In 1987, the County of Santa Clara adopted a planning document guiding open space acquisition entitled Open Space Preservation: A Program for Santa Clara County, a report prepared by the Preservation 2020 Task Force (April 1987). The report identified candidate open space and park sites according to priority of acquisition or protection. The Open Space Preservation report ranks the Hayes Valley area as number 26 of 42 open space acquisition priorities, and does not list it as a park (active recreation) acquisition priority. The report listed the watershed, viewshed and ability to buffer urbanization as its primary resources to be protected at the Hayes Valley site. The report also described techniques for implementing open space preservation, including the clustering of development to avoid viewshed areas.

County Parks

The Santa Clara County Parks and Recreation Department operates 6 parks within a 10-mile radius of the Lion's Gate site. These include Uvas Reservoir, Chesbro Reservoir, Uvas Canyon Park, Mount Madonna Park, Coyote Lake and Anderson Lake. A seventh County facility, Uvas Creek Park Preserve, is operated by the City of Gilroy. These facilities are described below.

Uvas Reservoir, located 2.5 miles west of Hayes Valley along Uvas Road, contains 430 acres of parkland with opportunities for non-power boating, picnicking and fishing.

Chesbro Reservoir, located 4.5 miles to the north at the head of Paradise Valley, contains 650 acres of parkland used for sailing, fishing and rowing.

Uvas Canyon Park, a 1,220-acre park located approximately 10 miles west of Hayes Valley near the Santa Cruz County line, offers camping, picnicking and hiking opportunities along 7 miles of developed trails.

Mount Madonna Park, located approximately 9 miles to the southwest, contains over 3,300 acres of scenic terrain with opportunities for camping, picnicking and extensive trails for hiking and horseback riding.

Coyote Lake, a driving distance of approximately 10 miles east of Hayes Valley, encompasses a 1,400-acre park with opportunities for sailing, power boating, jet skiing, fishing, picnicking and shoreline camping.

Anderson Lake, a driving distance of approximately 9 miles northeast of Hayes Valley, comprises a 2,100-acre park with picnicking, boating and fishing opportunities. It is also the southern terminus of Coyote Creek Parkway, a 15-mile linear park popular with bicyclists, rollerbladers and hikers, as well as equestrians in the southern portion.

Uvas Creek Park Preserve, located 6 miles south of Hayes Valley outside Gilroy, consists of a 132-acre preserve containing a 1.9-mile long paved trail, and is operated by the City of Gilroy.

Henry W. Coe State Park

This 67,000-acre state park is located in the Mount Hamilton Range approximately 15 miles northwest of Hayes Valley. The only vehicular access to the park entrance is via a winding road leading east from Anderson Lake. Intended for low-intensity use, this state park offers opportunities for hiking, backpacking, car camping, swimming, fishing and horseback riding.

Regional Trails

There are no developed trails in the vicinity of the Lion's Gate site, outside the trails within the 8 parks described above. The recently adopted Countywide Trails Master Plan Update of the County General Plan shows proposed trails and/or bike paths running along several existing roadways in the vicinity, including Coolidge Avenue/Santa Teresa Boulevard to the east, Watsonville Road and Uvas Road to the west, and Day Road to the south. In addition, the plan shows a proposed trail traversing the Lion's Gate site generally from east to west. The Master Plan policies require that development projects on lands that include a planned trail may be required to dedicate and/or improve such a trail to the extent there is a nexus between the impacts of the proposed development and the dedication/improvement requirement. (For further discussion, see Section II. *Consistency with Plans, Policies and Regulations*, under the subheading Countywide Trails Master Plan Update.)

Scenic Highways

The Regional Parks, Trails and Scenic Highways element of the County General Plan designates Coolidge Avenue/Santa Teresa Boulevard and Watsonville Road as scenic roads. These roads are also designated as County scenic roads per Section 43 of the County zoning ordinance, which stipulates that any development proposed within 100 feet of a scenic road be subject to the County's Design Review guidelines and procedures.

Ordinances and Regulations that Address Recreational Resources

County Zoning Ordinance: Article 43 of the Zoning Ordinance contains special provisions for development proposed along County-designated scenic roads, which in this case applies to Coolidge Avenue/Santa Teresa Boulevard and Watsonville Road. Under Article 43, any development or structures (including signs, fences and lighting) proposed within 100 feet of the scenic road is subject to the Design Review process to ensure compatibility with the scenic roads (see Section III. J. *Visual and Aesthetics* for further discussion).

The County has no planning-based ordinances for parks and recreation, such as a parkland dedication ordinance. However, the County may require the dedication of a conservation easement as a condition of project approval, as provided for under Policy R-LU 28 of the 1995 County General Plan (see Section II for further discussion).

Significance Criteria

With respect to recreational resources, Appendix G of the CEQA Guidelines states that a project will normally have a significant effect on the environment if it will: "(w) Conflict with established recreational, educational, religious or scientific uses of the area."

Impacts and Mitigations

Impact 1. **The proposed golf course and residential uses would result in the loss of approximately 410 acres of semi-natural open space. (Potential Significant Impact)**

The development of the golf course and its related facilities would involve 269 acres of land in the central valley area of the site, while the residential subdivisions and roadways would occupy approximately 141 acres. Approximately 16 percent of the total site area would be converted to golf course uses, and 8 percent would be converted to residential uses. This acreage consists primarily of fields, an abandoned orchard, grazing land and approximately 20 acres of partially wooded hillsides (although the proposed building envelopes for the two proposed woodland lots are located in areas with little no tree cover). The Hayes Valley site was identified as a low priority (rated #26 out of 42) for open space preservation by the County's Open Space 2020 Task Force. The report cited the property's value as watershed, viewshed, and ability to buffer urbanization as primary resources to be protected. The remaining 1,265 acres of the property would remain in permanent open space, as required under the Hillside clustering provisions of the zoning district.

Mitigation 1a. **The project would provide approximately 263 acres of managed recreational open space in the form of a public golf course. The golf course would provide an added recreational opportunity in the County.**

The proposed project would provide additional recreational opportunities which would be open to members of the public. The project would help alleviate the well-documented shortage of golf courses in the County.

Mitigation 1b. **The remaining 1,265 acres of natural and semi-natural area of the site would be preserved as permanent open space as a condition of the cluster development permit.**

Approximately 1,265 acres of oak woodland and grassland on the site would be preserved as permanent open space. This open space area would be managed and maintained by the Homeowners Association for the project, and would not be open to the general public.

Mitigation 1c. **A trail easement for the 2 to 3 mile on-site segment of the proposed San Martin Cross-Valley Trail would be dedicated in conjunction with the project. Segments of two additional trails along the project frontages on Coolidge Avenue and Watsonville Road would be dedicated and improved in conjunction with required roadway dedications and improvements.**

Conclusion.

With implementation of the above mitigation measures, the project impacts on open space and trails would be reduced to less-than-significant levels.

D. GEOLOGY AND SOILS

The following discussion of site geology and soils is based on the reports listed below:

- Pacific Geotechnical Engineering, Geologic Feasibility Evaluation, Clubhouse and Overnight Lodges, The Lions Gate Reserve, San Martin, California, December 1995.
- Pacific Geotechnical Engineering, Geologic Feasibility Investigation, Golf Course Maintenance Building, The Lions Gate Reserve, San Martin, California, December 1995.
- Pacific Geotechnical Engineering, Preliminary Geologic Feasibility Evaluation, Homesites on Parcels #24, 25 and 26, The Lions Gate Reserve, San Martin, California, December 1995.
- ENGEO Incorporated, Geologic Input to EIR, Lion's Gate Property, Hayes Valley, Santa Clara County, April 13, 1993.
- Wahler Associates, Geologic Input to Draft Environmental Impact Report, Lion's Gate Development, April 17, 1990.
- Kaldveer Associates, Supplemental Geological Reconnaissance Investigation for Proposed Hayes Valley Dams, Santa Clara County, August 4, 1989.
- Terratech, Inc., Pre-purchase Site Assessment of Geologic Hazards, Ground Water Supply and Environmental/Toxic Contamination, Hayes Valley Property, Santa Clara County, January 20, 1988.

These reports are contained in Appendix C of this EIR.

Environmental Setting

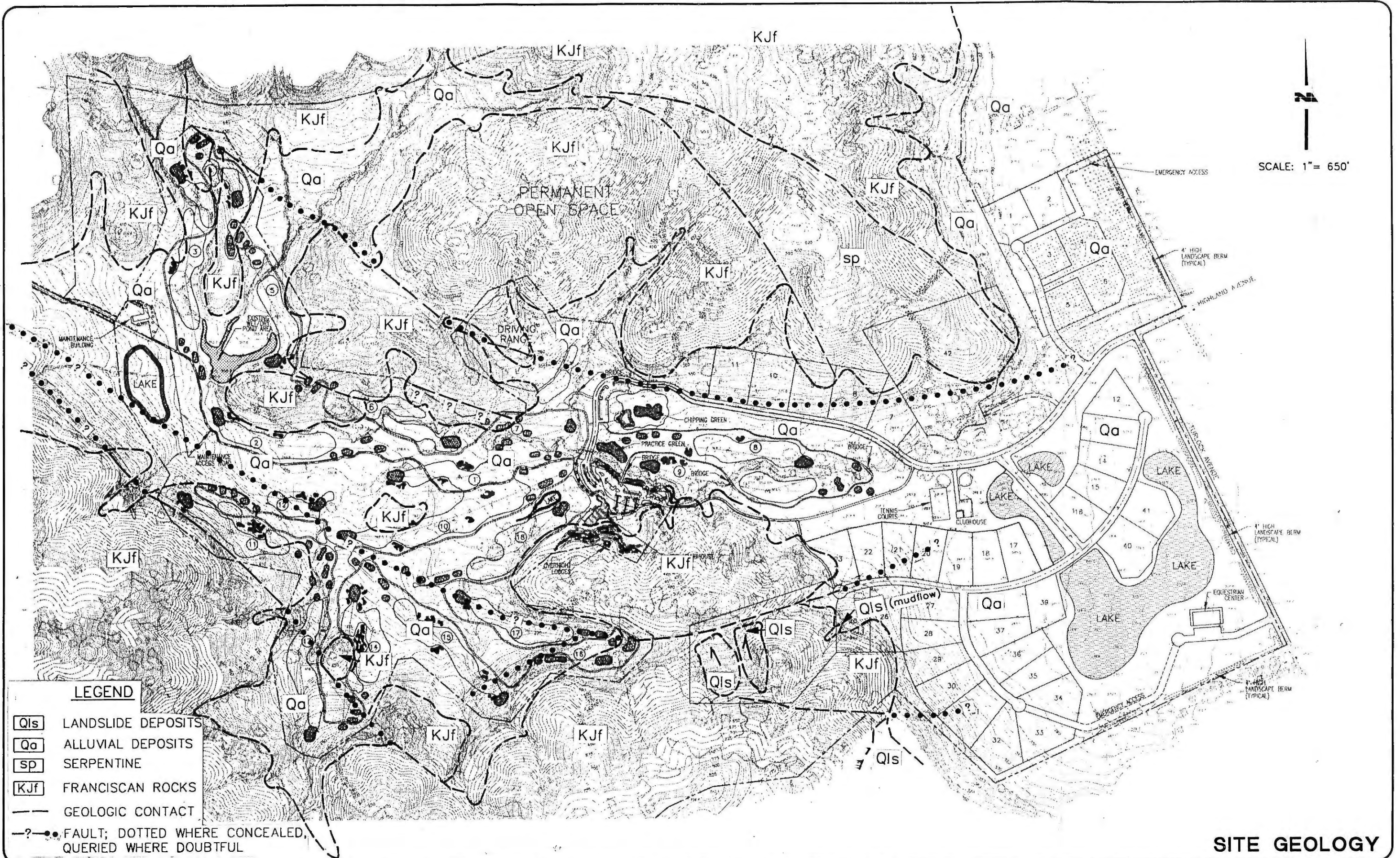
Topography

The site includes an approximately 2-mile long east-west trending valley (which varies in width from one-half mile to nearly one mile, flanked by hillsides to the north and south). The valley narrows to the east and opens into the southerly reach of the Santa Clara Valley. Most of the surface drainage from Hayes Valley flows out through the eastern end of the valley via the West Branch of Llagas Creek. A low topographic divide exists near the western end of the valley. West of this divide, site drainage flows via Hayes Creek northeasterly to the main branch of Llagas Creek.

The hills on both sides of Hayes Valley are moderately steep and increase from base elevations of 300 to 400 feet along the valley floor to 1,100 feet on the ridges on the south side of the valley, and to 800 feet on the northern ridges.

Geologic and Soil Conditions

The site is located in the eastern foothills of the Santa Cruz Mountains, within the Coast Ranges geomorphic province. The bedrock underlying the ridges on the north side of the valley consists of a mixture of sandstone, greenstone, chert, shale and limestone, and other rocks of the Franciscan Complex, which are intruded here with large masses of serpentinite (see Figure 11). The bedrock underlying the ridges of the south side of the valley



Source: Wahler Associates

SITE GEOLOGY

FIGURE 11

consists primarily of Franciscan greenstone. The bedrock areas are covered by sandy to clayey soil. Clayey soils are generally moderately to highly expansive. Thickness of soil in bedrock areas ranges from one to two feet along ridges, and 8 to 10 feet in colluvial swales.

The alluvium beneath the main valley floor consists of interlayered, poorly sorted gravel, sand, silt, and clay deposits derived from the erosion of Franciscan bedrock materials which form the surrounding hillsides. The major soil types found on the valley floor include Keefers clay loam, Los Robles clay loam, Gilroy clay loam and Vallecitos rocky loam, along with Cropley clay and Maxwell clay at the eastern end of the site. These soils are composed of stiff to hard sandy clay, gravelly clay and clayey gravel and have good strength characteristics. Soil depth on the valley floor ranges from 45 to 95 feet.

Faults and Seismicity

Seismically, the site and region are dominated by the potential release of earthquake-generating energy stored along the active San Andreas system which forms the boundary between two tectonic plates. In the south Bay Area, movement along this boundary is distributed across a complex system of faults which include the San Andreas (7.4 miles southwest), the Calaveras (5.6 miles northeast), and the Hayward (16 miles northeast). In addition, the Sargent-Berrocal fault (4.3 miles southwest) and the Coyote Creek fault (5 miles northeast) are considered by most geologists to be active. All of these faults are considered capable of generating large magnitude earthquakes that could cause high intensity groundshaking at the Lion's Gate site.

Two inactive fault traces cross the northern and southern portions of the valley, in a roughly parallel alignment from southeast to northwest. These traces are believed to be the eastern-most extension of the Ben Trovato fault, which is not designated as potentially active under the Alquist-Priolo Earthquake Fault Zoning Act. There is no data to indicate that these on-site fault traces have been active in the recent geological past.

Based on backhoe trenching and seismic refraction studies undertaken at the site in 1990, Wahler Associates concluded that the faults on-site are inactive. (A previous report by Terratech in 1988 indicated that the on-site fault traces might be "active," based on interpretation of aerial photographs. However, the subsequent Wahler report was quite firm that their subsurface fault investigation found no evidence to support a belief that on-site fault traces might be active. The recent evaluations by Pacific Geotechnical Engineering in 1995 also concluded that these faults are not active.)

Other faults have been mapped on and adjacent to the property as displacing Franciscan bedrock and separating Franciscan bedrock from serpentinite. Faults are common in bedrock of the Franciscan Complex and are interpreted as the result of ancient, inactive deformation.

Landslides and Soil Stability

The site is relatively free of major landslide features, except for two active or dormant landslides near the southeasterly corner of the property. There is also a mudflow in this area of the site, which probably occurred as a result of the heavy rains of 1982.

In the northwest corner of the site, there is an area with many small landslides, and there are also several shallow landslides in the colluvial soils along the south-facing slopes of the northeastern hillside area. There are no deep bedrock landslides identified on the property.

Adjacent to the valley floor on both sides, the lower slopes and drainage ravines are covered with deposits of colluvial soil (a poorly consolidated, organically rich soil composed of weathered bedrock material). The

colluvium deposits represent accumulation of soil and bedrock debris by slopewash, creep, landsliding, and other mass wasting processes. The thickness of these deposits generally increases downslope. Due to their unconsolidated nature, these deposits are generally unstable and susceptible to accelerated erosion and gulleying. Since the colluvium generally includes clay materials, these deposits also tend to be expansive and may creep downhill.

Active erosional down-cutting is occurring in the central portion of the main valley (where there are gulley banks as deep as 8 feet) and in some of the steeper canyons. Elsewhere, localized gulleying is occurring on some of the steep slopes underlain by thick soil or landslide deposits.

Groundwater

Within the alluvium area of the valley floor, groundwater has been measured at most places at depths of 13 to 20 feet, after a heavy rainy season. In some places, groundwater has been measured within several feet of ground surface. These levels vary with the season and the rainfall amounts.

In the surrounding hillsides, several active springs and seeps exist. Most of these springs appear to be associated with major geologic transition zones, such as faults, shear zones and geologic contacts between bedrock units (e.g., between Franciscan and serpentine bedrock). Some of these springs have been developed into shallow wells to provide stock water, or to form ponds.

Serpentine/Asbestos

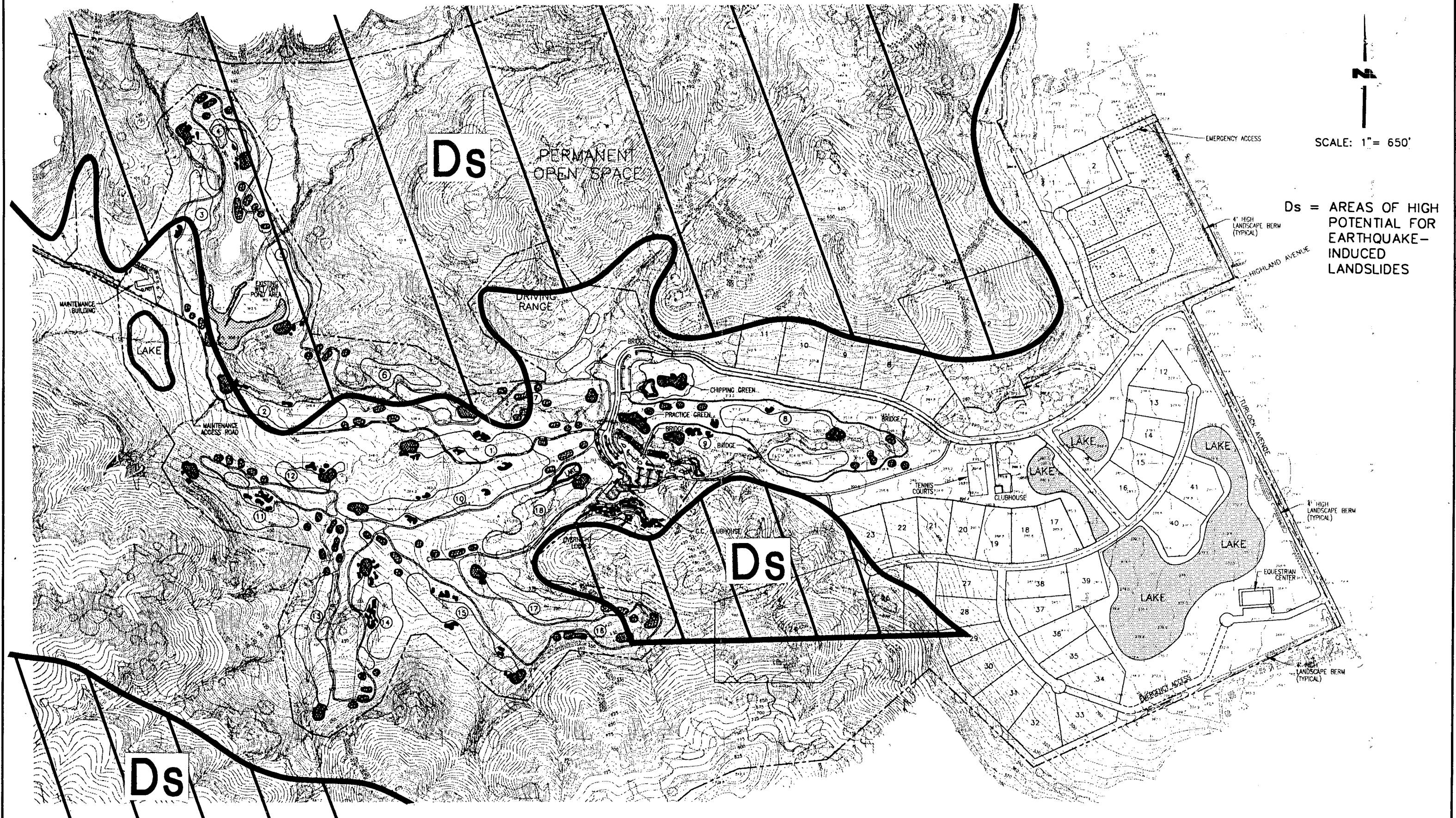
In the northeastern hills of the site, an area of approximately 75 acres is underlain by serpentinite bedrock. Most serpentinite in the region contains tiny veins of chrysotile, an asbestos mineral. When disturbed and released into the air, as may occur as a result of grading activity, the windborne chrysotile is considered to be a potential health hazard if inhaled.

Ordinances and Regulations that Address Geology and Soils

Geologic Ordinance: This ordinance stipulates the minimum level of geologic studies required for proposed projects based on the official County Geologic Hazard Maps of the project. Portions of the project site are designated on the County Geologic Hazard maps as "Ds" zone, which indicates a high hazard for potential earthquake-induced landsliding (see Figure 12). No portion of the site lies within the County's "Dr" hazard zone, which reflects the high potential for ground displacement along fault traces. Likewise, no portion of the site lies within an Alquist-Priolo Earthquake Fault Zone mapped by the State Geologist.

The Geologic Ordinance requires the County Geologist to determine whether or not detailed geologic investigation is needed in such designated hazard areas prior to project approval. The required geologic reports must be reviewed and approved by the County Geologist prior to project approval. The ordinance also requires that all building permits in such areas be reviewed and signed by the County Geologist who may require additional studies.

Grading Ordinance: This ordinance establishes minimum standards for grading projects in order to control erosion and sedimentation, as well as to prevent slope destabilization and scarring of hillsides. It regulates grading through the grading permit approval process, and establishes standards for the construction and maintenance of cuts and fills, and the clearing of vegetation. It also requires the revegetation of cleared areas and the installation of proper drainage control to minimize instability.



COUNTY OF SANTA CLARA HAZARD ZONES

Uniform Building Code: The UBC, which is adopted by the County, provides minimum standards to safeguard life, health, and property by regulating the design, construction, quality of materials, and location and maintenance of buildings and structures. The UBC contains the latest seismic standards.

Significance Criteria

With respect to geologic impacts, Appendix G of the CEQA Guidelines states that a project will normally have a significant effect on the environment if it will: "(r) Expose people or structures to major geologic hazards."

Impacts and Mitigation

Impact 1. **Potential secondary ground rupture or sympathetic movement along inactive faults crossing the site may result in minor damage to structures, roadways and utility lines. (Potential Significant Impact)**

The previous limited fault investigation on the Hayes Valley site by Wahler Associates in 1990, concluded that both of the on-site fault traces are inactive. Therefore, the potential hazard due to primary ground rupture (as might occur along an active fault trace) is considered to be minimal at the project site. Secondary ground rupture or *sympathetic movement* along one of the inactive faults on-site could conceivably occur as the result of the strong groundshaking caused by the occurrence of a large earthquake originating on one of the nearby active faults (e.g., Sargent or San Andreas faults). In the event of a large nearby earthquake, sympathetic movement of a fault within bedrock materials at depth might propagate through the overlying sediments to break the ground surface; but where bedrock covers significant thickness (more than 5 feet) of alluvium or colluvium, the displacement at the ground surface would be considered unlikely, although broad tilting and deformation are possible. Any displacements at the surface of the bedrock from such sympathetic fault movement would likely be small, up to a maximum of several inches. The risk of minor damage to structures, roadways and utility lines crossing on-site fault traces as a result of secondary ground displacement is negligible, but remotely possible. The areas of the project that could be potentially affected by the on-site fault trace include proposed Lots 7 through 11, 20 through 24, and 30 and 31 (see Figure 11). The clubhouse and overnight accommodations complex would not be affected.

Mitigation 1a. **Where proposed structures for human occupancy are determined to be underlain by an inactive fault trace, appropriate setback distances for those structures may be required.**

Detailed fault investigation would be undertaken where structures for human occupancy are planned for areas suspected of being underlain by faults. These studies would determine the potential for surface displacement along the on-site fault traces, with implementation of recommendations as to appropriate measures for site planning, building design, and utilities engineering. The previous fault study (Wahler, 1990) was relatively general and did not address specific proposed building sites.

Based on the findings of such explorations, the project geologist could recommend that habitable structures be located off the faults, or in the event of potential sympathetic movement, that a setback zone be established. An appropriate setback distance would be

established in discussions between the County Geologist and the project geologist. There is adequate space on all of the proposed lots to accommodate any changes in building locations. Alternatively, the project geologist may conclude that there is no risk of offset along the fault contacts due to the thickness of alluvium, indicating no need for mitigation or avoidance.

Mitigation 1b. Potential for rupture of water, wastewater or utility lines would be reduced by measures such as the use of pipes with flexible or telescoping couplings, double pipe, and other measures.

If the studies determine that a potential risk exists for rupture of water, wastewater or utility lines, the potential for rupture can be reduced by measures such as the use of pipes with flexible or telescoping couplings, double pipe, and the use of sand as backfill material in pipe trenches where they cross the fault trace. If rupture occurs, the amount of water or effluent spilled can be minimized by the use of automatic shut-off valves installed at both sides of the fault crossing.

Impact 2. Strong ground shaking occurring on the site during a major earthquake may cause severe damage to project buildings, bridges and other structures. (Potential Significant Impact)

Historically, major earthquakes centered on the Hayward, Calaveras and San Andreas faults have resulted in moderate to severe ground shaking at the Hayes Valley site. It is expected that a major earthquake will cause severe ground shaking at the site during the life of the project facilities.

Ground shaking will cause dynamic loading resulting in stress to buildings and structures. However, structures designed and built in accordance with the Uniform Building Code should respond well except during the most severe potential ground shaking. The foundation soils at the site are generally strong and dense and should respond satisfactorily under the stresses imposed by strong ground motion.

Seismic shaking can also induce secondary ground failures such as liquefaction, lateral spreading, and landsliding. (These issues are discussed subsequently.)

Mitigation 2. Structural damage to buildings resulting from ground shaking would be largely prevented by following the requirements of the Uniform Building Code. Bridges and other structures would be designed in accordance with seismic design loads as determined by the project geologist.

Impact 3. Seismic shaking could induce ground failure resulting from liquefaction, potentially causing damage to buildings and other structures. (Potential Significant Impact)

Ground failure due to liquefaction occurs in areas where saturated, sandy loose soils can liquify when shaken. This results in the soil losing its shear strength as it essentially transforms to a liquid state (similar to quicksand), thereby causing sudden differential settlement of structures located above the liquified soil. The greatest potential for liquefaction exists in cohesionless soils with high groundwater.

The floor of Hayes Valley may be underlain by alluvial deposits which typically are potentially liquefiable. Liquefaction potential is actually considered to be low, however,

because the on-site alluvial soils are moderately consolidated, and are typically cohesive and dense in nature. To date, soil borings taken on the site indicate that soils have too high a clay and/or gravel content for liquefaction to occur. However, there may be isolated pockets of liquefiable material present on the valley floor.

- Mitigation 3.** If liquefiable material is found at building sites, mitigation would involve subexcavation of the liquefiable material and replacement with engineered fill, or alternative measures as recommended by the project geologic engineer.

Site-specific geotechnical studies would be conducted prior to permit approvals to determine if liquefaction potential exists in the proposed development areas. The engineering recommendations of those studies would provide the specific mitigations to be implemented for liquefaction, as necessary.

- Impact 4.** Seismic shaking could induce lateral spreading, potentially causing damage to buildings and other structures. (Potential Significant Impact)

Ground shaking can also result in lateral spreading, which is the lateral displacement of flat-lying alluvial material toward an open area, such as a steep bank of a stream channel. Considering the narrowness of the creek channel, and given on-site soils of cohesive, dense alluvium, the risk of lateral spreading is low.

- Mitigation 4.** The risk of damage from lateral spreading would be minimized by getting planned structures back from stream banks, in accordance with the recommendations of a geologist.

The setback distance appropriate for on-site structures would depend on localized soil conditions, and would be determined during geotechnical studies required prior to project development.

- Impact 5.** The presence of unstable slopes and existing landslide deposits on the project site may pose a hazard to proposed structures, and may be affected by project grading. (Potential Significant Impact)

Several minor shallow landslides have been mapped along the lower south-facing slopes of the northeastern hillside area of the site, in the vicinity of the proposed practice range. Landslides have also been mapped near the southern hillsides of the site, in the vicinity of the proposed overnight units, and at the sites of proposed residential Lots 24, 25 and 26. These areas of the site lie within the "Ds" area of the County's Geologic Hazard Maps (see Figure 12), indicating a high potential for earthquake-induced landslides. It is possible that new landslides could occur within these generally unstable areas.

The existing and potential landslide areas of the site could be naturally destabilized by intense rainfall or seismic ground shaking. Also, the water issuing from existing springs in the northern hillside areas tends to destabilize hillside soils and contribute to landsliding.

Unstable slopes and landslides could also be destabilized by activities proposed for the project such as large-scale grading which could cut into unstable slopes or load unstable areas with new fill materials.

In addition, the spray irrigation of the practice range with treated effluent, which is proposed as an alternative wastewater disposal method, could destabilize existing slide deposits in this area by increasing pore pressures within the slide masses.

Due to concerns about potential landsliding affecting the feasibility of the proposed overnight units, and Lots 24, 25 and 26, feasibility-level geotechnical evaluations of these areas were conducted by Pacific Geotechnical Engineering in December 1995. With respect to the overnight units, it was found that two landslide deposits located upslope of the complex could become reactivated and impact the proposed structures. It was concluded that, while further design-level geotechnical studies would be required, it appears that this landslide hazard "can be mitigated or repaired in conventional fashion without exorbitant cost" (see mitigation measures below). (The feasibility report on the clubhouse and overnight complex is contained in Appendix C.)

With respect to the potential for mudflow that might have an impact on the proposed improvements on Lots 24, 25 and 26, it was found that development of these three lots is constrained by potential debris flow and landslide activity. However, there are areas within each of the proposed lots where structures could be sited at suitable distances from the area of high landslide potential. Structures could be sited closer to the areas of potential debris flow and landsliding if appropriate mitigations are implemented. (The feasibility report on Lots 24, 25 and 26 is contained in Appendix C.)

Mitigation 5. Potential damage from landslides would be avoided by setting structures back from known landslide deposits, by repairing the landslides, or by implementing other slope stabilization measures to prevent new landslides.

Existing landslides and areas of potential slope instability that may be affected by proposed grading, construction and spray irrigation would be subject to detailed geologic and geotechnical investigations as required under the County's Geologic Ordinance, prior to issuance of a grading permit. These studies would provide specific recommendations to mitigate potential landslide hazard.

Typical measures for landslide repair include selective removal of landslide debris, keying into bedrock, constructing engineered fills and buttress fills, and constructing surface and subsurface drainage galleries to reduce the potential for failure.

With respect to the potential debris flow impacts at Lots 24, 25 and 26, the feasibility report by Pacific Geotechnical Engineering identified possible mitigation measures such as a deflection wall or berm, detention basin or possibly an energy-dissipation fence. For the potential slump-flow landsliding hazard on these lots, the report identifies mitigation measures such as regrading the slope of the face of the alluvial fan, excavating and recompacting the landslide debris, and establishing drainage controls.

The specifics of the mitigation approach would be determined during the detailed geological and geotechnical investigation required under the County's Geologic Ordinance.

Impact 6. **Potential debris flows originating in the hillside areas of the site could cause damage to proposed structures and the golf course. (Potential Significant Impact)**

There is a potential for debris flows to occur along the many narrow drainage ravines which run up the hillsides on both sides of the valley floor.

Debris flows are shallow, rapid, muddy landslides that occur with little or no warning during or within several hours after high-intensity rainstorms. Debris flows often originate in natural soil near the tops of, or along the flanks of, steep, narrow drainages or in fill on steep slopes. Unlike slow-moving landslides (which usually affect only the area immediately surrounding the ground failure), debris flows often travel hundreds of feet and impact areas well below the unstable hillsides on which they originate. As experienced during the unusually wet winter of 1982-83, debris flows can be extremely destructive. The potential for debris flows occurring along a given drainage depends primarily on whether accumulations of potentially unstable soil exists in their upper reaches. The areas of the proposed project which are potentially subject to the effects of debris flows include the practice facilities and the westerly residential area.

Mitigation 6. **Where a potential for debris flow is present, the hazard would be mitigated by removing accumulations of soil from the potential source areas, or by constructing debris deflection, channeling and containment facilities at the mouths of the potentially affected ravines.**

Areas of known debris flow hazard would be addressed in detailed geologic and geotechnical studies which would provide measures to improve the stability of these areas to an acceptable level. Implementation of those measures would occur prior to construction of planned improvements.

To reduce the destabilizing effects of the springs in the northern hillsides, subdrainage systems would be installed in the hillside areas immediately upslope of the proposed development areas.

The design of proposed cuts and fills would be prepared by a qualified engineer on the basis of site-specific geotechnical data and slope stability analysis.

Impact 7. **Expansive soils present on the site may cause movement or heaving, potentially resulting in damage to foundations, concrete pads and pavements. (Potential Significant Impact)**

The majority of the near-surface soil on the site consists of silty or sandy clay, which is moderately to highly expansive. The higher clay content gives the soil the capacity to absorb and release large amounts of moisture with associated volume changes. During the rainy season these soils swell as water is absorbed, and during the dry season they shrink as water is removed by evapotranspiration. Highly expansive soils are evident during the dry season by the formation of open shrinkage cracks on the ground surface.

The expansion (or swell) of soils could exert pressures against foundation elements, and on slopes that could result in creep of the soils. The shrinking of soils could result in

consolidation beneath foundation elements. Structures built on foundations that are not designed for such soil movements can be deformed and damaged.

The north-central area of the site contains colluvial materials which are potentially highly expansive. Any development proposed for this area, such as the proposed maintenance facility, would require special attention during design and construction of building foundations and pavements, but would probably not require site plan modifications.

Mitigation 7. **The potential damage to foundations and pavements would be avoided by following the requirements of the Uniform Building Code, and may necessitate removal of the expansive soils from areas where buildings, slabs-on-grade or pavements are planned to be constructed.**

Site-specific geotechnical studies would be conducted prior to permit approvals to determine if expansive soils are present within the proposed development areas. To mitigate potential foundation problems associated with expansivity of soils, the project geotechnical engineer may recommend that all foundations bear on low expansivity subsoils or bedrock, necessitating the removal of any expansive soils from those areas. This would result in reduced foundation requirements and lower foundation costs. If removal of expansive soils is not possible, the foundations should be designed to accommodate movements caused by the expansive soils.

Any locations where the internal access road traverses expansive soils would require stripping of the expansive soil in the foundation subgrade.

Impact 8. **Areas with potential soil creep may cause damage to foundations, concrete pads and pavements. (Potential Significant Impact)**

Where expansive soils are present on sloping ground, seasonal expansion and contraction causes soils to move downslope, generally at a rate measured in millimeters per year. While this rate is very slow, it has a progressive and degenerative effect on structures that are not designed to accommodate or resist the forces involved.

There are several areas of suspected or observed soil creep, primarily on the steep slopes with thick soil cover to the south of the proposed overnight facilities. These areas are characterized by shallow erosion and sloughing, leaning trees or fences, and slightly irregular or hummocky surface. The deposits of colluvium along the lower slopes and drainages are subject to soil creep which can exert pressure on downslope structures and foundations.

Mitigation 8. **Protection from potential surface sliding and soil creep would be provided by preventing surface water from draining onto potentially unstable slopes, through subsurface drainage control, and by providing for resistance to higher lateral pressures in the design of footings and walls.**

The potential damage due to soil creep would be evaluated during detailed geologic and geotechnical investigations, followed by implementation of recommended mitigations as appropriate.

Impact 9. Removal of vegetation and project grading may result in erosion and sedimentation of downstream water bodies. (Potential Significant Impact)

The removal of vegetation and topsoil during grading may reduce infiltration capacities of the soils, thereby increasing the volume and velocity of surface runoff. This would potentially result in increased erosion, potential gullying and stream channel erosion. Increased sediment loads may adversely affect aquatic habitats downstream. (See Section III. F. Water Quality).

Mitigation 9. Implement erosion control practices during grading and construction.

The project would be subject to detailed erosion control measures to be specified in the County's Grading Permit conditions and also in the Storm Water Pollution Prevention Plan which will be required for the project. (Specific measures to control erosion and sedimentation are described in Section III. F. Water Quality.)

Impact 10. Shallow groundwater conditions in areas of the site may adversely affect below-ground structures and utilities. (Potential Significant Impact)

The relatively shallow groundwater conditions are expected to affect below-ground structures including basements and utilities located at depths greater than 10 feet below the original ground surface in spring areas and in the valley floor area. Excavation for stormwater retention basins or ponds, requiring cuts greater than a depth of 10 feet, may encounter groundwater.

Shallow groundwater conditions may limit the use of leachfields in the low-lying valley areas, or in the vicinity of perennial springs and hillside drainages.

The spray irrigation of treated effluent over the practice range would add water to this area. However, groundwater levels would not be affected since treated water would be applied to match evapotranspiration (ET) rates of the turfgrass, and no spray irrigation would occur in winter.

The installation of water wells for golf course irrigation could draw down the water table. Land subsidence or settlement can occur as a result of groundwater withdrawal and lowering of the water table in poorly consolidated alluvial sediments. Since sediments underlying Hayes Valley are moderately to well consolidated, minimal subsidence or settlement is anticipated to result from moderate irrigation pumping.

As discussed in Section III. P. Water Supply, on-site wells would be used to augment irrigation water supplies from Twin Valley, Inc. However, on-site pumping would not exceed the estimated safe yield of 280,000 gallons per day based on an average daily use. Therefore, the on-site water table is not expected to be lowered as a result of supplemental irrigation pumping at the site.

Mitigation 10. Groundwater problems would be minimized by avoiding subsurface construction during or just after the rainy season, and through implementation of grading and drainage measures to improve surface and subsurface drainage.

The grading and drainage plan would include provisions for improving surface and subsurface drainage to alleviate the seasonal groundwater problem.

Impact 11. **Any unplanned construction or grading activity that encroaches upon the on-site serpentine hillsides might result in the release of chrysotile asbestos, potentially causing a public health hazard. (Potential Significant Impact)**

There are no plans for development or grading to occur within any part of the serpentine hillside, and the project plans have been carefully prepared to avoid encroachment into this area. However, a portion of the proposed residential cluster subdivision would be constructed directly adjacent to the southern edge of the serpentine area. Unless this edge is properly marked and fenced, there is potential for grading activity to inadvertently encroach upon the serpentine area.

Mitigation 11. **To avoid disturbance of the serpentine bedrock area, the edge of this area would be fenced or roped-off to prevent encroachment by construction equipment.**

In addition, signs would be posted along this construction boundary warning of the potential hazard. Also, construction workers would be educated about the serpentine area and of the importance of preventing soil disturbance there.

Conclusion. **Implementation of the above mitigation measures would reduce the potential geologic and seismic impacts resulting from the project to less-than-significant levels.**

E. HYDROLOGY AND DRAINAGE

This discussion is mainly based on the Hydrology and Drainage Study prepared by Schaaf & Wheeler in November 1995. The full report is included as Appendix D of this EIR.

Environmental Setting

Area-Wide Drainage

The project site is located in the Llagas Creek watershed which drains from the eastern slopes of the Santa Cruz Mountains and the western slopes of the Mount Hamilton Range south to the Pajaro river and Monterey Bay near Watsonville. The major tributaries of Llagas Creek are Little Llagas Creek, Madrone Channel, Coralitos Creek, San Martin Creek, Church Creek, and West Branch Llagas Creek. Llagas Creek and its tributaries drain a total of approximately 105 square miles upstream of its confluence with the Pajaro River south of Gilroy.

The climate of the south Santa Clara Valley is similar to that of the San Francisco Bay Area. Summers are warm and dry while winters are mild and moderately wet. Nearly 90 percent of the annual rainfall occurs in the late fall or winter months, with January normally being the wettest. The mean annual precipitation varies within the Llagas Creek watershed from a high of over 50 inches in the Santa Cruz Mountains to a low of 14 inches on the valley floor. The basin-wide average is approximately 20 inches per year.

Stream flows in Llagas Creek are regulated by Chesbro Reservoir, which is owned and operated by the Santa Clara Valley Water District. The reservoir has a total storage capacity of approximately 8,100 acre-feet. The reservoir is operated for water supply purposes, but does provide some incidental flood control benefit due to peak flow attenuation.

The upland areas of the Llagas Creek watershed have soils developed on sedimentary rock, basic igneous rocks and serpentine rocks. The main soils are of the Los Gatos, Gaviota, Vallecitos and Haymen associations. They range in depth from shallow to deep, and are located on steep to very steep slopes. The vegetative cover includes grasses, oak, pine, brush and hardwoods. The infiltration rates of water in the upland areas is generally slow. The upland soils are classified as having a high to very high erosion potential.

The upland portions of the Llagas Creek watershed have very little development at this time, and the County General Plan calls for only limited development in the future with mostly open space. On the valley floor, most of the Llagas Creek channel and its tributaries are leveed or perched channels with channel banks higher than adjacent areas on one side or both sides of the stream channel. Therefore, overflows from the channel tend to flow away from and parallel to the channel.

Based on information from the Federal Emergency Management Agency (FEMA) Flood Insurance Study for Santa Clara County, there are extensive areas of floodplain from Llagas Creek and its tributaries. The most serious of these are within the City of Morgan Hill from West Little Llagas Creek, and in the City of Gilroy from West Branch Llagas Creek.

The Santa Clara Valley Water District and the Soil Conservation Service have completed a flood control project for the Llagas Creek watershed. The downstream reach from Bloomfield Road to the Ronan Channel has been improved to 100-year design standards, and the reach from the Ronan Channel to Route 101 has been improved to 10-year design standards. In addition, 100-year design channels have been provided in the urban areas of Morgan Hill and Gilroy. Improvements in Gilroy included diversion of West Branch Llagas Creek to the Ronan

Channel, and channel improvements upstream to Day Road. The project was designed to eliminate most flooding in Gilroy south of Day Road. This project has been completed, and FEMA is in the process of changing the Flood Insurance Rate Maps for this area.

Site Drainage and Flooding Conditions

The project site drains to two separate drainages. The western portion of the site drains to the west to Hayes Creek near Watsonville Road while the majority of the site drains via the east to the West Branch Llagas Creek. A network of intermittent and ephemeral streams flow from the higher elevations on the perimeter of the central valley into the West Branch of Llagas Creek. The Creek has 8 primary tributaries, 4 of which drain the hills north of the valley and with the other 4 originating on the southern ridgeline. These tributary streams flow during winter and spring months for varying periods and are dry the remainder of the year. West Branch Llagas Creek discharges to the Ronan Channel which joins Llagas Creek near Highway 152 east of Gilroy. Hayes Creek drains to Llagas Creek near Watsonville Road, south of Morgan Hill. There are no detailed floodplain studies for Hayes Creek. The area is designated as Zone D on the Flood Insurance Rate Map. Zone D is defined as an area of undetermined flood hazard.

The existing Flood Insurance Rate Maps for West Branch Llagas Creek do not include detailed floodplain studies upstream of Golden Gate Avenue, approximately 2 miles south of Highland Avenue. The stream channel on the project site is designated as Zone A, approximate 100-year floodplain. At Turlock Avenue, the floodplain is shown as approximately 300 feet wide along the channel north of Highland Avenue.

West Branch Llagas Creek has been restudied by FEMA to update the existing Flood Insurance Rate Maps. The draft work maps are currently in the review process and are not expected to become effective until late 1996. The SCVWD is using the revised maps as the best available information in the interim. The proposed 100-year floodplain for West Branch Llagas Creek near Highland Avenue is significantly larger on the revised maps than on the current maps. The proposed floodplain includes shallow flooding from the channel commencing at the ranch complex on the project site and including the area south of Highland Avenue, west of Turlock Avenue, and the area north of Highland Avenue west of Coolidge Avenue (see Figure 13).

The hydrology for the detailed floodplain study shows an estimated 100-year peak flow rate of 850 cubic feet per second for West Branch Llagas upstream of the on-site overflows upstream of Turlock Avenue. An estimated 400 cfs overflows Highland Avenue toward the south upstream of Turlock Avenue. An additional 355 cfs overflows from the channel toward the north upstream of Coolidge Avenue. The northern overflow crosses Coolidge Avenue north site and flows overland to the east and south to the West Branch Llagas Creek channel at Highland Avenue. The majority of the overflow to the south flows overland to the south and east and crosses Turlock Avenue to rejoin the West Branch Llagas Creek floodplain between Highland Avenue and Golden Gate Avenue. A portion of the overflow continues south along the west side of Turlock Avenue.

Ordinances and Regulations that Address Drainage and Flooding

County Drainage Manual: This manual contains guidelines for design and installation of drainage facilities for projects. Projects must demonstrate that drainage will be handled adequately in order to avoid drainage and flooding problems. These guidelines ensure that there are no on- or off-site drainage problems associated with a project.

Grading Ordinance: The ordinance requires that all drainage structures and devices be consistent with the adopted County Drainage Manual and its standards. It outlines disposal requirements for both on- and off-site drainage; provides for slope protection and erosion control; and the design of dikes, swales and ditches.

FIGURE 13

Land Development Regulations: The County Land Development Engineer reviews all projects to ensure no on- or off-site drainage impacts would occur as a result of the proposed project.

Zoning Ordinance: For projects requiring a use permit, Section 47-5(d) of the Zoning Ordinance ensures that adequate storm drainage exists or shall be provided as a part of the project; and that no on- or off-site drainage impacts would result from the project.

Special Flood Hazard Area Ordinance: This ordinance applies to all areas of special flood hazard (i.e., within the 100-year flood zone as established by FEMA) within the unincorporated area of Santa Clara County. No new development shall occur, or structure or improvement shall be constructed in a flood zone without compliance with this ordinance.

Significance Criteria

With respect for flooding and drainage impacts, Appendix G of the CEQA Guidelines states that a project will normally have a significant effect on the environment if it will: "(g) Cause substantial flooding, erosion or siltation."

Impact and Mitigation

Impact 1. The project would potentially result in increased downstream flooding during the 100-year and 10-year storms. (Potential Significant Impact)

The proposed residential development on the project site would increase the amount of impervious area on the site and therefore increase the runoff from the site.

The cluster residential development area south of Highland Avenue would be served by storm drains which would discharge to the 20-acre lake proposed for the main subdivision area. The overflows from the lake would discharge via storm drains to West Branch Llagas Creek upstream of Coolidge Avenue. In addition, there are approximately 73 acres of hillside area upstream of this residential development area. Drainage from this area would also be collected by the storm drain system and discharge to the lake. The total area of this drainage area is approximately 240 acres.

The golf course would also be located entirely within the West Branch Llagas Creek watershed which drains to the east. There would be no development in the western portion of the site which drains to the west to Hayes Creek. The West Branch Llagas Creek watershed upstream of Turlock Avenue is approximately 1,060 acres or 1.66 square miles. The golf course development would include approximately 240 acres, the majority of which would be landscaping and turf. The upstream hillside areas would not be affected. The existing creek channel and pond would be largely maintained in their existing configurations. A new pond would be constructed west of the existing pond to serve as an irrigation water reservoir and to detain runoff from the undeveloped area upstream. The new pond would include approximately 9 acre-feet of detention storage.

To analyze potential drainage and flooding impacts, the project site was divided into the following 3 drainage areas: the cluster residential subdivision south of Highland Avenue; the area upstream of the existing pond; the area upstream of the proposed new irrigation

reservoir; and the area downstream of the pond golf course reservoir. Discharge rates were estimated for the 10-year and 100-year storms for existing and project conditions.

The results of the flooding analysis show that the proposed golf course would reduce the flow from the site to West Branch Llagas Creek. The golf course would decrease the estimated peak runoff from the watershed because the proposed irrigated turf would maintain a dense layer of thatch which would act as a sponge and reduce runoff, whereas the existing unirrigated range grasses tend to be sparse, with exposed dirt between grass clumps, which does not retain as much runoff. The estimated 100-year peak flow from the golf course area would decrease from 780 cubic feet per second to 765 cubic feet per second, a decrease of 2 percent. The 10-year peak flow rate would decrease from 375 cubic feet per second to 360 cubic feet per second, a decrease of 4 percent.

The proposed golf course irrigation reservoir would also act as a detention facility to reduce the estimated peak flow rate from the western portion of the watershed. For purposes of analysis, the existing pond was assumed to be full at the start of the storm and to have minimal effect on the flood hydrograph. The proposed irrigation reservoir was assumed to be full to spillway elevation at the start of the storm, and to have a 12-foot wide spillway. The estimated storage capacity of the pond is 9-acre-feet with 3 feet of flow over the spillway. The detention storage in the irrigation reservoir would reduce the estimated 100-year peak flow at the pond from 59 cubic feet per second to 39 cubic feet per second, a reduction of 20 cubic feet per second. However when routed downstream and combined with the larger watershed downstream, the detention storage reduces the peak by approximately 10 cubic feet per second. This is due to the difference in timing between the peak flow in the upper watershed and the lower portion of the watershed. The peak flow from the upper watershed is delayed by the travel time along the creek channel and arrives after the peak from the lower watershed. Therefore the peaks do not add directly. The detention storage in the upper watershed acts to increase the timing difference of the upper watershed.

The proposed golf course grading would also include local detention areas to contain runoff from the turf areas for water quality purposes. These would also act to reduce runoff from the site, particularly for small storms. The effect of these detention areas on larger storms would depend on the design and placement of each area and whether the upstream hillside areas would drain to the detention areas or directly to the creek. Therefore, the effects of potential detention storage on the golf course other than the larger pond were not considered in the hydrograph analysis.

The flooding analysis indicated that the proposed cluster residential development would result in a potential increase in the peak runoff from the development site. The 100-year peak flow from the entire watershed would increase from 236 cubic feet per second to 301 cubic feet per second, an increase of 28 percent. The 10-year peak flow rate would increase from 120 cubic feet per second to 160 cubic feet per second, an increase of 33 percent. The increase in peak runoff is due to both the increased impervious area in the development, and the more efficient drainage system which collects runoff faster than the existing overland flow conditions.

However, the cluster residential subdivision would include a proposed lake, and runoff would be drained to the lake, then released to West Branch Llagas Creek. Only the proposed equestrian center in the southeastern corner of the site would be below the lake elevation and would drain toward Turlock Avenue. There is no storm drain system along Turlock Avenue, but runoff flows along the road under existing conditions.

The residential cluster subdivision is located in a drainage area of 240 acres, which would drain to the proposed lake. Without the lake, increased peak runoff from the cluster residential subdivision would potentially increase the peak flow in West Branch Llagas Creek downstream.

Mitigation 1. **The on-site lake proposed for the southern residential cluster subdivision would be designed to provide sufficient detention storage for increased peak runoff resulting from site development. With this pond, the peak flow rates leaving the project site during the 100-year and 10-year storms would be lower than under existing conditions.**

The potential increased runoff from the residential area during the 100-year event would be 65 cubic feet per second, without the proposed lake. The proposed lake would have a normal water surface elevation less than the top of bank elevation of West Branch Llagas Creek at the outfall from the pond. The outfall would have a flap gate to prevent high water levels in the creek from discharging back into the pond. The outflow from the pond would only occur when the water level in the creek is low. Therefore, the outflow from the pond would not contribute to the existing flood problems from the creek channel.

The proposed pond in the residential development would include an overflow spillway release for larger flood events, and an active detention storage volume between the normal water level and the spillway crest. Based on a preliminary design which includes 2 feet of active detention storage below the spillway crest and one foot of storage above the spillway crest, the proposed pond could contain approximately two-thirds of the total runoff from the residential development area and the upstream hillside area during the 10-year 24-hour design storm. The pond would release approximately 30 cfs over the spillway to Turlock Avenue during the 10-year storm. This would be significantly less than the existing condition peak flow rate of 120 cfs. For smaller flood events there generally would be no spill from the pond, and runoff stored in the pond would be released to the creek after the high water levels in the creek have receded. The outlet to the creek would release approximately 20 cfs to drain the active storage volume of the pond in 24 hours after the storm.

During the 100-year 24-hour flood event, the total runoff to the lake would be approximately 125 acre-feet. With no outlet release to the creek during the storm, the pond would overflow to Turlock Avenue once the active storage has filled. The estimated peak overflow would be 140 cfs for the 100-year flood. The existing peak runoff from the site during the 100-year event is estimated to be 236 cfs. Thus, although the shallow flooding along Turlock Avenue that occurs during the 100-year event under current conditions would not be eliminated, it would be substantially reduced by the flood control elements to be incorporated into the project.

The only potential adverse effect of increased peak runoff from the hillside cluster residential development site would be to increase the peak flow in West Branch Llagas Creek downstream of the project. Due to the operation of the outlet from the pond, this could only occur once the high water levels in the creek have receded and the potential for downstream flooding has passed. Therefore, there would be no increase in downstream flooding. The low flows in the creek would continue for a longer time after a storm due to the releases from the detention pond. This should not be a significant impact.

The equestrian center area in the southeast portion of the project site would not drain to the pond in the residential development area. Due to the site topography, there would be a berm

between the equestrian center and the pond to contain the pond. The maximum height of the berm would be approximately 7 feet. The equestrian center would continue to drain to Turlock Avenue and ultimately to West Branch Llagas Creek. Because of the limited impervious area associated with the equestrian center, there should be no increase in runoff from the area after the project. In addition, the proposed equestrian center would include a detention pond for water quality purposes.

Impact 2.

Portions of the residential cluster subdivisions would be subject to shallow flooding (one foot average depth) during a 100-year event, and the proposed dwellings could also potentially obstruct this sheet flow through the site. (Potential Significant Impact)

Based on the revisions to the existing Flood Insurance Rate Map, shown in Figure 13, the West Branch Llagas Creek would overflow to the south upstream of Turlock Avenue (i.e., at the on-site ranch complex). For the 100-year flood, approximately 400 cubic feet per second would cross through the northeastern portion of the cluster residential development, in particular through Lots 12, 13 and 14 at the northeast corner of the subdivision. This mapped overflow crosses the site and Turlock Avenue to rejoin West Branch Llagas Creek 500 to 1,000 feet downstream of Highland Avenue. The overflow is indicated as shallow flooding with an average depth of one foot, indicating that the proposed lots would be prone to flooding. In addition, grading for the residential lots in the overflow area could adversely affect the sheetflow through the area if the flow is obstructed. Similarly, grading for the access road the project and landscaping along Turlock Avenue could affect the sheetflow across the site.

The revised flood maps also show an overflow to the north from West Branch Llagas Creek upstream of Coolidge Avenue. For the 100-year flood, approximately 355 cubic feet per second would cross through proposed the rural residential development north of Highland Avenue and west of Coolidge Avenue. The overflow would flow overland to rejoin West Branch Llagas Creek at the culvert under Highland Avenue. Part of the overflow is designated as shallow flooding with an average depth of one foot, and a small sliver along the north boundary is indicated for flood depths of 0.5 to 2.5 feet. All six of the 5-acre lots are within the mapped 100-year floodplain area and thus would be prone to flooding. Also, grading for the residential lots and cul-de-sac in the floodplain could have an adverse affect on the sheetflow if flow is obstructed.

Mitigation 2.

Potential impacts to the residential subdivisions from shallow flooding would be mitigated by constructing building pads on fills raised above flood elevations. The potential obstruction of sheetflows by the proposed development would be mitigated by balancing fills with cuts within the flood-prone areas.

The potential impact of placing a portion of the proposed residential development within the 100-year floodplain areas would be mitigated by balancing the grading within the 100-year floodplain. This would mean that fills required to elevate building pads above flood elevations would need to be balanced by cut areas to allow flood flows between the buildings. This procedure is generally most effective in shallow flooding areas with limited building coverage as in the proposed project. If the buildings cover a large percentage of the floodplain and are in deeper flood area, and effective balance between cut and fill would be problematic. For instance, if a building obstructs 50 percent of the floodplain in 3 feet of flood depth, the building pads would have to be elevated 3 feet, and the remainder of the floodplain would

have to be excavated 3 feet to balance the cut and fill. This would lead to an elevation difference of 6 feet between the building pads and the adjacent ground. In the proposed project, the building densities would be very low with 2 to 3 acre residential lots. Thus, building elevations of 1 to 2 feet above existing grade would become 2 to 3 feet or less above the new ground elevations because of the larger area available to balance the fill.

Conclusion.

With implementation of the above mitigations as proposed in the project, the potential flooding impacts of the project would be reduced to less-than-significant levels.

F. WATER QUALITY

Overview

The water quality of streams, creeks, ponds, and other surface water bodies can be greatly affected by nonpoint sources of pollution carried in contaminated surface runoff. Unlike pollutants that come from a point source (e.g., sewer pipe, industrial outfall), nonpoint pollutants are washed from streets, parking lots and other exposed surfaces into storm drains. Storm runoff flows untreated from storm drains into local creeks and ultimately to Monterey Bay. This urban runoff contains a number of pollutants including the following:

- Metals and contaminants from vehicle exhaust, tire compounds, motor oil, brake lining particles, and weathered paint. These include copper, lead, zinc, chromium and nickel.
- Oils and grease from fuels and lubricants released via leaks and spills from automobile engines, transmissions, radiators, or improper dumping of oil.
- Pesticides, herbicides and fertilizers used in landscape maintenance that can be carried away from over-application on irrigated areas.
- Solvents and household chemicals such as paint thinners, oil and water-based paints, degreasers, detergents, bleach and drain cleaners, when released into storm drains, streams or onto streets.
- Bacteria and plant nutrients from sewage, animal waste, litter, decomposing vegetation, and septic tank leaks.

During construction, surface water quality degradation can result from runoff of sediments, as well as construction materials and wastes, as described below.

- Sediments consisting of soils eroded from ground surfaces exposed during grading and vegetation removal.
- Construction Materials including trace metals in building products, paint or preserved wood; synthetic organic compounds in adhesives, cleaners, sealants, and solvents.
- Construction Wastes including wash water from concrete mixers; paints and painting equipment cleaning activities; oil, grease and fuel leaks and spills from vehicle operation, storage and maintenance; wood and paper materials from packaging of building products; solid wastes from tree and shrub removal during land clearing; and sanitary wastes.

Pollutants in runoff can have an adverse impact on wildlife and aquatic habitats of local creeks and downstream waterbodies. Nutrients from fertilizer, organic matter or detergents can result in excessive or accelerated growth of vegetation or algae, and can create odors. Substances which require oxygen for decomposition, such as organic matter, litter and algae, depress the dissolved oxygen levels in waterbodies thereby interfering with breathing of aquatic organisms. (This process is referred to as eutrophication.) Bacteria and viruses can result in public health threats. Several oil and grease compounds are toxic to aquatic organisms. Several heavy metals are toxic to aquatic organisms and can bioaccumulate. Sediment discharge can reduce clarity, and cause turbidity which also interferes with respiration of aquatic species. Sedimentation of stream channels can also impair fish reproduction by covering gravel riffles used for breeding, and can also have a negative effect on riparian vegetation.

Discharge of sediments can also result in the increased presence of heavy metals because sediments facilitate the transport of heavy metals through adsorption, whereby metals adhere to soil particles. The accumulation of sediments or silt loading can obstruct natural flow patterns, and can also reduce the capacity of stream channels, which can result in increased flood hazards over time.

Environmental Setting

The groundwater quality in the San Martin area is characterized by high levels of nitrates originating from septic disposal systems, animal wastes and agricultural fertilizers. The nitrate levels in the groundwater on the Lion's Gate site are indicated to be in the range of 7 to 43 mg/l. (The federal drinking water standard is 45 mg/l, as NO₃.) Ongoing cattle grazing is the source of the vast majority of existing nitrate loading at the Lion's Gate site. The only other potential source, decaying vegetative matter, contributes a negligible share to overall nitrate loading under existing conditions.

Water quality data for surface runoff in the immediate project area is not available.

Ordinances and Regulations that Address Water Quality

National Pollutant Discharge Elimination System (NPDES) Program. Projects disturbing more than five acres of land during construction are required to file a Notice of Intent to comply with the State NPDES General Construction Permit for discharges of storm water associated with construction activity. Under this program, projects on sites of five acres or greater must prepare and implement a Storm Water Pollution Prevention Plan (SWPPP). Proposed construction projects need to follow best management practices to limit erosion and sedimentation and the introduction of other pollutants, such as solvents, fertilizers, concrete and vehicle fluids into waterways. These construction-phase best management practices include: stabilizing cleared areas during the wet season; use of silt fences and erosion control measures; cleaning spills and drains for equipment impacts; and covering drains, inlets, and catch basins.

Santa Clara County Grading Ordinance: Under the ordinance, final grading plans are to include specifications for erosion and sediment control, slope protection and revegetation of exposed slopes.

Significance Criteria

With respect to water quality, Appendix G of the CEQA Guidelines states that a project will normally have a significant effect in the environment if it will: "(f) Substantially degrade water quality."

Impacts and Mitigation

Impact 1. During grading and construction, erosion of exposed slopes, and pollutants from equipment may result in water quality impacts to downstream water bodies. (Potential Significant Impact)

The planned construction of the golf course and related facilities would require substantial earthwork for roads, pipelines, ponds, and recontouring for the golf course. Consequently, the erosion hazard and potential for sedimentation during construction is high. The greatest

soil erosion hazard would exist during and immediately following construction when finished grades are unvegetated.

Discharge of hydrocarbons and other toxic substances can also occur during the construction phase, if fuels, oils or washwater from equipment washing or sanitary facilities leak or are spilled. These pollutants would potentially be carried by runoff to nearby drainage courses.

Mitigation 1. The final golf course grading plan would be required to conform to all drainage and erosion control standards adopted by Santa Clara County and would require approval by the County. A comprehensive erosion control program and Storm Water Pollution Prevention Plan (SWPPP) would be required to be implemented during grading and construction, and would include the measures listed below.

Prior to clearing grading for the golf course, erosion control barriers would be installed adjacent to natural wetlands and riparian areas to prevent erosion and siltation. These barriers would be kept in place until after turf buffer strips are established and all cleared areas have adequate turf cover to prevent erosion.

After construction is completed, all drainage culverts should be inspected for accumulated sediment. Where sediment has accumulated, these drainage structures should be cleared of debris and sediment.

Prior to construction, a Storm Water Pollution Prevention Plan (SWPPP) would be prepared in conformance with the NPDES permit requirements. Typical mitigation measures to be implemented during the grading and construction phase would include the following:

- Schedule earthwork to occur primarily during the dry season to prevent most runoff erosion. In the event that earthwork activity occurs during the rainy season, separate this activity from street gutters and storm drains by ditches, berms or filtration barriers, such as hay bales.
- Protection of downstream storm drain inlets from sedimentation.
- Installation and maintenance of silt fences, straw bales and/or desilting basins along all drainages during construction until landscaping is installed and all bare slopes vegetated.
- Seeding of all bare slopes after grading (seeding to occur in October).
- Revegetate surfaces and install erosion control facilities prior to the onset of winter storms.
- Drain large areas of exposed soils to on-site sedimentation ponds to settle out most sediment before the runoff is released.
- Sweep the streets surrounding the construction area daily to collect sediment deposited on the streets before it is washed into the storm drains or channels.
- Application of water to exposed soils regularly during the dry season to prevent wind erosion.

- Protection of all finished slopes for erosion.
- Implementation of protective measures to prevent runoff of fuel, oil, lubricants, solvents from areas used for construction vehicle and equipment storage, washing and maintenance. (Provisions for fuel storage are addressed in Section N. *Hazardous Materials, Public Health and Safety*.)
- Implementation of proper handling and disposal practices for construction materials and waste.

These erosion control measures would be included as conditions of the grading permit for the project. Their effective implementation would be monitored by County grading inspectors. In addition, implementation of the Storm Water Pollution Prevention Plan for the project would be subject to inspection by the Regional Board and the Santa Clara Valley Water District.

Impact 2.

After project completion, concentrated runoff from paved surfaces may result in isolated areas of erosion. (Potential Significant Impact)

Project development would alter drainage patterns on the site, with the impervious surfaces of roads, driveways, cart paths and parking areas resulting in localized increases in the velocity and volume of runoff. In addition, several tributary swales would be piped within proposed fairways. At places where this concentrated runoff is discharged to the natural drainage courses, high flow rates may result in scouring and downstream sedimentation.

Mitigation 2.

Outfall areas would be protected with channel armoring to prevent erosion and scouring.

Where storm drain lines discharge into natural channels, the outfall areas would be protected with rip-rap and/or energy dissipating structures. Open channel drainages would be grass-lined (if calculated velocities permit) or armored to prevent channel erosion. All transition or outfall locations would be protected from scour.

Impact 3.

The project would generate urban nonpoint contaminants which may be carried in stormwater runoff from paved surfaces to downstream waterbodies. (Potential Significant impact)

The introduction of traffic and parking areas would increase the accumulated hydrocarbon by-products and heavy metals from automobiles, which would be flushed into drainages and streams. At the maintenance facility, washwater, lubricants and hazardous materials may be generated. Unless controlled, these urban pollutants would contribute to cumulative nonpoint contaminant loads in downstream drainages and waterbodies.

Mitigation 3.

The project would include stormwater controls at the parking lots and maintenance facilities.

Sheet flows over the clubhouse and practice range parking lots would be collected and piped to nearby stormwater retention basins. The collected runoff would not be discharged into the West Branch Llagas Creek, but would percolate into the soil or evaporate. The retention basins would be cleaned of accumulated sediments and debris as needed.

At the maintenance facility, the adjacent paved areas would be surrounded by a 6-inch curb, with all rain water, wash water, lubricants and other pollutants draining to an advanced water filtering and recycling system.

The remaining roadways and cart paths within the project would not accumulate significant quantities of urban pollutants.

Impact 4.

The project may result in degradation of groundwater quality from fertilizers and pesticides used on the golf course. (Potential Significant Impact)

Golf course fairways and greens are fertilized regularly and intensively. Typical yearly application rates are 3 lbs./1000 square feet for fairways and 4 to 6 lbs/1000 square feet for tees and greens. (At the Lion's Gate project, much of the required nitrogen would be contained in the irrigation water, with the amount of applied fertilizer reduced accordingly.) The rough areas usually undergo a one-time fertilization during construction. Nitrogen is the primary fertilizing agent and is of concern for both surface and groundwater quality. Adverse conditions would be created by overwatering, excessive application of fertilizers, poor timing of irrigation or chemical application (i.e., before a storm or during the cool wet season). Nitrogen losses to subsoils and groundwater are in the form of nitrate which can result in degradation of water quality and contribute to human health problems (in drinking water).

Nitrogen loss to groundwater occurs when nitrogen is not taken up by the plant, absorbed by the soil or volatilized, and seeps past the root zone of the turf grass and slowly migrates to groundwater. Sandy tees and greens, the most heavily fertilized areas of the golf course, are especially susceptible to subsurface nitrogen leaching. Fairways and rough areas are commonly fertilized with less nitrogen and are not as susceptible to potential leaching.

The pesticides which are in common use for golf courses are not very persistent or mobile (i.e., biodegradable and not water soluble and thus less susceptible to migrating through the soil and into the groundwater regime) compared with pesticides used in agriculture, with residues usually undetectable one to two weeks after application. By contrast, pesticide and nitrate concentrations have been found at elevated levels in tens of thousands of wells in agricultural areas.

To study the impacts of golf courses on groundwater, the U.S. EPA conducted a 2-year groundwater well monitoring study of four golf courses on Cape Cod in 1986-87 (Cohen et al, 1990). The results of that study are summarized below.

The hydrogeology of Cape Cod is characterized by a shallow, unconfined, highly transmissive aquifer, high recharge, and sandy soils, making it a highly vulnerable environment for potential groundwater contamination. The monitoring wells for the study were installed at or immediately down gradient of tees and greens, the areas of heaviest chemical application, and in fairways. The wells were also placed where the shallowest depths to groundwater occurred.

The results of the well monitoring study showed that none of the currently registered turf pesticides were detected in concentrations greater than one-fifth of the health guidance level (HGL). The study did detect concentrations of chlordane residues above the HGL, but this pesticide has not been in use since the 1970s. With regard to nitrate, the study found the

highest concentration of nitrate-N at courses using water-soluble nitrogen fertilizers, and the lowest levels where slow-release nitrogen was in use. When nitrogen applications were significantly reduced in the second year of the study, the groundwater concentrations of nitrate-N were also significantly reduced.

Since the time that the Cape Cod study was completed, the author of that study conducted a review of 13 subsequent studies of 25 golf courses in eight states, representing a variety of climates and hydrogeologic settings. The main findings were that pesticide detections in ground and surface waters were rare but they did occasionally occur, and that no impacts to ecosystems were detected as a result of use of turf chemicals (Cohen, 1994).

In another study, the potential for fertilizers leaching through the sandy base material of golf greens was studied under laboratory conditions at the University of Georgia. The study found that when fertilizer is properly applied, the amount of nitrogen that reaches groundwater is negligible. Similar findings have been made in other university studies, which indicated that less than one percent of applied nitrogen traveled to a depth of 4 feet (Kenna, 1994).

In a 1990 review of research on nitrogen fertilizers applied to turfgrasses, Dr. Martin Petrovic noted that nitrate-nitrogen concentrations in soil water leaching through the surface soil exceeded drinking water standards of 10 ppm only on sandy soils when one of the following conditions exist: 1) high levels of soluble nitrogen are applied, greater than 3 lbs. N/1000 sq. ft. at one time; or 2) very frequent (daily) irrigation is practiced coupled with application of water soluble nitrogen sources.

Mitigation 4.

The project would follow irrigation and chemical management practices under which water, nutrients and chemicals would be applied on an as-needed basis only, minimizing potential for leaching into the groundwater table. Monitoring wells would be installed to sample for the presence of golf course chemicals, with corrective action taken if necessary.

The project would include implementation of a comprehensive Environmental Management Plan under which the need for irrigation water and chemicals would first be reduced through measures such as: selecting species that are drought resistant, pest resistant and have low nitrogen requirements; and minimizing fertilization during winter when growth rates are low.

A computerized irrigation control system would calculate precise water needs based on evapotranspiration, so little or no water would seep below the root zone. (See Section I. *Project Description* for a detailed description of the irrigation system practices proposed for the project.)

Fertilization

The potential for nitrate movement would be minimized through best management practices (BMPs). This first involves determination of precise nutrient requirements based on turfgrass types and soil characteristics, especially infiltration rates. The nitrogen fertilizer selected would be the slow release or less soluble form. Fertilizer application would be timed to coincide with the period of greatest plant uptake, and would avoid periods of potential rainfall and stormwater runoff.

The elevated nitrate levels contained in the irrigation water (from both Twin Valley Inc. and on-site groundwater) would be factored into the fertilization program. Thus applied nitrogen would be reduced commensurate with the nitrogen content of the irrigation water.

Application rates would be monitored closely and adjusted as necessary to prevent exceedance of assimilation capacity. Irrigation rates would be managed to coincide with evapotranspiration, thus minimizing leaching of nutrients beyond the root zone. Soils under tees, greens and fairways would be tested regularly for potential nitrogen buildup, with application rates adjusted accordingly.

Pest Management

The use of insecticides, herbicides and fungicides on golf courses occurs relatively infrequently, and is typically conducted only once or twice a year. Insect problems at the Lion's Gate golf course are expected to be minimal, consisting primarily of root feeding grubs and lepidoptera larvae.

In order to minimize the potential effects of pest control, the project includes an Integrated Pest Management Program (IPM). To the maximum extent feasible, this program relies on non-chemical methods such as selecting pest resistant grasses, employing cultural practices to keep the turfgrass healthy (e.g., spiking, aerifying, vertical mowing, rolling, topdressing), avoiding excess fertilizer application, and preventing excessive moisture conditions which favor the occurrence of infectious diseases. The IPM would also reduce the use of pesticides where possible by employing biological control of pests. This involves the strategic introduction of organisms which are natural enemies of pest to be eliminated (e.g., parasitic nematodes and bacteria).

During the preparation of the Environmental Management Plan, the potential pesticides (this term includes insecticides, herbicides and fungicides) to be used at the Lion's Gate Reserve were assessed using screening models and simulation models. The primary factors analysed were: The potential quantity of a chemical that may be used at the golf course, the chemicals' mobility, leaching potential, persistence and toxicity. Based on this assessment, restrictions were placed on the use of certain pesticides on the golf course (see Appendix E for the detailed assessment results).

In order to minimize the impacts of pesticide use, a number of best management practices (BMPs) would be employed. The following is a partial list of planned management practices (see Appendix E for a full discussion).

- Pesticides would be handled, applied, and disposed of by a spray technician licensed by the State. The application equipment would be inspected for proper calibration before every pesticide application.
- Pests would be accurately identified and pesticide applications made only when and where necessary (preferably when pests are at the most vulnerable stage), using the least amount required.
- Pesticides would not be applied when soil moisture is high during the rainy season, or when storms are anticipated. No pesticides would be applied during the growth period.

- A controlled and designated area/facility would be provided at the maintenance facility for the proper mixing and loading of pesticides into application equipment. The facility would include an impermeable pad with controlled and contained drainage.
- Monitoring the course on a daily basis to detect symptoms of pest problems.
- A minimum 25 feet of rough around all playing areas would be provided as a buffer zone for adjoining wetland or riparian areas. No pesticides would be used in these rough area buffers.
- A minimum vertical separation of two feet would be provided between any green playing surface and the expected maximum seasonal groundwater elevation. This would reduce the potential for high groundwater to inundate the underdrain collection systems, and would allow a sufficient thickness of unsaturated soil to attenuate infiltrating compounds.

Although higher than normal volumes of irrigation water are applied during the grow-in period, the water is applied in short cycles to keep the ground moist in order to facilitate germination of the grass seed. Over-watering is avoided to prevent drowning the young seed, so there would be little or no runoff of irrigation water. No pesticides are applied during the grow-in period, and only normal amounts of fertilizer are applied to avoid burning the young plants. Thus there is little or no potential for increased runoff and non-point source contamination during the grow-in period.

The Integrated Pest Management program would be managed by the Golf Course Superintendent, who would be responsible for all chemical applications and storage. The State of California requires that such chemical application and handling be performed by licensed individuals with a Qualified Applicator Certificate (QAC) issued by the State. The superintendent would be so licensed and would be an active member of the Golf Course Superintendents Association of America (GCSAA). The superintendent would be a full-time employee of the Lion's Gate Reserve, and must attend GCSAA training and education seminars to remain current with the association. It is likely that the country club would also employ an assistant to the superintendent who would also be a licensed applicator.

Monitoring

Four new wells would be installed for sampling and testing groundwater for the presence of golf course chemicals. As described in the Environmental Management Plan, groundwater monitoring would occur in three phases as follows: pre-construction monitoring to establish background levels; monitoring during construction; and monitoring during golf course operations. (See Appendix E for a detailed description of the monitoring program).

In the event that unacceptable levels of golf course chemicals are detected in the groundwater samples, the first action would be to immediately terminate usage of the chemical detected in the sample. The next step would be to take additional samples in the affected area to ensure that the test result was not an anomaly and to confirm that a problem exists. Upon such confirmation, the agencies to be notified would include the Santa Clara Valley Water District, the Regional Water Quality Control Board, the County Department of Environmental Health and the County Planning Office. A proposal would be submitted by the golf course operator to the regulating agencies as to appropriate corrective action. Such action could include a reduction in chemical applications in the affected area, a change in the chemicals used, or

other changes to the chemical application management plan. It is expected that any contamination could be mitigated by such operational changes, and that complete shut down of the operation would not be necessary to correct the problem. (See Appendix E for further discussion.)

Impact 5. The project may result in water quality impacts to surface water from fertilizers and pesticides used on the golf course. (Potential Significant Impact)

As discussed above, the use of fertilizers and pesticides would be minimized through the proposed computerized irrigation system and the integrated pest management program. In addition, the elevated nitrate levels contained in the irrigation water (from both Twin Valley Inc. and on-site groundwater) has been factored into the fertilization program detailed in the Environmental Management Plan (see Appendix E); thus, the potential for chemicals to be carried away in storm runoff would be minimized. The principal threat to surface water quality from golf course chemicals would occur in the event of: (a) a significant rainfall event immediately following chemical application; or (b) spillage in the area where chemicals are handled and stored. There could be a potentially significant impact on the surface water quality of local streams in the unlikely event that either of these occurred.

Mitigation 5. The potential for surface water quality impacts from golf course chemicals would be mitigated by infiltration into turf and rough areas, the use of grass filter strips, maintenance of setbacks from streams, and strategic installation of subdrains and retention basins. Surface water quality would be sampled and tested periodically, with corrective action taken if necessary.

Under all but the most severe storm conditions, overland flows across the dense turfgrass would be sufficiently slow that water on the fairways would infiltrate into the turfgrass before it could move horizontally. This has been confirmed by several studies, which also found that there was a negligible potential for nutrients to pass beyond the root zone or to be transported by runoff to surface waters (Beard, 1994). In addition, the turfed fairways would be surrounded by roughs which would provide additional filtration for any runoff from the adjacent fairways. However, as discussed in the detail in Section I. *Project Description*, the golf course would be designed and graded to direct storm runoff away from natural drainages and would instead convey runoff toward the centers of fairways and natural filter strips, as well as off-channel retention basins and ponds located throughout the golf course.

The potential for surface water quality impacts is greatest at greens and sand traps which are underlain by sandy base material, and which are subject to greater applications of fertilizers and pest control chemicals. These areas would be provided with buffer strips at least 25 feet wide near wetland and riparian areas. They would also be installed with subdrain systems to collect irrigation and rainwater infiltrating the sandy base material. The outflow locations for these subdrains would be strategically sited to divert drainage back onto the golf course.

To ensure that golf course chemicals are not reaching natural drainage courses, the quality of these surface waters would be sampled and tested periodically, and compared with baseline water quality established by pre-project sampling and testing. (See Appendix E for detailed description.)

The potential for spills of chemicals to reach natural water bodies is virtually nil since all storage and handling of chemicals would occur at the maintenance facility, and would be

handled by operators licensed by the State. The impermeable surface material, the 6-inch perimeter curb, and the advanced water filtration and recycling system to be utilized at the maintenance facility would ensure that these chemicals are properly contained and disposed of in the unlikely event of a spill. Even in the event of an earthquake, the potential for a toxic spill would be slight, as discussed in Section III. N. *Hazardous Materials, Public Health and Safety*.

Impact 6. **The equestrian center could result in impacts to groundwater and surface water quality if manure or stall sweepings accumulate in stormwater runoff. (Potential Significant Impact)**

Mitigation 6. **The equestrian center would be operated in accordance with a manure management plan and an erosion control plan; and runoff from the facility would be directed to an on-site detention pond.**

The equestrian center would be operated in accordance with a manure management plan, as required under Title 23, Chapter 15 of the California Code of Regulations (which pertains to water quality). Under the management plan, manure would be cleaned up daily and placed in debris boxes to be picked up daily or every other day and taken to a local landfill. The outdoor riding and pasture areas would have manure picked up daily with a special vacuum apparatus. The perimeter of the equestrian center would be fenced to prevent animals from entering nearby drainages and ponds and contaminating the water.

The equestrian center would be contoured to direct on-site drainage to a grass swale or swales which would convey runoff to a lined retention pond or basin. This pond would be located at the eastern end of the site, just west of the landscaped berm proposed along Turlock Avenue. The pond would be equipped with a sump pump to facilitate spraying of the drainage water onto the pasture area. The pond would be skimmed as necessary to remove any floating material, and would be cleaned out regularly to remove accumulated sediments. The pond would be sized to retain storm runoff and prevent overflow of accumulated drainage for all but the most significant flood events. (The pond would be fenced to prevent entry, and signs would be posted warning people to keep out.) To the extent feasible, drainage from the areas upslope of the equestrian center to the west would be directed around the facility to the proposed residential lake to the north.

As required under Article 47 of the County Zoning Ordinance, an erosion control plan would be prepared and implemented for the equestrian center.

Impact 7. **The soils in the existing livestock corrals may contain accumulated nitrogenous compounds which could result in impacts to surface and groundwater quality. (Potential Significant Impact)**

The soils in the existing corrals located just south of the ranch complex are likely to have higher accumulations of nitrogenous compounds than other natural areas of the site. This represents a potential additional source of nitrogen discharge into groundwater (via leaching) or surface water (via erosion) if the soils are improperly handled.

Mitigation 7. **The potentially affected soils would be sampled for nitrogen content and incorporated into the grading of the golf course in a manner that makes maximum benefit of the fertilizer value of the soil.**

Prior to site grading, the soils in the existing corral area and a control site would be sampled and analyzed for nitrogen content, including nitrate and Total Kjeldahl Nitrogen, to determine the level of nitrogen build-up as compared with native soils on the site. Based on these results, the soils would be removed and incorporated into the grading of the golf course in order to make maximum benefit of the fertilizer value of the soil while protecting against runoff or leaching of nitrogen into groundwater or surface water.

Conclusion. **With the implementation of the above mitigation measures, the potential water quality impacts resulting from the project would be reduced to less-than-significant levels.**

[Note: The potential water quality impacts associated with wastewater disposal are discussed in Section III. Q. *Wastewater Treatment and Disposal.*]

G. BIOLOGICAL RESOURCES

The following discussion of biological resources is based on numerous field surveys conducted on the Hayes Valley site over the past several years. The findings and recommendations of those surveys are contained in the reports listed below. These reports are contained in Appendix F of this EIR.

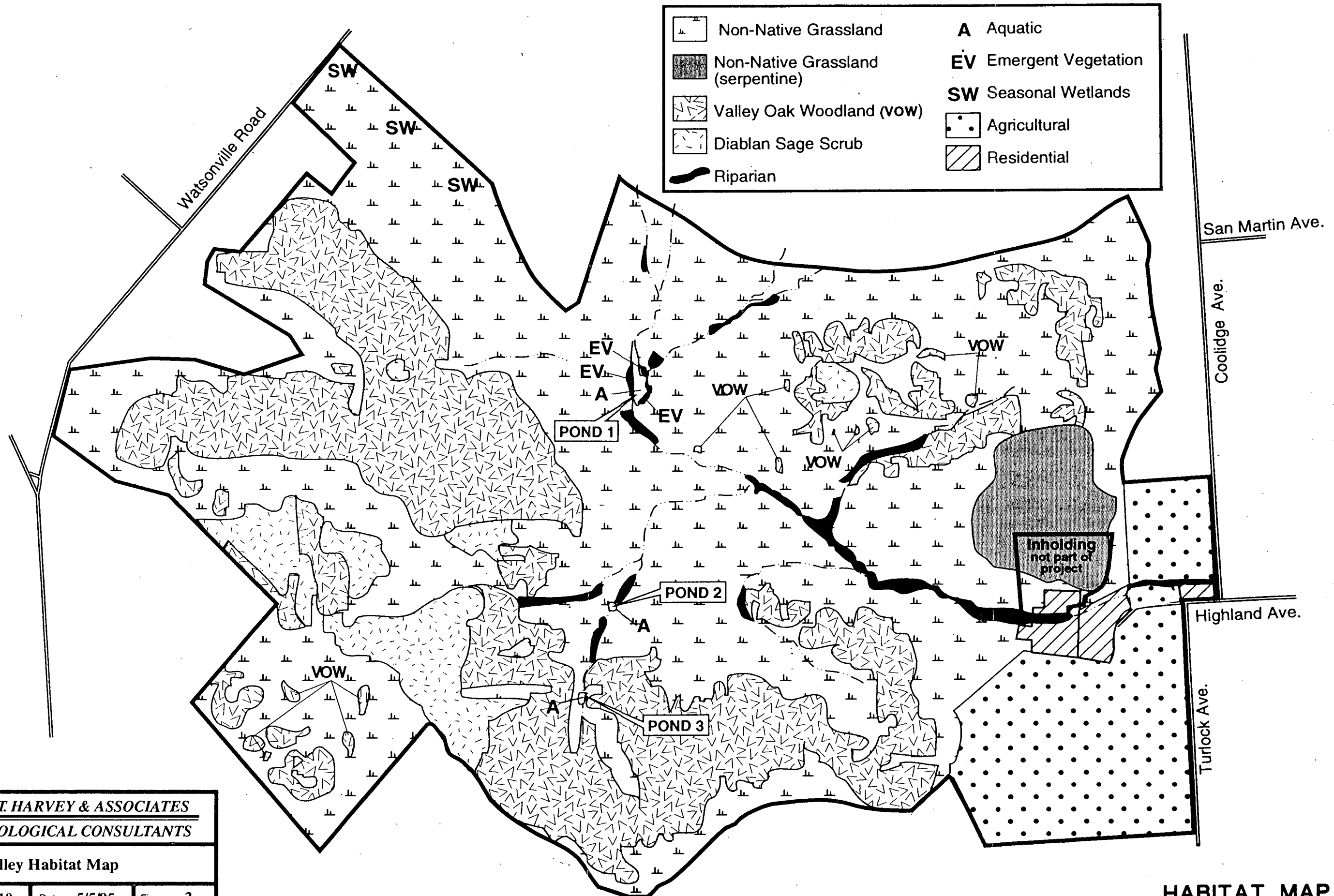
- H.T. Harvey and Associates, Hayes Valley Biological Resources Report, November 30, 1995.
- H.T. Harvey and Associates, Hayes Valley Golden Eagle Nest Survey, July 31, 1989.
- H.T. Harvey and Associates, Special-Status Species Surveys - Hayes Valley, August 13, 1992.
- LSA Associates, Inc., California Tiger Salamander and Western Pond Turtle Mitigation Plan, Lion's Gate Project, Santa Clara County, California, November 1995.
- LSA Associates, Inc., Conceptual Creek Revegetation/Enhancement Plan, Lion's Gate Development Project, Santa Clara County, March 1996.
- LSA Associates, Inc., Determination of Jurisdictional Wetlands on the Lion's Gate Property, Morgan Hill, California, May 13, 1994.
- LSA Associates, Inc., Lion's Gate Wetlands Mitigation, Letter to Bert Verrips, Nolte and Associates, December 18, 1995.
- Center for Conservation Biology, Status of Lepidoptera of Conservation Concern at the Proposed Lion's Gate Development Site, July 31, 1992 and December 13, 1993.
- Center for Conservation Biology, Status of the Bay Checkerspot Butterfly and Opler's Longhorn Moth at the Proposed Lion's Gate Development Site, July 12, 1994.


Biotic Habitats

Ten different habitats were identified within the Hayes Valley site. These include non-native grassland (non-serpentine substrate), non-native grassland/wildflower field (serpentine), Diablan sage scrub, valley oak woodland, valley oak/sycamore riparian woodland, aquatic, emergent vegetation, seasonal wetland, orchard/cropland and residential/developed (see Figure 14). The approximate sizes of these habitats are shown in Table 5. Lists of the vascular plant species observed and vertebrate species either expected to occur or observed on the project site during field surveys are contained in Appendix F of this EIR.

Non-native Grassland (non-serpentine substrate)

Vegetation. Over 50 percent of the site (approximately 874 acres) consists of non-native grassland, which occupies the valleys and many of the south- and west-facing slopes of the site. Much of the grassland on-site is used as cattle pasture. This community is dominated by annual non-native grasses, including wild oats, Italian ryegrass, farmer's foxtail, and Mediterranean barley. Other common components include ripgut brome, soft chess, black mustard, American vetch, Italian thistle, and red-stem filaree. Native species such as Ithuriel's spear, California poppy, and the native perennial purple needlegrass bunchgrass are also scattered in mixed stands





H.T. HARVEY & ASSOCIATES
 ECOLOGICAL CONSULTANTS

Hayes Valley Habitat Map

File No. 385-10	Date 5/5/95	Figure 2
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HABITAT MAP

FIGURE 14

TABLE 5
BIOTIC HABITATS

Habitat Type	Acres	Percent of Total
Non-native Grassland (non-serpentine)	873.7	52.1
Non-native Grassland/Wildflower field (serpentine)	33.5	2.0
Valley Oak Woodland	480.0	29.0
Diablan Sage Scrub	82.0	4.9
Valley Oak/Sycamore Riparian Woodland	18.6	1.1
Aquatic	5.6	0.3
Emergent Vegetation	0.7	0.0
Seasonal Wetlands	4.0	0.2
Orchard/Cropland	164.0	9.8
Residential/Developed	13.9	0.8
TOTAL	1,676.0	100.1

throughout the site. Several depressions and swales within the grassland support Mediterranean barley, a species indicative of higher moisture levels.

Wildlife. These non-native grasslands provide habitat for many species of wildlife. Reptiles may be conspicuous during warmer months of the year, especially along the rocky hillsides adjacent to the valley or under fallen trees, branches, or other debris found along the drainage running through the valley and in other areas of the site. Species expected to occur in non-native grasslands include the western fence lizard, western skunk, gopher snake, and striped racer. Several rodent species use burrows for cover and nesting chambers. An abundant rodent throughout the low-lying portions of the site is the California ground squirrel. Botta's pocket gopher, which creates extensive underground tunnels in its search for bulbs, roots, stems, and tubers, is also common on the site. The burrow systems created by rodents may also be used by amphibians, such as the California tiger salamander and western toad, both of which were observed on-site. Burrowing Owls, which have not been observed on the site since 1988, also use California ground squirrel burrows for nesting and cover.

Several species of birds use grassland habitats throughout the year. Savannah Sparrows and Western Meadowlarks build their nests directly on the ground in grasslands. A Western Meadowlark nest was found on the valley floor, and Meadowlarks were observed throughout the grasslands.

Seeds produced by annual and perennial grasses provide food for migrating and wintering songbirds, such as American Goldfinches. Goldfinches pluck seeds from flowers and grass stalks. Small rodents, such as the western harvest mouse, also use grass seeds and stalks as food sources. Networks of runways may be formed through the grasses as a result of California voles clipping grasses and herbs at their bases. Mammalian predators, such as the coyote and bobcat hunt for mice, gophers, ground squirrels, and black-tailed hares in these

grasslands. Northern Harriers may hunt for small mammal prey over low hills and valleys on the site. Golden Eagles and Red-tailed Hawks commonly forage in the valley, especially where there is a high occurrence of ground squirrels. Forbs, such as clover, miner's lettuce, and phacelia provide important forage for black-tailed deer during the spring and early summer.

Non-native Grassland/Wildflower Field (serpentine substrate)

Vegetation. Non-native grassland occupies serpentine hills in the northeastern portion site. The grassland (serpentine substrate) is primarily dominated by wild oats, with soft chess and Italian ryegrass as sub-components. Purple needlegrass is also present, sometimes in small distinct clumps, or as a sub-dominant with other grasses. Native and non-native forbs including California poppy, field bindweed, rose clover, western larkspur, owl's clover, white Mariposa tulip, and blue dicks are also scattered throughout the grasses.

Patches of wildflower field habitat occur within the matrix of non-native grassland in the easternmost serpentine area only. These patches occur where the soils are very thin and rocky. The wildflower fields are dominated by native annual forbs, with both native and non-native grasses existing as a minor sub-component. Typical species include goldfields, most beautiful or common jewelflower, purple owl's clover, California plantain, Ithuriel's spear, Chile trefoil, deerweed, serpentine linanthus, white Mariposa tulip, soap plant, sticky calycadenia, California poppy, one-sided bluegrass, wild oats, and soft chess.

Rocky serpentine outcrops are also scattered throughout the easternmost serpentine area. These outcrops support a sparse cover of mostly native species, including Santa Clara Valley dudleya. Uncommon jewelflower is often found on outcrop edges. Other common species of the outcrops include popcornflower, California gilia, buckwheat, and stunted wild oats, and soft chess.

Wildlife. Serpentine grasslands support vertebrate wildlife species similar to that of non-native grasslands (non-serpentine substrate). However, the grasslands frequently support an invertebrate fauna that is specifically adapted to serpentine based soils, including the Bay Checkerspot Butterfly, and Opler's longhorn moth. Based on several years of spring surveys conducted since 1985, it has been determined that only Opler's longhorn moth exists on the serpentine grasslands of the site, while the Bay Checkerspot Butterfly is not present. (While the host plants and nectar sources for the Bay Checkerspot Butterfly are present on the site, the microclimatic conditions would preclude sustained survival of the butterfly on the site, as discussed subsequently.) Several avian species would be expected to occur in this habitat, including the Killdeer, Horned Lark, Lincoln's Sparrow, and Spotted Sandpiper. Small mammals, such as the western harvest mouse, ornate shrew, and California vole would also be found in this habitat, especially in and at the edges of dense vegetation.

Valley Oak Woodland

Vegetation. Valley oak woodland is present mostly on the northeast- to northwest-facing slopes of the Hayes Valley. The canopy cover ranges from open and savanna-like (mostly at the lower elevations) to almost closed (at the higher elevations). Valley oak is the dominant tree of this woodland, occurring in almost pure stands in the lower elevations of the site. Also present are blue oak, coast live oak, and California buckeye. The understory is primarily herbaceous in many locations, and consists of several species of non-native grasses, including wild oats, farmer's foxtail, and bedstraw. Poison oak is often the only understory shrub. Woodland openings and understories in the steep, southern portion of the site often include small patches of Diablan sage scrub.

Wildlife. Oak woodland habitat is one of the most diverse and productive habitats for wildlife in central California. These woodlands function as escape cover, thermal cover, migration corridors, and nesting and foraging

habitat for a diverse wildlife community. Rotting logs and loose rocks in damp shady areas provide important habitat to a variety of reptiles and amphibians. The arboreal salamander, western skunk, and southern alligator lizards are expected to occur in this habitat. Additionally, the common kingsnake uses rocks and downed logs for cover. This species forages on amphibians, reptiles, birds, and mammals in this habitat. Other snakes likely to use forested habitats of the site include the California whipsnake and western rattlesnake.

The oak woodland community provides habitat for a variety of avian species. The proximity of this habitat to the grassland communities in the valley increases their ecological importance. For example, birds such as the Red-tailed Hawk and American Kestrel forage in grasslands and often require adjacent woodlands to roost and nest. Several Red-tailed Hawks and American Kestrels have been observed on the site.

Oak acorns provide food for several species, including the Scrub Jay and Acorn Woodpecker. Insects that live beneath the tree bark or on foliage provide food for many bird species, including the Plain Titmouse, Bushtit, and Hutton's Vireo. Yellow-rumped Warblers and Ruby-crowned Kinglets are commonly seen in winter foraging for insects among oak branches. Several bird species depend on standing dead or partially dead trees (snags) for nesting, feeding, and shelter. These include American Kestrel, Western Bluebird, Acorn Woodpecker, White-breasted Nuthatch, and Nuttall's Woodpecker. Northern Flickers are also commonly found in oak woodland habitat. A Lewis' Woodpecker, an uncommon species for the region, was observed nesting on the site in 1994.

An inactive Golden Eagle nest was detected on the north side of the valley floor in a coast live oak in 1989, and appears to have been active during previous years. An immature Golden Eagle was observed flying over the site in 1988. Up to five Golden Eagles have been observed simultaneously on-site. In 1992 eagles did not nest on-site, but used a nest site along the south side of Lion's Peak, off-site approximately 0.25 miles southeast of the property line. The pair fledged two young in 1992. The nest was again active in 1993, and the pair successfully fledged one young in 1993. The nest site was not active in April, 1994, and the nest had partially fallen. A single Golden Eagle exhibiting territorial behavior was observed in the same drainage, which indicates that a pair was probably nesting in the vicinity.

Oak woodland habitats support a diverse assemblage of mammals, including black-tailed hare, California ground squirrel, western gray squirrel, deer mouse, and Botta's pocket gopher. Typically, a relatively high diversity of predators forage in these woodlands due to an abundance of small birds and mammals. These predators include the Red-tailed Hawk, Cooper's Hawk, Sharp-shinned Hawk, coyote, red fox, gray fox, raccoon, and striped skunk.

This habitat is preferred by black-tailed deer, because it generally provides a diversity of food plants and cover for reproduction. Forbs are important forage for deer during the spring and early summer. Beginning with the fall rains, grasses become an important component of the deer diet. Additionally, the mast, or acorn drop, in fall is considered an important dietary component for both deer and wild pig in California. This oak woodland provides the puma, an ambush predator, substantial cover for hunting its primary prey, the black-tailed deer and to a lesser extent, wild pigs. However, no wild pigs (or evidence of their presence) have ever been observed on the site by the resident rancher.

Diablan Sage Scrub

Vegetation. Diablan sage scrub occurs primarily in the southern region of the site well beyond the proposed development area. A few small patches, however, occur in more northern locations. The relatively large stands on the steep southern hillsides intergrade with and often include patches of oak woodland. The Diablan sage scrub of the site is characterized by a dense cover of California sage interspersed with sticky monkey flower. Deerweed and purple needlegrass are often present on the community borders and in the occasional canopy

openings. The scrub community of the higher elevations in the southern portion of the site may also include manzanita and coyote brush.

Wildlife. Wildlife species commonly associated with this habitat include the Rufous-sided Towhee, California Thrasher, Fox Sparrow, and Wrentit. Species which were observed foraging on-site in this habitat included Western Meadowlarks and Savannah Sparrows. A Sage Thrasher, a species normally found in the Great Basin and desert areas of California, was observed at the site in 1994. The black-tailed hare, which would normally be abundant in scrub habitat, was not observed during surveys. A California horned lizard was observed at the edge of sage scrub habitat bordering oak woodland on-site during a past survey. Other reptiles commonly found in this habitat on-site include the western fence lizard, southern alligator lizard, and western rattlesnake.

Valley Oak/Sycamore Riparian Woodland

Vegetation. Valley oak/sycamore riparian woodland occurs intermittently along several of the drainages of the property. This vegetation type consists of plants which are either found only in association with water, or are more abundant along water courses than in the immediately adjacent vegetation. The valley oak/sycamore riparian woodland of the site consists almost exclusively of very large, mature relatively widely spaced valley oak and California sycamore trees located along the banks of the streams. Red willow is occasionally present. Riparian woodland is most abundant along the largest creek of the site, the west branch of Llagas Creek, which flows through the eastern two-thirds of Hayes Valley. The woodland understory (and the creek banks outside the tree canopies) is primarily occupied by species commonly found in the non-native annual grassland, and generally lacks both understory shrubs and seedling sapling trees. Typical herbaceous species include soft chess, Mediterranean barley, farmer's foxtail, Italian thistle, ripgut grass, and red-stem filaree. California rose, a native shrub, occurs very occasionally in the understory. Wetter areas directly adjacent to the water's edge support hydrophytic species, which are found only in association with water. Watercress, sedges, curly dock, toad rush, hyssop loosestrife, common monkeyflower, and spike-rush grow here.

The strip of riparian woodland which runs through the agricultural field in the eastern portion of the property is different in character than other riparian woodland of the site. The tree canopy is denser, often closed. Small to moderate-sized valley oaks are dominant; California black walnut and cherry are also present.

Scattered clusters and individual riparian trees are generally infrequent, but present, along the tributary creeks which drain the hills surrounding Hayes Valley. Species composition at the water's edge and adjacent to it is similar to that described for the larger valley creek, although the extent of such vegetation is more limited.

Wildlife. Riparian woodlands typically constitute important movement corridors for both resident and migratory wildlife, connecting a variety of habitats throughout the region. They are used by some raptors for nesting and roosting, even where other habitats are used for foraging. Riparian areas of greatest value to wildlife are floristically and structurally diverse. The riparian habitat of Hayes Valley has been modified by years of livestock grazing. Trees are generally widely spaced, creating an open canopy, and almost no regeneration of trees has occurred. A well-developed multilayered shrub understory is generally absent. Despite the degradation caused by cattle on the slopes and lack of forbs and shrubs on the banks, this habitat is important to the native wildlife of Hayes Valley. Nonetheless, the value of these woodlands is greatly reduced when compared with a less disturbed riparian woodland.

A variety of reptiles and amphibians may be expected to occur in riparian habitats of the site. Leaf litter, downed tree branches, and fallen logs provide cover for the California newt, western toad, and Pacific treefrog. Several lizards also occur here, including the western fence lizard, western skunk, and southern alligator lizard. Snakes

common to riparian habitats include the western rattlesnake, racer, and common kingsnake. Western pond turtles occurring in the ponds on-site may also nest along the main creek drainage.

The oaks, sycamores, and other mature trees may attract a number of avian species to the riparian habitat. Acorn Woodpecker, Nuttall's Woodpecker, and Northern Flicker excavate nest holes in dead tree branches. Nest holes abandoned by woodpeckers are used by Western Screech Owls, Ash-throated Flycatchers, European Starlings, and other cavity-nesting species. Small songbirds, such as Bushtits, Warbling Vireos, and Wilson's Warblers may build their nests within the dense understory of willows. Other species, such as the Scrub Jay, Northern Oriole, and Bewick's Wren are also commonly found in riparian situations. Larger raptors, such as the White-tailed Kite, Red-shouldered Hawk and American Kestrels which were both observed on-site, prefer to situate their nests in the higher canopy of cottonwoods and buckeyes. A Downy Woodpecker was also observed foraging among branches and tree trunks for insects.

A variety of mammals may occur in riparian woodlands. Small mammals, such as the ornate shrew, California vole, and Audubon's cottontail may find refuge in tall grass or brushy thickets along stream banks. Predators, such as coyote and long-tailed weasel are attracted to wooded riparian habitats by an abundance of prey. Black-tailed deer and, occasionally, pumas use these on-site habitats.

Aquatic

Vegetation. The aquatic habitat of the site includes 7 stock ponds and the seasonal flow in the numerous intermittent creeks of the site. Approximately 5.6 acres of aquatic habitat are present on-site; the ponds occupy approximately 1.3 of these acres. The largest pond (pond 1) is located near the center of the site along the main creek channel (see Figure 14). Two smaller ponds are located to the south of the large pond adjacent to a tributary of the main creek.

Wildlife. Amphibian and reptile species that have been observed in or near the stock ponds on-site include the western pond turtle and California tiger salamander. Many species of birds, especially ducks, may use the stock ponds for feeding, bathing, and roosting. Bird species commonly found at the edges of ponds include Great Blue Heron, Great Egret, and Green Heron. Some species observed on the open water include the Mallard, Wood Duck, and American Coot.

Emergent Vegetation

Vegetation. The margins of aquatic areas frequently support a variety of vascular plants, some of which are hydrophytes adapted to aquatic conditions, and others which may tolerate seasonal inundation but flourish best when inundation or soil saturation are no longer present. The emergent vegetation on-site consists almost exclusively of spike-rush. Pond 1 is bordered by a dense fringe of this species varying in width from approximately 1 foot to 200 feet. Small areas of pond 2 are bordered by a thin fringe of spike-rush, and several small clumps (approximately 2 feet by 4 feet) are located within the pond. Two seasonal tributaries which feed pond 1 also support stands of emergent vegetation within their banks. Several other wetland species, including iris-leaved rush and watercress, grow within the tributaries.

Wildlife. Several wildlife species may inhabit emergent vegetation, and use the rushes for cover. Pacific tree-frogs were observed in pond 1 during site visits. The dense vegetation would provide cover and adequate moisture for the common garter snake, which preys on tree frogs and other small vertebrates. Red-winged Blackbirds would be attracted to the dense stands of rushes during the breeding season. Black Phoebe and Song Sparrows may forage in and around the wet areas for insects. The seasonal marsh vegetation would provide nesting habitat for the Common Snipe and Northern Harrier.

Seasonal Wetlands

Vegetation. Several relatively small seasonal wetlands occur within the matrix of the non-native grassland in the valley, primarily towards the northwestern end of the property (near Watsonville Road). These seasonally wet areas occur in slight depressions where moisture from seasonal rainfall collects. These areas appear to pond as a result of the channelization of Hayes Creek in the area, the mounding along the fence line adjacent to Hayes Creek, and the annual regrading of the access road through the area. All these factors apparently interrupt the historic drainage of the site, and create man-made spring pools. The condition of these seasonal wetlands varies from fairly undisturbed to degraded; a dirt road passes through several of the wetlands.

The seasonal wetlands were dominated by Mediterranean barley in 1994. However, during the spring of 1992 and 1993, portions of these areas (approximately 0.2 to 0.4 acres) were dominated by several species typical of vernal pool habitats, including maroon-spotted downingia and hyssop loosestrife. Other common species, some of which were abundant in one or more of the pools, included toad rush, flowering quillwort, smooth lasthen, snow-white meadowfoam, bracted popcornflower and Mediterranean barley. This vernal pool-like flora appears to be very uncommon in Santa Clara County.

Wildlife. Several species of invertebrates only occur in alkaline freshwater vernal pools, seasonal wetlands, or other ponded areas including the longhorn fairy shrimp, vernal pool fairy shrimp, and California linderiella. Although common species of fairy shrimp are likely to be present on-site, the federally-listed species of fairy shrimp are unlikely to be found on the site, as discussed subsequently. The California tiger salamander may move into temporary ponded areas during and after rains to breed, but these areas pond too shallowly and dry too quickly for successful breeding.

Orchard/Cropland

Vegetation. A plum orchard and fallow agricultural field are located near the eastern border of the site. An understory of non-native grasses is present in the orchard. The fallow field consists primarily of wild oats, Italian ryegrass and common barley.

Wildlife. Birds typically found in this habitat and observed in the abandoned plum orchard on-site include Northern Mockingbird, Northern Oriole, Mourning Dove, and House Finch. Other species observed on-site or in the vicinity included Yellow-billed Magpie, American Crow, and California Quail. A large Monterey pine tree at the southeast corner of the orchard would provide a potential roost for Red-tailed Hawk or other raptor. Some wood piles in the orchard would also provide cover for western fence lizards and southern alligator lizards.

Residential/developed

Vegetation. Several residences, ranch buildings and associated structures are located in the eastern portion of the property. Landscape vegetation and numerous large non-native trees and large valley oaks are present in this area.

Wildlife. Residential and developed habitats may support a variety of wildlife, depending on the amount of shrubby vegetation, height and density of the tree canopy, and the presence of debris, such as wood piles, weedy lots, etc. There are several bird species typical of this type of habitat. A common invasive species is the European Starling, which may nest in the palm trees on-site. Starlings may also use dead snags for nesting or roosting. House Sparrows typically nest under eaves or in shrubs near human habitation. Other bird species commonly found near residences with gardens include the House Finch, Northern Mockingbird, and California Towhee.

Special Status Species

Special-status species are plants and animals that are legally protected under the state and/or federal Endangered Species Acts or other regulations, as well as other species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration. Species with legal protection under the Endangered Species Acts often represent major constraints to development, particularly when they are highly sensitive to habitat disturbance and where proposed development would result in a "take" of these species.

Special-Status Plant Species

The special-status plant species that occur in the project vicinity in habitats similar to those found on the project site are described below. The legal status and likelihood of occurrence of these species on-site are given in Table 6. Species that occur in Santa Clara County, but do not occur in habitats or microhabitats present on the site were not included or discussed below.

Field surveys were conducted for special-status plants within the project area to be affected by development, and the hilly region situated to the north of the Valley floor (the "study area").

State or Federal Endangered or Threatened Species, or Proposed for State or Federal Status

Tiburon Indian Paintbrush (*Castilleja affinis* ssp. *neglecta*). Federal listing status: Endangered; State listing status: Threatened; CNPS List: 1B. This perennial herb grows on open serpentine slopes and serpentine grasslands. This species, which has been reported from only six locations, was previously known only from north of San Francisco Bay. Recently, however, it was reported from a site in the Morgan Hill quadrangle, in the Metcalf Canyon vicinity. The blooming period ranges from April to June. Specific surveys for this species have not been conducted. The serpentine habitat in the northeastern portion site may provide appropriate habitat for this species. Tiburon paintbrush may, therefore, potentially be present within the study area, but is extremely unlikely to occur in the non-serpentine areas proposed for development.

Coyote Valley Ceanothus (*Ceanothus ferrisiae*). Federal listing status: Endangered; State listing status: None; CNPS List: 1B. This shrubby species occurs on serpentine soils in chaparral and valley and foothill grassland communities between elevations 400 and 1000 feet. It has been found in the western foothills of the Mount Hamilton Range near Anderson Reservoir. No individuals of any ceanothus species were observed during site surveys. Therefore, Coyote Valley ceanothus is presumed to be absent from the study area.

Santa Clara Valley Dudleya (*Dudleya setchellii*). Federal listing status: Endangered; State listing status: None; CNPS List: 1B. This small, perennial, succulent plant grows primarily in serpentine rock crevices and in serpentine-derived soils in grassland communities. This species is narrowly restricted to the southern foothills of the Mount Hamilton Range and the eastern foothills of the Santa Cruz Mountains bordering the Santa Clara Valley. The typical blossoming period is from May to June. Approximately 100 to 220 Santa Clara Valley dudleya occur on the south-, east-, and west-facing slopes of the serpentine hills in the northeastern section of the property (see Figure 14).

Metcalf Canyon Jewelflower (*Streptanthus albidus* ssp. *albidus*). Federal listing status: Endangered; State listing status: None; CNPS List 1B. This plant is found on road-cuts, on rocky outcrops of serpentine, and on steep slopes of relatively thin, serpentine-derived soils. Its range is limited to the Santa Clara Valley region and it generally occurs east of Coyote Creek. The blooming period of this species ranges from April to early June. Metcalf Canyon jewelflower was not found during special-status species surveys and is, therefore, presumed to be absent from the study area.

**TABLE 6
SPECIAL-STATUS SPECIES**

SPECIES		STATUS*	POTENTIAL FOR OCCURRENCE ON SITE
COMMON NAME	SCIENTIFIC NAME		
PLANTS			
State or Federally Endangered or Threatened or Proposed Endangered or Threatened			
Tiburon Indian Paintbrush	Castilleja affinus ssp. neglecta	FE, ST, 1B	May be present on serpentine hills north of project footprint.
Coyote Ceanothus	Ceanothus ferrisiae	FE, 1B	Not observed during rare plant surveys; presumed absent.
Santa Clara Valley Dudleya	Dudleya setchellii	FE, 1B	Present on serpentine hills north of project footprint.
Metcalf Canyon Jewelflower	Streptanthus albidus ssp. albidus	FE, 1B	Not observed during rare plant surveys; presumed absent.
State Protected, Federal Candidate Species, or CNPS List 4			
Showy Indian Clover	Trifolium amoenum	FC2*, 1B	Not observed during rare plant surveys; presumed absent.
Contra Costa Goldfields	Lasthenia conjugens	FC1, 1B	Not observed during rare plant surveys; presumed absent.
Most Beautiful Jewelflower	Streptanthus albidus ssp. peramoenus	FC1, 1B	Present on serpentine hills north of project footprint.
Santa Clara Red Ribbons	Clarkia concinna ssp. automixa	FC2, 1B	No appropriate habitat within project footprint; presumed absent.
Mount Hamilton Thistle	Cirsium fontinale var. campylon	FC2, 1B	Not observed during rare plant surveys; presumed absent.
Fragrant Fritillary	Fritillaria liliacea	FC2, 1B	May be present on serpentine hills north of project footprint.
Big Scale Balsamroot	Balsamorhiza m. var. macrolepis	1B	No appropriate habitat within project footprint; presumed absent.
Hall's Bush Mallow	Malacothamnus hallii	1B	Not observed during rare plant surveys; presumed absent.
Serpentine Linanthus	Linanthus ambiguus	CNPS 4	Present on serpentine hills north of project footprint.
ANIMALS			
State or Federally Endangered or Threatened Species, or Proposed Endangered or Threatened.			
Bay Checkerspot Butterfly	Euphydryas editha bayensis	FT	Not observed during special surveys; presumed absent.
Unsilvered Silverspot	Speyeria Adiaspe	FT	Not observed during special surveys; presumed absent.
Vernal Pool Tadpole Shrimp	Lepidurus packardii	FE	No suitable habitat; outside known range; presumed absent
Longhorn Fairy Shrimp**	Branchinecta longiantenna	FE	Site is outside of known range; presumed absent.
Vernal Pool Fairy Shrimp**	Branchinecta lynchi	FT	Site is outside of known range; presumed absent.
American Peregrine Falcon	Falco peregrinus anatum	FE, SE, ST	Rare to occasional visitor.
Willow Flycatcher	Empidonax traillii	SE	Rare to occasional transient.
San Joaquin Kit Fox	Vulpes macrotis mutica	FE, ST	None found during 1988 surveys; site is outside current range.
California Tiger Salamander	Ambystoma californiense	FPE, S	Suitable habitat present; observed on site during surveys.
California Red-legged Frog	Rana aurora draytoni	FPE, SP, S	Suitable habitat on site; none observed during surveys; potentially present.
California Species of Special Concern, State Protected, or Federal Candidate Species			
Opler's Longhorn Moth	Adela Oplerella	C2	Not observed during special surveys; presumed absent.
Phalangids	Microcina homi, M. Jungi	C2	Not observed during special surveys; presumed absent.
California Linderiella**	Linderiella occidentalis	RL	Potential habitat on site; records exist from vicinity of site.
Western Pond Turtle	Clemmys marmorata	FC2, S	Suitable habitat present; observed on site.
Western Spadefoot	Scaphiopus hammondii	FC2, S	No known records from Santa Clara County; presumed absent.
California Horned Lizard	Phrynosoma coronatum frontale	S	Suitable habitat; observed on site.
White-tailed Kite	Elanus caeruleus	CP	Suitable breeding and foraging habitat on site.
Northern Harrier	Circus cyaneus	S	Transient and winter visitor.
Sharp-shinned Hawk	Accipiter striatus	S	Marginal breeding habitat on site; potential forager.
Cooper's Hawk	Accipiter cooperii	S	Suitable breeding and foraging habitat on site.

TABLE 6
SPECIAL-STATUS SPECIES

SPECIES		STATUS*	POTENTIAL FOR OCCURRENCE ON SITE
COMMON NAME	SCIENTIFIC NAME		
Ferruginous Hawk	<i>Buteo Regalis</i>	FC2	Potential winter visitor
Golden Eagle	<i>Aquila chrysaetos</i>	CP, S	Forager on site; historical breeder.
Merlin	<i>Falco columbarius</i>	S	Potential winter visitor on site.
Prairie Falcon	<i>Falco mexicanus</i>	S	Transient and winter visitor.
Long-billed Curlew	<i>Numenius americanus</i>	FC2, S	Potential transient.
Burrowing Owl	<i>Speotyto cunicularia</i>	S	Suitable breeding habitat on site; historical records from site.
California Horned Lark	<i>Eremophila alpestris actia</i>	FC2	Suitable breeding habitat on site.
Loggerhead Shrike	<i>Lanius ludovicianus</i>	FC2	Suitable breeding habitat on site.
Yellow Warbler	<i>Dendroica petechia</i>	S	Potential migrant and transient; possible breeder on site.
Tricolored Blackbird	<i>Agelaius tricolor</i>	FC2,S	Suitable breeding habitat on site; potential breeder.
Townsend's Big-eared Bat	<i>Plecotus townsendii</i>	FC2, S	Potential forager; no suitable roosting habitat on site.
Pallid Bat	<i>Antrozous pallidus</i>	S	Potential forager; no suitable roosting habitat on site.
California Mastiff Bat	<i>Eumops perotis californicus</i>	FC2,S	Potential forager; no suitable roosting habitat on site.
Ringtail	<i>Bassariscus astutus</i>	CP	Suitable habitat on site; likely present.

* = Federal, state, and California Native Plant Society listing designations.

1B = California Native Plant Society's (CNPS) list 1B; plants rare, threatened, or endangered in California, and elsewhere.

CNPS 4 = CNPS list 4; plants of limited distribution; a watch list.

FE = Designated as an endangered species by the federal government under the authority of the federal Endangered Species Act.

FT = Designated as a threatened species by the federal government under the authority of the federal Endangered Species Act.

FPE = Currently proposed for endangered status by the federal government.

FC1 = Designated as a candidate species by the federal government. Occurrence on list 1 indicates that U. S. Fish and Wildlife Service has sufficient biological information to support a proposal to list the species as Endangered or Threatened.

FC2 = Designated as a candidate species by the federal government. Occurrence on list 2 indicates that U.S. Fish and Wildlife Service has potential information for upgrading listing to endangered or threatened, but conclusive data on the biological vulnerability and threat are not currently available to support proposed listing.

FC2*= Threat and/or distribution data are insufficient to support federal listing, but the organism is presumed extinct.

SE = Designated as an endangered species by the California Fish and Game Commission under the authority of the state Endangered Species Act.

ST = Designated as a threatened species by the California Fish and Game Commission under the authority of the state Endangered Species Act.

S = Species of special concern, includes species whose breeding populations in the state have declined severely or are otherwise so low that extirpation is a real possibility. There are no special legal statutes governing the protection of this group.

CP = Fully protected species in the state of California.

RL = listing determined to be unwarranted by the USFWS; no longer a candidate species.

**Other invertebrate species covered in separate report by the Center for Conservation Biology, Stanford University.

State Protected or Federal Candidate Species

Contra Costa Goldfields (*Lasthenia conjugens*). Federal listing status: Candidate 1; State listing status: None; CNPS List: 1B. Contra Costa goldfields occurs on dry, sunny flats in valley grassland communities and along the drying borders of vernal pools up to 700 feet in elevation. This annual herb typically flowers from April to May. This species was known historically from several Bay Area counties, but is now known to exist only in Solano and Napa counties. The closest known historical occurrence occurred in the San Jose East quadrangle, several miles northwest site. No Contra Costa goldfields were found during site surveys. This species is, therefore, presumed to be absent from the study area.

Most Beautiful Jewelflower (*Streptanthus albidus ssp. peramoenus*). Federal listing status: Candidate 1; State listing status: None; CNPS List: 1B. Previously known as uncommon jewelflower, this close relative of the Metcalf Canyon jewelflower is found in similar habitats in geographically-separated areas. This species has been found on serpentine in the Oakland Hills and in Santa Clara County west of Coyote Creek. The flowering period for the most beautiful jewelflower ranges from April to May. Approximately 10,000 individuals were observed on-site during 1992 surveys, on the south-, east-, and west-facing slopes of the serpentine hills in the northeastern portion of the site. The number of individuals of this annual species may be expected to show large year-to-year fluctuations. The Santa Clara Valley dudleya and most beautiful jewelflower occupy roughly the same portion of the site (see Figure 14).

Mount Hamilton Thistle (*Cirsium fontinale var. campylon*). Federal listing status: Candidate 2; State listing status: None; CNPS list: 1B. This coarse thistle is a serpentine endemic that occurs most commonly in wet soils associated with springs, seeps, streams, and canyon bottoms. The blooming period ranges from April through October. Mount Hamilton thistle was not found during special-status surveys and is, therefore, presumed to be absent from the study area.

Fragrant Fritillary (*Fritillaria liliacea*). Federal listing status: Category 2; State listing status: None; CNPS List: 1B. This bulbous plant is found in widely scattered locations in central California in coastal scrub and grassland habitats. All but one of the known populations of this species in Santa Clara County occurs on serpentine; however, some populations in Marin, Alameda, and Sonoma Counties occur on non-serpentine substrates, generally in moist locations. The general blooming period for this species ranges from February to April; however, populations south of San Francisco Bay finish blooming by mid- to late March. Previous surveys for this species were probably conducted too late to identify this species. Fragrant fritillary potentially occurs in the northeastern serpentine area of the site, which is not proposed for development, but is extremely unlikely to occur in the non-serpentine areas of the site which are proposed for development.

Special-status Animal Species

Table 6 lists the potential for occurrence of the special status wildlife species, their status, and their potential for occurrence on the site. Suitable habitat exists on-site to support resident populations of several species. Transients, such as the Sharp-shinned Hawk, Ferruginous Hawk, and Merlin may occasionally forage on-site. Expanded descriptions are provided below for only those species for which potentially suitable breeding habitat occurs on the project site, for which special surveys were conducted, or for which the resource agencies have expressed particular concern.

State or Federal Endangered or Threatened Species, or Proposed for State or Federal Status

Bay Checkerspot Butterfly (*Euphydryas edith bayensis*). Federal listing status: Threatened; State listing status: none. This species occurs in native serpentine grassland communities of the San Francisco Bay Area. The Bay Checkerspot requires dense stands of its larval food plant, dwarf plantain for reproduction and survival, and uses owl's clover as secondary food source in its larval stage. Adult Bay Checkerspot Butterflies emerge from pupae and fly in March and April. Springtime surveys conducted over several years by the Stanford Center for Conservation Biology observed no Bay Checkerspots on the site, although the serpentine grasslands of the site were found to support large patches of the dwarf plantain and owl's clover. Due to the warm conditions on the south-facing slopes of the on-site serpentine grasslands, it is believed that in typical years the host plants would dry up and die before the butterfly would complete the larval stage. In addition, the site is approximately 5 miles south of the nearest existing colony of the butterfly. Thus, even if individual butterflies were able to migrate to the site, the species could only be supported at the site during brief periods of unusually favorable weather (i.e., years with late rains when host plant development may be delayed to coincide with larval development).

Opler's Longhorn Moth (*Adela Oplerella*). Federal listing status: Candidate 2; State listing status: none. Like the Bay Checkerspot Butterfly, this species is restricted to remnant patches of native serpentine grasslands. This species is quite small having a wingspan of one centimeter, and also has its adult flight season in March and April. This species was first recorded on the site in 1986, and is found throughout the serpentine grasslands in the northeastern portion of the site.

Unsilvered Silverspot Butterfly (*Speyeria adiastrum*). Federal listing status: Threatened; State listing status: none. This insect is associated with forest-meadow areas of the Santa Cruz Mountains, with the nearest known population observed at San Bruno Canyon approximately 10 miles north of the project site. The oak woodland savannas and grasslands at the site are low in elevation and dry compared to other known localities of this species. While there are a number of creeks and seeps on the site that could conceivably support this butterfly, the lack of observations indicates that it is unlikely that a population of the unsilvered silverspot exists at the Hayes Valley site.

Phalangids (*Microcina homi*, *Microcina jungi*). Federal listing status: Candidate 2; State listing status: none. These two species of spider-like arthropod are found on the undersides of rocks in serpentine grassland. While this species was not observed on the site, it maybe present near any springs or seeps in the serpentine grasslands of the site.

Longhorn Fairy Shrimp (*Branchinecta longiantenna*). Federal listing status: Endangered (September 19, 1994); State listing status: none. The longhorn fairy shrimp is a California endemic occupying seasonally astatic pools and either grass-bottomed swales or clear sandstone depression pools. The longhorn fairy shrimp is known from four distinct populations along the eastern margin of the central coast range from Contra Costa County south to San Luis Obispo County and from the Altamont Pass area to the Carrizo Plain and Kesterson National Wildlife Refuge in the Central Valley. Based on a reconnaissance-level survey of site conditions and the known species distribution, the longhorn fairy shrimp is not expected to occur on-site.

Vernal Pool Fairy Shrimp (*Branchinecta lynchi*). Federal listing status: Threatened (September 19, 1994); State listing status: none. The vernal pool fairy shrimp occurs in ephemeral freshwater pools in sandstone outcrops. This species has a wide distribution extending from Shasta County through most of the length of the Central Valley to Tulare County, and along the central coast range from northern Solano County to San Benito County. While the vernal pool fairy shrimp occurs widely in California, it does not occur in high densities and has a sporadic distribution within vernal pool complexes. Seasonal wetlands occurring in the northwest corner of the site may provide suitable habitat for this species. However, based on the known species distribution and preliminary surveys, this species is not expected to occur on-site.

California Linderiella (*Linderiella occidentalis*). Federal listing status: Delisted (September 19, 1994); State listing status: none. The USFWS in September 1994 determined that the uplisting to endangered or threatened of California Linderiella was no longer warranted due to its relative abundance and distribution. California linderiella occurs in ephemeral pools that are either grass-bottomed swales or sandstone depression pools. This species is relatively common and occurs from Tehama to Riverside Counties. Seasonal wetlands found in the northwest corner of the site may provide suitable habitat for this species. This species of shrimp is the most likely to occur on the property. However, extensive surveys were not conducted on the property to verify presence or absence.

Vernal Pool Tadpole Shrimp (*Lepidurus packardii*). Federal listing status: Endangered (September 19, 1994); State listing status: none. Pools containing vernal pool tadpole shrimp have clear to highly turbid water and range in size from a few square meters to many acres. These pools may be highly turbid and mud-bottomed or grass-bottomed in old alluvial soils underlain by hardpan. Vernal pool tadpole shrimp are known from 18 populations in the Central Valley, ranging from east of Redding in Shasta County south through the Central Valley to the San Luis National Wildlife Refuge in Merced County, and from a single vernal pool complex in the San Francisco National Wildlife Refuge in the City of Fremont. The pools in the northwest corner of the property appear to be too shallow and short-lived to offer suitable habitat for the vernal pool tadpole shrimp.

San Joaquin Kit Fox. (*Vulpes macrotis mutica*). Federal listing status: Endangered; State listing status: Threatened. At one time, the kit fox occurred extensively throughout California's Central Valley and parts of the Salinas and Santa Clara Valleys. Loss of habitat from urban, agricultural, and industrial development has severely reduced their former range. The San Joaquin kit fox typically occurs in annual grassland or mixed shrub/grassland habitats throughout low, rolling hills, and flatlands. They are generally most active in the late afternoon and evening. Their diet consists predominantly of kangaroo rats, rabbits, and hares in the southern part of their range and California ground squirrels in the northern part.

No kit foxes nor evidence of their presence (e.g., tracks, scats, etc.) were detected during evening spotlighting, scent/track station surveys, or line transects conducted in January 1988 by H. T. Harvey and Associates. The project site is now accepted by state and federal agencies as being well outside the present range of the kit fox. Therefore, kit foxes are presumed absent from the site.

California Tiger Salamander (*Ambystoma californiense*). Federal listing status: Candidate 1, proposed for listing; State listing status: Species of Special Concern. The California tiger salamander is a large salamander with distinctive yellow or cream-colored spots on a black body. This species is found in moderate numbers in riparian and wet meadow habitats, but the adults are more commonly found in the burrows of pocket gophers or California ground squirrels in grasslands. Breeding and juvenile habitat requirements include a temporary (3 to 4 months) or permanent water source. Adults often emerge at night during the first moderate to heavy winter rains. They will migrate up to 0.75 miles to nearby vernal pools, or man-made ponds, where they lay their eggs. The adults remain between one and four months in the pool, feeding at night on invertebrates. The eggs are attached singly, or in clumps, to vegetation under water, or on the bottom of the pool if emergent vegetation is lacking. The eggs hatch approximately one week after they are deposited. The larvae prey upon invertebrates and other amphibian larvae for between three and six months, during which time they metamorphose into juveniles. Juveniles typically migrate in large numbers during a one- to two-week period, during which they search for available rodent burrows. Juveniles hibernate in these burrows until the following winter, if there is sufficient precipitation for emergence and reproduction.

Tiger salamanders take several years to reach maturity and do not necessarily breed every year, even if sufficient habitat is present. They are essentially restricted to the Central Valley and Coast Range of California from Butte County south to Santa Barbara County. They have disappeared from a significant portion of their range due to habitat loss from agriculture and urbanization and the introduction of non-native aquatic predators (i.e., fishes such as bluegill, largemouth bass, and mosquitofish, and bullfrogs).

Reconnaissance-level surveys for this species were conducted by H. T. Harvey and Associates in the late winter of 1989 and the spring of 1990. One adult California tiger salamander was found on-site in April of 1990. More

intensive surveys, including dip-netting of the three stock ponds on-site, were conducted by H. T. Harvey and Associates in April, May, and June 1992. Approximately 75, 8, and 1 larvae were captured in pond 1 in April, May, and June, respectively, and 5 larvae were captured in pond 2 in May. In a subsequent field survey conducted by LSA Associates in 1995, tiger salamanders were found in ponds 1 and 2, as well as in two additional stock ponds in the northeastern corner of the site. The presence of larval tiger salamanders indicates that a resident population exists on-site. The numerous California ground squirrel, Botta's pocket gopher, and California vole burrows present in proximity to the ponds would also provide suitable refugia for tiger salamanders during their summer aestivation period.

California Red-legged Frog (*Rana aurora draytonii*). Federal listing status: Candidate 1; State listing status: Species of Special Concern. The California red-legged frog is a medium-sized frog with reddish-colored legs. This species is generally restricted to riparian habitats in California and northern Baja. Red-legged frogs prefer deep, quiet pools (greater than 3 feet deep) in creeks, rivers, or lakes below 3,000 feet in elevation. Habitat requirements include fresh emergent or dense riparian vegetation, especially willows adjacent to shorelines. Red-legged frogs can survive in seasonal bodies of water that are dry for short periods if there is a permanent water body or dense vegetation stands nearby. The adults are normally active at night and breed in ponds in creeks or in marshes during the late winter or early spring after waters recede. Females attach eggs in a single cluster to a vegetation brace just under the surface of the water. The eggs hatch in just over a week and the resulting larvae feed on plant and animal material on the bottom of the pond. It takes at least 4 months for the larvae to metamorphose into juvenile frogs.

Juvenile frogs are predaceous, and are normally active both day and night, but gradually shift to a more nocturnal activity pattern. Adults normally reach sexual maturity in 2 to 3 years after metamorphosis. This species is active throughout the year, although they may estivate in vegetation thickets during flood events or cold weather. Red-legged frogs once ranged from the Coast Ranges of California from Point Reyes south to northern Baja and east through the Central Valley to the Sierra Nevada foothills. But they have disappeared from about 75 percent of their historic range due to habitat loss from agriculture and urbanization and the introduction of non-native aquatic predators (e.g., fishes and bullfrogs).

No eggs, larvae or adult red-legged frogs were detected during surveys conducted in April and May, 1992 by a qualified herpetologist. Therefore, the California red-legged frog is presumed absent from the site.

California Species of Special Concern, State Protected, or Federal Candidate Species

Western Pond Turtle (*Clemmys marmorata*). Federal listing status: Candidate 2 (FC2); State listing status: Species of Special Concern. The western pond turtle is a medium-sized brown or olive-colored aquatic turtle, and is found west of the Sacramento-San Joaquin Delta, and south to northern Baja, except in desert areas. The pond turtle is normally found in and along riparian areas, although gravid females have been reported up to a mile away from water in search of an appropriate nest sites. The preferred habitat for these turtles includes ponds or slow-moving water with numerous basking sites (logs, rocks, etc.), food sources (plants, aquatic invertebrates, and carrion), and few predators (raccoons, introduced fishes, and bullfrogs). Juvenile and adult turtles are commonly seen basking in the sun at appropriate sites, although they are extremely wary animals and often dive into the water at any perception of danger.

Adults breed in the spring and early summer (March-July). Typical nests are excavated by females in hard-packed clay soil in open habitats (usually on southfacing slopes) within a couple of hundred yards from the water course; however, nests have been located up to 0.4 miles from water. The female will then lay between 1 to 15 eggs which are left to incubate for 3 to 4 months.

Young turtles will either leave the nest shortly after hatching or over-winter in the nest until the late winter rains. Young hatchlings are quite small and feed mainly on aquatic invertebrates in shallow, moss-covered waters. These turtles reach sexual maturity at about 8 years of age. They are also relatively long-lived and may reach 40 years in the wild. They have disappeared from a significant portion of their range due to habitat loss from

agriculture, urbanization, water development projects, and the introduction of non-native aquatic predators (e.g., fishes and bullfrogs).

At least 5 western pond turtles were observed by H. T. Harvey and Associates in pond 1 during sampling for amphibian larvae in June 1992. During subsequent field surveys by LSA Associates in 1995, pond turtles were again observed in pond 1 but were not found in any other on-site ponds. The stock ponds and ephemeral drainages on-site provide suitable habitat for this species. The absence of bullfrogs on-site probably increases the chances of survival of pond turtles.

White-tailed Kite (*Elanus caeruleus*). Federal listing status: None; State listing status: Protected. This species prefers habitats with low ground cover and variable tree growth. Kite nests are built near the tops of oaks, willows, or other dense broad-leaved deciduous trees in partially cleared or cultivated fields, grassy foothills, marsh, riparian, woodland, and savannah. Kites prey primarily on small rodents (especially the California vole), but also feed on birds, insects, reptiles, and amphibians. When prey is abundant, these birds may rear two broods in a single breeding season. Once considered endangered, the kite is now fairly common, although it is fully protected in California.

Suitable breeding habitat exists for this species on-site in the sycamore trees along the valley floor, as well as within the dense oak woodland habitat throughout the site. There also appears to be an adequate insect and small mammal prey base to support breeding kites. Although no White-tailed Kites were observed on-site during surveys, this species would be expected to occur.

Northern Harrier (*Circus cyaneus*). Federal listing status: None; State listing status: Species of Special Concern. The Northern Harrier is commonly found in open grasslands, agricultural areas and marshes. Nests are built on the ground in areas where long grasses provide cover and protection. Harriers hunt for a variety of prey, including rodents, birds, frogs, reptiles, and insects by flying low and slow in a traversing manner utilizing both sight and sound to detect prey items.

The emergent vegetation partially surrounding ponds 1 and 2 on-site is not extensive enough to support nesting Northern Harriers. This species requires dense, tall emergent or weedy vegetation in which to build nests. Northern Harriers were observed foraging during the winter on-site.

Sharp-shinned Hawk (*Accipiter striatus*). Federal listing status: None; State listing status: Species of Special Concern. The Sharp-shinned Hawk is commonly found in dense woodland or riparian habitats bordering open areas. Sharp-shinned Hawks typically pursue small birds in semi-open country, at the edges of open woodlands, in clearings, along hedgerows, shorelines, or along bird migration corridors. Nest sites are usually within 90 meters of a water source and located in dense stands of even-aged trees on north-facing slopes. Fledging of young hawks coincides with that of the songbirds in the area which allows the young of the year to practice foraging on inexperienced prey.

Sharp-shinned Hawks surely move through the site in spring and fall, during periods of migration. They may also spend a portion of the winter months foraging for small birds and other prey on the site. Although the site does not provide dense stands of conifers or other even-aged trees for nesting, the oak woodland habitat of the site may provide less optimal to marginal nesting habitat for Sharp-shinned Hawks. There are scattered breeding records for this species in the Bay Area. Sharp-shinned Hawks were observed foraging on-site.

Cooper's Hawk (*Accipiter cooperii*). Federal listing status: None; State listing status: Species of Special Concern. The Cooper's Hawk is a larger accipiter than the Sharp-shinned Hawk and thus this species can prey upon medium-sized birds (e.g., jays, doves, and quail) and occasionally takes small mammals and reptiles. The Cooper's Hawk prefers landscapes where wooded areas occur in patches and groves which facilitates the ambush hunting tactics employed by this species. Breeding pairs in California prefer nest sites within dense stands of live oak woodland or riparian areas, and prey heavily on young birds during the nesting season. The extensive and varied character of the oak woodland on-site offers abundant nesting opportunities for the Cooper's Hawk. The patchiness of the canopy enhances foraging opportunities for this species. The presence of a large number and

variety of oaks and other large trees render the site suitable for breeding Cooper's Hawks. Cooper's Hawks were frequently observed foraging on-site.

Golden Eagle (*Aquila chrysaetos*). Federal listing status: Protected by the Bald Eagle Protection Act and the Migratory Bird Treaty Act; State listing status: Species of Special Concern, Protected. The Golden Eagle is an uncommon permanent resident and migrant in California. Golden Eagles forage upon a variety of prey, but show a preference for rabbits and rodents. The home range of a breeding pair of eagles may include a number of alternate nests, usually located on cliffs, in large trees, or on high tension towers. Only one of these sites is used each year for breeding. Golden Eagles, their nests, and eggs are fully protected in the state of California by the California Department of Fish and Game. In addition, Golden Eagles and their nests are federally protected under the Bald Eagle Protection Act and the Migratory Bird Treaty Act.

Golden Eagles may have nested on-site in 1989. This eagle nest was discovered in July and August of 1989 after the breeding season, but the presence of numerous feathers, prey remains, ground covered with eagle excrement, etc., strongly suggested recent use. A pair of eagles was observed foraging on the site, and several day and night roosts were discovered during the summer of 1989. An inactive nest was also found during that survey period. A maximum of 7 Golden Eagles (5 adults, one sub-adult, and one first-year bird) were observed foraging on the site during late winter and early spring of 1990. One family group, which included a pair of adults and the first year eagle, were regarded as permanent residents, and remained on-site during the spring of 1990.

Intensive surveys for Golden Eagles were conducted on-site in late May and June 1992. All accessible potential Golden Eagle nest trees were searched for nests. Two pairs of adult Golden Eagles and one subadult were observed on-site during these surveys. Two pairs performed aerial displays, indicating a probable territorial boundary on the north slope of Lion's Peak. One adult also foraged consistently over the valley floor and along the southern boundary of the site. A nest with two nearly fledged young was discovered off-site on the south side of Lion's Peak in June 1992. A pair of Golden Eagles (probably the same pair) nested successfully and produced one fledged young in 1993. Although the nest was not active during a nest survey in April 1994, one adult displayed breeding behavior in the vicinity of the inactive nest, which indicates that the pair may be using an alternate nest in the same or adjacent drainage.

Burrowing Owl (*Speotyto cunicularia*). Federal listing status: Protected by Migratory Bird Treaty Act; State listing status: Species of Special Concern. The Migratory Bird Treaty Act prohibits the "taking of active nests, eggs, young, or adults" of Burrowing Owl. CDFG recommends that lead agencies consider disturbances of Burrowing Owl nest sites as adverse significant impacts. They also recommend mitigation measures to reduce the impacts to a level of insignificance. The Burrowing Owl is a small, terrestrial owl of open country. Burrowing Owls favor flat, open grassland or gentle slopes and sparse shrubland ecosystems. These owls prefer annual and perennial grasslands, typically with sparse or nonexistent tree or shrub canopies. In California, Burrowing Owls are found in close association with California ground squirrels. Owls use the abandoned burrows of ground squirrels for shelter and nesting.

Several Burrowing Owls were observed on-site during reconnaissance surveys conducted during January of 1988. One individual was observed during a site visit during 1988 (D. Hartesveldt, pers. comm.). However, no owls have been observed on-site during subsequent visits. There were two accounts of Burrowing Owls in the vicinity of Day Road, to the south of the site in 1993, but the accounts were unverified. The presence of numerous California ground squirrel burrows within the non-native grassland habitat throughout the valley as well as along some of the low-lying hills provides abundant suitable habitat for Burrowing Owls. Therefore, although Burrowing Owls have not been observed on the site since 1988, they could occur on-site in future years.

Ringtail (*Bassariscus astutus*). Federal listing status: None; State listing status: Fully Protected, CDFG Code 4700. Ringtails are a close relative of the raccoon. They inhabit cavities in rock outcrops, talus slopes, and hollows in trees, logs and snags. Ringtails are usually not found more than 0.8 km from permanent water. This secretive carnivore is nocturnal and feeds mainly on rodents and rabbits and less frequently on birds, reptiles, invertebrates, fruit, nuts, and some carrion. No ringtails were observed during any of the field surveys, but they are expected to occur within the valley oak woodland and riparian woodland habitats on-site.

American Badger (*Taxidea taxus*). Federal listing status: None; State listing status: Species of Special Concern. The American badger is a nocturnal carnivore that occurs within most of California in the drier open regions of grasslands, shrublands, and wooded areas. Habitat requirements include loose, dry soils (which aid in digging), and an abundance of small avian or mammalian prey. The abundance of California ground squirrel burrows throughout the low-lying areas on-site, as well as the abundance of the non-native grasslands in the valley, provide suitable habitat for the badger. There is also adequate cover provided at the grassland edges by trees and shrubs. In addition, a large burrow of appropriate size for a badger was discovered on-site in May 1993. It is, therefore, likely that badgers occur on-site.

Wetlands and Watercourses

Wetlands are recognized as important features on a regional and national level due to their high inherent value to fish and wildlife, their function as storage areas for storm and flood waters, and their water recharge, filtration and purification functions. Although definitions vary to some degree, wetlands are generally considered to be areas that are periodically or permanently inundated by surface or groundwater, and support vegetation adapted to life in saturated soil. Technical standards for delineating wetlands have been developed by the U.S. Army Corps of Engineers (Corps) and the U.S. Fish and Wildlife Service (USFWS), which generally define wetlands by the application of three criteria: hydrology, soils and vegetation.

A wetland assessment was prepared by LSA Associates in May 1994 to provide an estimate on the extent of area subject to Corps' jurisdiction under Section 404 of the Clean Water Act. A copy of this wetland assessment is included in Appendix E.

Based on the assessment by LSA, the total area under Corps' jurisdiction on the property is 9.4 acres. This includes: 3.9 acres of watercourses, consisting of the numerous intermittent streams of the site; 1.3 acres of stock ponds located mainly on the valley floor; 0.2 acres of seeps, found mainly in the northern hillsides; and 4.0 acres of seasonal wetlands located in the western portion of the site.

It is important to note that the LSA assessment does not cover the 176-acre area added to the eastern portion of the site subsequent to their wetland survey. This area contains approximately 0.4 acres of watercourse, bringing the total watercourse area to approximately 4.3 acres, and the total wetlands of the site to approximately 9.8 acres. When the 4.0 acres of seasonal wetland and the 0.2 acres of seeps are removed from this total, the remaining 5.6 acres is equivalent to the acreage for Aquatic habitat in Table 5. (The calculations for this table by H.T. Harvey did not include seeps, which were included in the acreages for grassland habitats.)

Ordinances and Regulations That Address Biological Resources

State and Federal Protections for Species, Habitats and Wetlands: As discussed above, state and federal agencies have a lead role in the protection of biological resources under their permit authority set forth in various statutes and regulations. The U.S. Fish and Wildlife Service is responsible for implementation of the federal Endangered Species Act, and the Migratory Bird Treaty Act, while the U.S. Army Corps of Engineers has primary responsibility for the protection of wetlands under Section 404 of the Clean Water Act. At the state level, the California Department of Fish and Game is responsible for administration of the State Endangered Species Act, and for the protection of streams, waterbodies, and riparian corridors through Streambed Alteration Agreements under Section 1601-1606 of the California Fish and Game Code. (For a detailed discussion of the jurisdictional and regulatory context, see the Biological Resources Report by H. T. Harvey and Associates, contained in Appendix F of this EIR.)

County Zoning Ordinance: Article 14 (Hillsides) allows wood cutting as a matter of right in the Hillside zone provided the yield is not more than 10 percent of trees over 12 inches in diameter per year on any parcel or ownership. Additional wood cutting maybe undertaken in the hillside zone with a Special Permit, with specified limits subject to the submittal of a timber harvest plan.

Santa Clara County General Plan: The Resource Conservation Element of the County General Plan includes policies for the protection of natural streams and freshwater habitat through use of appropriate setbacks and buffer areas. Policy R-RC 37 specifies a protected buffer area of 150 feet from the top bank on both sides where the creek or stream is predominantly in its natural state, and a setback of 100 feet where both sides of the waterway has been altered. Policy R-RC 38 states that no building, structure or parking lots are allowed within the buffer area specified by Policy R-RC 37. This policy also states that "no despoiling or polluting actions shall be allowed, including grubbing, clearing, unrestricted grazing, tree cutting, grading, or debris or organic waste disposal..." within the buffer area. Policy R-RC 43 discourages large scale land clearing that will significantly degrade valuable habitat, and Policy R-RC 51 encourages the preservation of habitat linkages and migration corridors. Policy R-RC 44 encourages the protection of healthy, mature specimen trees. (See Section II. *Consistency with Plans, Policies and Regulations* for the full texts of applicable General Plan policies.)

The County has no tree preservation ordinance, but typically calls for replacement at an appropriate ratio for loss of native trees with a trunk diameter of 12 inches or greater as part of environmental review process.

Significance Criteria

With respect to biological resources, Appendix G of the CEQA Guidelines states that a project will normally have a significant effect on the environment if it will:

- (c) Substantially affect a rare or endangered species of animal or plant or the habitat of the species;
- (d) Interfere substantially with the movement of any resident or migratory fish or wildlife species
- (f) Substantially diminish habitat for fish, wildlife or plants."

Specific thresholds of significance are based on current state and federal regulatory standards or guidelines for the protection of biological resources, as discussed above.

Impacts and Mitigation

Impact 1. **The project would involve the removal of 246 acres of non-native grasslands, orchards, cropland and residential landscaping. (Less-than-Significant Impact)**

Non-Native Grasslands (non-serpentine substrate)

The proposed golf course and residential area would result in the removal of approximately 246 acres of grassland, and the proposed vineyard near Watsonville Road would result in the removal of an additional 100 acres of the total 874 acres of non-native grassland (non-serpentine substrate). Approximately 46 of the remaining 528 acres consist of relatively small grassland patches located between golf course fairways. The remaining 482 acres of on-site grassland would be maintained as permanent open space.

The loss of this habitat would reduce the overall carrying capacity of the site for a variety of animal species including the Red-tailed Hawk, Golden Eagle, White-crowned Sparrow, California Towhee, Western Meadowlark, California ground squirrel, California vole, western harvest mouse, red fox, and black-tailed deer. Thus some terrestrial vertebrates would be lost due to site development, or displaced to neighboring sites not currently developed. Non-native grassland is regionally abundant and the majority of the biotic resources associated with it would continue to be abundant following project completion. Non-native grassland is not a sensitive natural community according to the California Natural Diversity Data Base, and the loss of non-native grassland from the site would not significantly affect botanical, avian, or mammalian resources. The reduction in on-site foregoing habitat for Golden Eagles and other species likewise would not represent a significant impact, as discussed under Impact 8

below. Two special-status species known to occur on-site, the California tiger salamander and the western pond turtle, may utilize an unknown amount of the non-native grassland on-site. (See discussion under Impact 6 below.)

Orchard/Cropland

Project implementation would result in the conversion of all 164 acres of orchard/cropland habitat on-site to residential development, a lake and an equestrian center. Plant and wildlife species that occur within this habitat are relatively common species that are regionally abundant. Therefore, the loss of orchard/cropland from the site would represent a less-than-significant effect.

Residential/Developed

Project development would result in the conversion of approximately 9 acres of currently developed lands into open space, although the existing trees and vegetation would remain. The wildlife species that occur in the previously-developed area tend to be relatively common species that are regionally abundant. No special-status plant or animal species are known to use these residential/developed areas. Therefore, the conversion of the Residential/Developed habitat would be a less-than-significant impact.

Mitigation 1. No mitigation required.

Approximately 482 acres of grasslands would be included in the area to remain as permanent open space.

Impact 2. Development of the two partially wooded lots (Lots 24 and 25) in the residential cluster subdivision in the southeastern portion of the site may result in the limited removal of valley oak woodland. (Potential significant Impact)

Approximately 21 acres (or 4 percent) of the 480 acres of valley oak woodland on-site are located within the 2 proposed residential parcels (Lots 24 and 25). The woodlands are located on the upper, hilly portions of these lots. The lower flatter areas are vegetated with non-native grassland. Although these are to be custom lots, the building envelopes for these lots have been sited within the lower grassland areas to minimize potential tree removal. Any removal of valley oak woodland would be considered a significant impact. The remaining 459 acres (96 percent of the total) of valley oak woodlands on-site would be included in the area to be preserved as permanent open space.

A portion of the proposed equestrian trail network would be located within the valley oak woodland area. These riding trails would consist of existing trails and jeep tracks that occur throughout the site. Some minor improvements may be made to these trails, such as trimming of trees and bushes, but no trees would be removed. Therefore, the new equestrian trails would not result in significant impact to the valley oak woodland.

Mitigation 2. The removal of valley oak woodland within Lots 24 and 25 would be avoided to the extent feasible by placing the building envelopes in areas with relatively little tree cover. Any valley oak trees which cannot be avoided by future residential construction would be replaced at a ratio of 5:1.

Detailed provisions for tree protection and replacement are set forth under Mitigation 4 below.

Impact 3.

The project would result in the loss of 1.7 acres of riparian vegetation or in the reduction of habitat quality in the riparian zone. (Potential Significant Impact)

Approximately 14.8 acres of the total 18.6 acres of Valley Oak/Sycamore Riparian Woodland habitat of the site occur within the portion of the site to be developed, including 13.9 acres within the proposed golf course and 0.9 acres within the proposed Rural Residential parcel on the eastern boundary.

The value of the Valley Oak/Sycamore Riparian Woodland within these parcels would be lessened due both to direct and indirect impacts. Direct impacts include losses of riparian vegetation resulting from removal of vegetation and diversion of creek flows upstream from or filling channels directly adjacent to riparian vegetation. Approximately 1.7 acres of riparian vegetation would be removed, of which 0.4 acres would become "non-riparian" due either to diversion or filling of channels.

Indirect impacts include the conversion of adjoining natural habitats due to the proximity of the golf course and associated facilities (in some locations, proposed irrigated turf and development occur up to and sometimes beneath the canopies of riparian trees), and human disturbance of the riparian corridor. Potential human disturbance may include authorized or unauthorized crossing of the creek by golfers where no bridges exist, and trampling of creekside vegetation by players searching for balls. Several holes which span either the main creek or its tributaries could increase the potential for such disturbances to occur. These include Holes 6, 7, 8, 9 and 10.

The parking facilities adjacent to the creek near Holes 1, 10 and 18 would be set back at least 75 feet from the riparian habitat. In addition, the parking lots are designed so stormwater would not drain in the creek system but into nearby retention basins. Therefore, these parking lots are not expected to contribute to impacts to the riparian habitats.

The loss of riparian vegetation and the proximity of development and managed golf course would reduce the value of the Valley Oak/Sycamore Riparian Woodland to native wildlife without mitigation. Numbers and diversity of wildlife species occurring along the intermittent creeks of the site are likely to decline during and after project implementation. The loss of riparian habitat and the reduction of riparian habitat values would constitute a potentially significant environmental effect.

Additionally, any fill, grading and excavation within this habitat would be regulated by the CDFG and by the U.S Army Corps of Engineers, and permits from both of these agencies would be required prior to commencing activities which may affect this habitat.

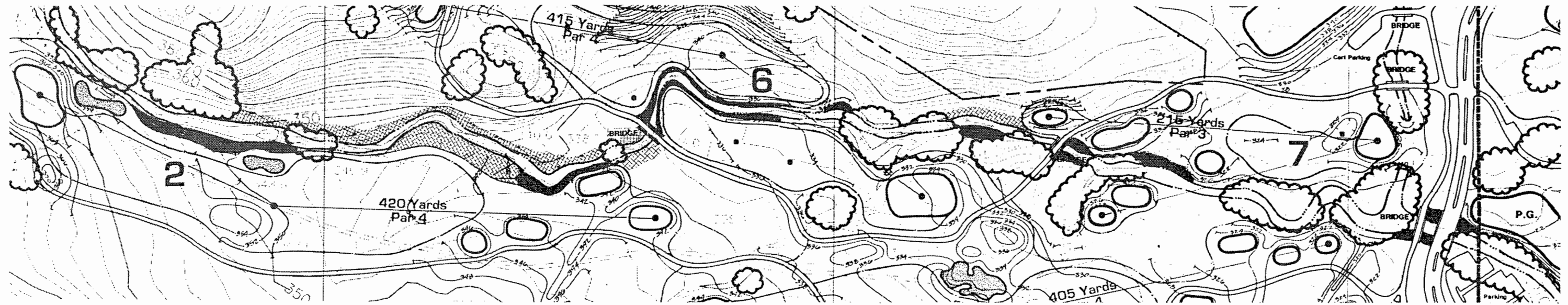
Mitigation 3.

Impacts to riparian habitat would be avoided to the extent feasible. The unavoidable loss of riparian vegetation and the reduction of habitat value would be mitigated by the on-site replacement of lost habitat, and by measures to protect and enhance the remaining habitat.

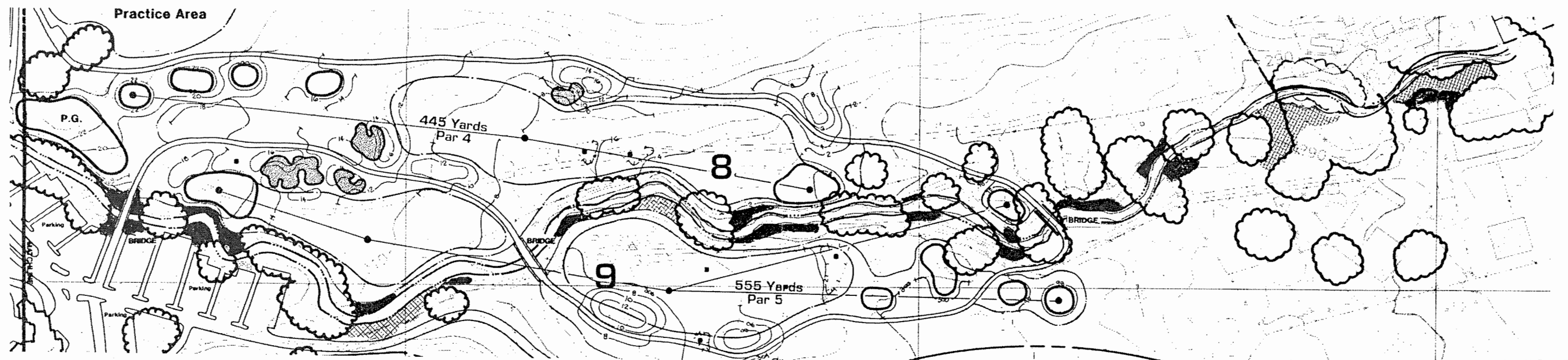
The following measures should be implemented as mitigation:

Removal of riparian habitat would be avoided to the extent feasible. Where avoidance of riparian habitat is not feasible (e.g., at bridge crossings), areas removed by the project would be replaced on-site with newly created Valley Oak/Sycamore Riparian Woodland. A Riparian Habitat Restoration and Enhancement Plan would be developed by a qualified biologist (see Figure 15 for a conceptual habitat restoration plan prepared by LSA Associates). The plan would contain the following components:

(a) Identification of appropriate restoration sites. The area identified for on-site restoration and enhancement is a 1.2-mile long on-site reach of West Branch Llagas Creek extending





WESTERN HALF



EASTERN HALF

Location of Tree and Shrub Planting Areas

-  Trees
-  Shrubs

SCALE: 1" = 200'

RIPARIAN HABITAT RESTORATION AND ENHANCEMENT CONCEPT

from the existing on-site pond in the west to the existing ranch complex in the east. This corridor contains approximately 2.5 acres of area to be revegetated as shown on the riparian restoration and enhancement concept plan. This represents sufficient area to accommodate the required tree and acreage replacement ratios discussed below.

(b) Replacement for lost trees. Replacement of lost riparian trees would occur at a 3:1 ratio for trees between 2-12" DBH and 5:1 ratio for trees greater than 12" DBH. These ratios should be necessary to compensate for the habitat values lost while restored riparian habitats are maturing (a process taking many years). The riparian corridor would be planted with container-grown plant stock ranging in size from deep pots (2" x 9" black plastic tubes), and 1 gallon containers to larger pots such as citrus pots (4 gallons) and tree pots (15 gallons). As noted in Section I. *Project Description*, the applicant has over 2,500 trees which have been grown from acorns and seeds collected from the site. These include 1,774 sycamores and 454 valley oaks, many of which would be planted within the riparian revegetation area. The mitigation site would be protected from disturbance during project grading and construction.

Planting would occur in late fall or early winter to take advantage of winter rains. All plantings would be spaced at variable distances to create a natural appearance, with sufficient space between them to allow the development of a full mature canopy. The plantings would be maintained and monitored for a period of 5 years, or longer if needed to ensure continued survival of 85 percent of the plantings without further maintenance.

(c) Replacement of lost acreage. Lost acreage would be replaced at a ratio of 1:1 to 2:1 depending on the value of the riparian habitat removed. A portion of the 1.7 acres of riparian habitat to be removed would also constitute wetlands under the jurisdiction of the U.S. Army Corps of Engineers and would be replaced by the wetland replacement mitigation identified under Mitigation 12 below. The 2.5 acres of riparian restoration area along the main creek channel would more than compensate for the remaining non-wetland riparian habitat to be removed as a result of the project.

(d) Apply for and comply with all appropriate permits. The project proponent would apply for and obtain a Streamed Alteration Agreement from CDFG and a Section 404 permit from the Corps of Engineers prior to issuance of a grading permit. The project proponent would comply with all conditions of each permit.

(e) Establish an undeveloped buffer on either side of the riparian area. The CDFG generally recommends riparian setbacks of 100 feet, and the Santa Clara County General Plan recommends setbacks of 150 feet (for structures and pavements) from the top of the bank line where a creek is predominantly in its natural state, and provides for reduced setbacks where creekside habit has been degraded. The County's interim Environmental/Design Guidelines for Golf Course indicates a setback of 75 to 150 feet for structures, paved roadways and parking areas. Since quality of the riparian habitat on-site has been degraded due to many years of livestock grazing, smaller buffers would adequately protect existing riparian functions and values. The riparian woodland consists primarily of large, relatively widely-spaced trees. Little or no woody understory vegetation is present, and almost no regeneration of trees has occurred. The relatively simple and open structure of the riparian habitat has resulted in a reduction of its value to wildlife. Habitat value and the preservation of existing vegetation conditions would, therefore, be maintained with reduced buffers. Within the proposed Lion's Gate project, the paved areas nearest to the creek channel would be clubhouse parking areas, which are proposed to be set back a minimum of 75 feet from the creek bank. In addition, all parking lot runoff would be piped to off-channel retention basins, and would not be allowed to enter the creek.

Along the main creek channel, a minimum buffer of 50 feet on either side of all riparian trees as measured from the edge of the canopy would be established, where feasible, as recommended by H.T. Harvey and Associates. (As discussed under Impact 5 below, the main internal access road would unavoidably encroach upon the driplines of several mature oak trees at the eastern bridge planned over the main creek channel.) In areas that do not support canopy for a distance of at least 100 feet, the buffer should measure 10 feet from the top of bank. (It is important to note that the 10-foot minimum setback applies only to turf and rough areas. These turfed areas adjacent to the riparian corridor are used by wildlife, and thus would not inhibit the wildlife movement along the creek.) On all tributaries to the main creek channel, a minimum buffer of 25 feet on either side of all riparian trees as measured from the edge of canopy should be established. In areas not supporting riparian trees, the buffer should measure 10 feet. Access roads and cart paths would not be constructed within this buffer except where necessary to cross the water courses.

(f) Discourage additional human intrusion into the riparian zone. Bridge crossings would only be provided at locations where creek crossing is necessary to travel from one hole to another or from one end of a hole to the other. Any other access into the riparian and buffer zone would be prohibited. Signs and information would be distributed to golfers regarding the value of the riparian habitat and the prohibitions of access into it. Periodically, golf balls and other man-made debris would be carefully removed from the riparian area by trained maintenance personnel. In addition, the removal of cattle from the site would help facilitate enhancement of the riparian habitat.

Impact 4.

Development of the site as proposed would involve removal of up to 18 trees. (Potential Significant Impact)

The golf course and related facilities would require the removal of 18 trees, including 11 valley oaks, 6 willows and one sycamore. It is possible that several of the valley oaks may be saved or transplanted depending on the final golf course plans and the recommendations of a qualified arborist.

TABLE 7

TREE REMOVAL AND REPLACEMENT

Species	Trees to be Removed			Trees to be Planted	
	Size Class (inches)			Required Tree Replacement	Proposed Tree Planting
	12 - 24	24 - 36	36 +		
Valley Oak (<i>Quercus lobata</i>)	—	2	9	55	454
Willow (<i>Salix</i> sp.)	4	2	—	30	30
Sycamore (<i>Plantanus racemosa</i>)	—	1	—	5	1,774
Black Walnut	—	—	—	—	216
Buckeye	—	—	—	—	128
Totals	4	5	9	90	2,602
*Valley oaks are required to be replaced at 5:1. Other native trees are required to be replaced 3:1, except riparian species which are to be replaced at 5:1. All trees to be removed consist of valley oaks or riparian species.					

The two partially wooded residential lots proposed in the southeastern area of the site (Lots 24 and 25) may involve some minor removal of trees for building pads or driveways. However, building envelopes for these lots have been established in areas of the lots where there is little or no tree cover (see Figures 9a and 9b).

Mitigation 4(a). Existing trees on the site would be preserved and protected to the greatest extent possible.

Where incursion into tree canopy is unavoidable, trunk locations should be surveyed and mapped during the preparation of improvement plans, and attempts to preserve individual trees made where feasible through the use of retaining walls, short oversteepened slopes, and other methods.

Mitigation 4(b). A tree replacement program would be prepared to provide for replacement of native trees removed by proposed development.

The tree replacement program would be implemented as part of site revegetation and landscaping. Oaks would be replaced at a ratio of 5:1 (replacement:removed), with all other native trees replaced at a ratio of 3:1 (except riparian species, which would also be replaced at 5:1). The composition of required tree replacement plantings would be consistent with the percentage of each required tree species removed. Any trees and saplings salvaged within the limits of anticipated grading would qualify as replacement plantings if successfully transplanted.

As shown in Table 7, the estimated tree removal for the project would necessitate replacement planting with a total of 90 trees. As noted in Section I. *Project Description*, the applicant has over 2,500 native trees which have been grown from acorns and seeds collected from the site. These include 454 valley oaks, 1,774 sycamores, 216 black walnuts and 128 buckeye, which would be planted throughout the project site.

Mitigation 4(c). Detailed guidelines would be prepared by a certified arborist to minimize potential damage to trees to be preserved.

These guidelines would cover both construction-related impacts and long-term affects due to changes in drainage or irrigation. The location of tree trunks to be retained would be identified in the field through flagging or other obvious marking method prior to any grading. Standards contained in the preservation guidelines would include the following:

- Grade changes within the tree dripline would be minimized, generally prohibiting any encroachment closer than one-third the distance from the dripline to the trunk. Restrictions on the limits of grading, adjustments to the final grade of cut and fill slopes, and use of retaining walls, if necessary, would all be considered to protect individual trees worthy of preservation.
- Temporary fencing would be required along the outermost edge of the dripline of each tree or group of trees to be retained in the vicinity of grading to avoid compaction of the root zone and mechanical damage to trunks and limbs.
- Paving within tree driplines would be minimized and porous materials such as gravel, loose boulders, cobbles, wood chips or bark mulch would be used where hardscape improvements are necessary for access in the vicinity of trees.
- Trenching would be prohibited within tree driplines, with any required utility line within the dripline installed by boring or drilling through the soil.

- Landscape irrigation within tree driplines would be minimized, prohibiting turf or any landscaping with high water requirements and limiting permanent irrigation improvements to bubbler, drip, or subterranean systems.

Impact 5.

The main access road would encroach upon the driplines of several mature oaks south of the proposed eastern bridge across West Branch Llagas Creek, potentially resulting in stress or death to those trees. (Potential Significant Impact)

The main access road has been designed to avoid removal of any trees, but it would unavoidably encroach upon portions of the driplines of several (2 to 4) valley oaks south of the proposed eastern roadway bridge. It is possible that grading within the dripline of these trees may result in damage of the root structure and eventual death of the trees.

Mitigation 5.

Grading and paving within the driplines of the affected oaks would be subject to the recommendations of a qualified arborist to minimize stress and damage, with replacement required for any trees that do not survive.

The affected trees would be monitored for a 5-year period. If these trees do not succumb to the grading activities, then no additional mitigation is necessary. However, if they should exhibit stress from these construction activities within this 5-year period, then these trees would be replaced using the replacement ratios outlined above.

Impact 6.

The proposed project may result in direct impacts to the California tiger salamander, a special-status species, and would result in the loss of breeding habitat for the tiger salamander. (Potential Significant Impact)

The project may result in direct mortality to the tiger salamander during grading. After completion of the golf course, salamanders migrating to or from breeding ponds may be run over by golf carts or by cars and trucks traveling on the proposed maintenance access road from Watsonville Road to the maintenance facility, or on other paved roads on the project site. Adult salamanders or larvae in the irrigation storage lake could be lost during pumping or the drawdown of the water level in the lake.

The proposed project would result in loss of breeding habitat for the tiger salamander by filling pond 2 and incorporating this area into the golf course. Pond 1 would be left intact but its suitability as breeding habitat for the tiger salamander would be reduced. The construction of the irrigation storage reservoir approximately 400 feet from pond 1 where bullfrogs could become established increases the probability of the predators moving to pond 1 when water is present. The presence of bullfrogs would reduce the tiger salamander population over time.

The proposed project would result in the loss of upland habitat for the California tiger salamander. Approximately 100 acres of upland habitat would be permanently lost due to the golf course development. Areas of annual grassland would be left intact within the golf course and may provide suitable upland habitat as long as estivation sites (burrows, especially of ground squirrels) are not removed.

The proposed project would potentially reduce water quality, resulting in impacts to the California tiger salamander. Irrigation runoff from the golf course may contain levels of pesticides, fertilizers and herbicides which, if they enter pond 1, may be toxic to the tiger salamander and other aquatic species.

Mitigation 6. The project would include measures to reduce direct mortality of the California tiger salamander, and measures to preserve existing habitat and create new habitat to replace the habitat lost due to the project.

Direct Mortality

Measures would be taken to reduce direct mortality of terrestrial salamanders during construction and during migrations to and from breeding ponds after construction is completed.

Fencing would be erected to enclose areas to be graded in the vicinity of ponds 1 and 2 in the fall of the year prior to the beginning of grading. The fence would be designed so that salamanders estivating within the construction areas could move out of their burrows and leave the fenced area to reach breeding ponds, but could not return within the fenced areas. Adults and the year's metamorphosed juveniles would then be forced to choose burrow sites outside the construction areas.

To reduce road mortality, the proposed road to the maintenance facility (and secondary emergency access) from Watsonville Road would be built without curbs and gutters.

The golf course access road would be built with rolling curbs or would have no curbs, which will prevent salamanders from becoming trapped on the road if they should migrate onto the roadway.

The permanent open space areas of the project site would be fenced to prevent trespass by unauthorized off-road vehicles.

Habitat Preservation and Creation

The project would preserve 3 existing breeding ponds in the permanent open space areas, maintain one breeding pond within the golf course (pond 1), introduce the salamander to two existing stock ponds which are not currently salamander habitat, and create 3 additional breeding ponds in a permanent open space area. The length of West Branch Llagas Creek and other drainages on the site would be largely preserved which would provide corridors between aquatic sites.

The two existing ponds which are not currently used as a breeding habitat would be made into breeding ponds by removing tiger salamander larvae from pond 2, which is proposed to be filled, and transferring the larvae to the two existing stock ponds. The 3 new breeding ponds would be created by damming tributary drainages and introducing larvae into the new ponds. The two existing ponds and two of the new ponds are located along the northern toe of the southern series of hills. The third new pond would be created to the north of pond 1 by damming the tributary drainage (this pond is also intended as new habitat for the western pond turtle, as discussed under Mitigation 7 below). All of these existing and proposed ponds are located in the area to be preserved as permanent open space.

Pond 1 would be managed to continue its suitability as breeding habitat for the California tiger salamander. The hydrology of this pond would not be changed, and a minimum buffer of 50 feet of undisturbed grassland would remain around the pond (see LSA report in Appendix F).

All remaining and proposed breeding ponds are located adjacent to or are within suitable upland California tiger salamander habitat. Grassland is the primary habitat type and ground squirrels are common in all of these areas. These upland areas would be arranged to maintain optimal conditions for the California tiger salamander. (For further description of the

mitigation plan and accompanying maps see the LSA report contained in Appendix F of this EIR).

Potential water quality impacts from golf course runoff would be minimized by the golf course drainage plan, which would direct runoff away from natural drainages and ponds, and through implementation of the Environmental Management Plan, under which the use of golf course chemicals would be minimized.

Impact 7.

The proposed project may result in direct impacts to the western pond turtle, a special status species, and would result in the loss of potential upland habitat for the pond turtle. (Potential Significant Impact)

Construction and grading activity for the golf course may result in direct mortality to pond turtles using upland areas, and in the loss of existing nesting sites during grading activities.

After completion of the golf course, direct mortality may occur to females attempting to move to nesting sites and/or hatchlings moving to aquatic sites if they move into the golf course after it is completed. Approximately 100 acres of potential upland nesting and overwintering habitat would be permanently lost due to golf course development.

Pond turtles may also be subject to increased collection pressures due to the increased number of people using the area. Human activity in close proximity to pond 1 may disturb normal pond turtle activities (e.g., basking and foraging).

Water quality may be reduced by irrigation runoff from the golf course. Affected areas may include pond 1 and reaches of the creek which are adjacent to or downstream of the golf course. The possibility of introduction of exotic predatory species such as bullfrog and fish into waterbodies on the project sites would also increase.

Mitigation 7.

The project would include measures to preserve existing pond turtle habitat, and to create new habitat on the project site.

Pond 1, which is the only on-site location known to be inhabited by pond turtles, would be situated within the proposed golf course. This pond would be managed to continue its suitability as aquatic habitat for western pond turtles. The hydrology of this pond would not be changed. A minimum buffer of 50 feet would be retained around the perimeter of the pond, which would be an out-of-bounds area for the golf course.

Additional aquatic habitat for western pond turtles is proposed to be created in the permanent open space area north of the golf course. A 10,000-square-foot pond would be created by berming the eastern drainage channel that flows into pond 1. This new pond would be designed to dry by October in a year of average rainfall. Aerial basking sites would be provided as well as shallow areas with emergent vegetation for hatchlings and juvenile turtles. (For a detailed description of the mitigation plan and accompanying maps, see the LSA report contained in Appendix F of this EIR.)

Impact 8.

The special-status plant and invertebrate species of the native serpentine grasslands on the site would be subject to potential disturbance by grading for the adjacent golf course and residential subdivisions, and by the general intensification of human activity resulting from the project. (Potential Significant Impact)

Two special-status plant species, the Santa Clara Dudleya and the most beautiful jewelflower, occur in the serpentine hills in the northeastern portion of the site. Two other special-status plant species potentially occur on the site, including Tiburon Indian paintbrush and fragrant fritillary. In addition, one special-status animal species, Opler's longhorn moth, is also found in the serpentine grassland habitat of the site.

Under the proposed development plan, the serpentine area of the site is not proposed for development and would be preserved as permanent open space. Thus the special-status plants and animals that occur or potentially occur here would not be subject to direct impact. However, potential indirect impacts to this area are likely to result from the placement of residential lots adjacent to this area on the south. The serpentine habitat is fragile, consisting of steep, sparsely vegetated hillsides with thin, rocky soils. Potential activities which may adversely affect the plants and their habitat include trampling by people, horses, domestic pets, bicycles, and motorcycles. These potential indirect effects of the project would constitute potentially significant impacts.

The only area where grading may occur near the serpentine habitat area is at Lots 7 and 8 of the residential cluster subdivision. The lot boundaries for these lots have been carefully delineated to avoid this serpentine area. However, unless properly fenced or flagged during construction, any future grading activity for the construction of custom homes on these lots could inadvertently cross over into the serpentine area resulting in potentially significant impacts to special-status species.

Mitigation 8. **The serpentine habitat area would be fenced, and signs would be posted to prevent encroachment of grading from the adjacent residential lots, and to prevent the incursion of human activities after the project is completed.**

Public access to the special-status species habitat would be restricted in perpetuity. Brochures would be prepared by the project proponent, or a designee, and would be provided to all homeowners as part of a public education program about the presence of special-status species and the value of such protected resources.

Prior to site grading, temporary fences would be constructed between the serpentine and the adjacent residential lots. The fences would stay in place for the duration of project construction.

Impact 9. **Project construction may adversely affect any future burrowing owl nests that may be established on the site prior to development. (Potential Significant Impact)**

Burrowing owls were observed on the site in February 1988, and suitable habitat exists in some areas of the non-native grassland habitat on-site. Although no burrowing owls were observed during recent site surveys, there were at least 50 active California ground squirrel burrows in the central and western portion of the Hayes Valley site, and the habitat appeared to be suitable for owls. In addition, burrowing owls were observed south of the site in 1993 and 1994 and may disperse onto the project site prior to or following the breeding season. There is a possibility that burrowing owls may establish an active nest in the vicinity of proposed improvements, which nest could be destroyed or abandoned as a result of construction activities. Disturbances or destruction of a nest in active use would be a violation of the Migratory Bird Treaty Act and provisions of the State Fish and Game Code.

Mitigation 9. **Preconstruction surveys would be conducted 30 days prior to site grading to ensure that no burrowing owls nests have been established, with implementation of appropriate mitigation if active nests are found.**

The preconstruction surveys must be conducted by a qualified ornithologist during the spring and early summer months when nesting activity occurs, not during the winter months. If no owls are located during these surveys, then no additional action would be warranted.

If nesting burrowing owls are discovered during the survey, no construction activities, including tree removal, which would result in disturbance to active nests would be allowed to proceed until the ornithologist determines the extent of construction-free zones around the active nests. Results of preconstruction surveys for active burrowing owl nests would be presented to the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG). If any active burrowing owl nests are found on the site, recommendations for avoiding impacts to these birds would be submitted to these agencies for review.

Any burrowing owls discovered using the site during the non-breeding season may be passively relocated by installing one-way doors in active burrows. These doors would remain in the burrows for up to four days to ensure the no owls remain underground. All active burrows would then be carefully excavated to ensure that no owls remain underground. All burrows in the construction area would be closed prior to the passive relocation to prevent owls from using them.

Impact 10.

The project may adversely affect any future nests of the Golden Eagle or other raptors that could be established on the site prior to development. (Potential Significant Impact)

Golden Eagles are not currently nesting within the project boundaries and the closest known Golden Eagle nest is 0.25 miles from the project boundary on the south side of Lion's Peak. This nest is more than 0.5 miles from any project related development and is also not within the line of sight of any proposed development. Therefore, project buildout would not adversely affect the reproduction success of the Golden Eagle nest on the south side of Lion's Peak.

In the event that any new eagles nests (or other raptor nests) are established on the site prior to site development, construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nesting raptors, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss or reproductive effort is considered a "take" by the CDFG. Any loss of fertile eggs, nesting raptors, or any activities resulting in nest abandonment would constitute a significant impact.

Golden Eagles have been observed foraging on-site for California ground squirrels, which are relatively common in most areas of the valley floor. After completion of the project, the eagles are likely to shift their foraging efforts to adjacent grasslands where their primary prey, ground squirrels and black-tailed hares, are also abundant. Native grasslands, which support an abundance of ground squirrels and black-tailed hares are one of the most common habitats presently undeveloped in south Santa Clara County. Golden Eagles forage between 20 and 66 square miles depending upon the quality of habitat. Eagles in San Diego county in similar habitats to Hayes Valley average a foraging range of 36 square miles. The loss of 246 acres of grassland due to the golf course and residential development would represent approximately 27 percent of the grassland on site. The proposed vineyard on 100 acres near Watsonville Road would represent an additional 11 percent, resulting in a total grassland loss of 38 percent. Assuming that the home range for local Golden Eagles consists of approximately 36 square miles, with a somewhat smaller home range for other raptors, this loss would represent 1 to 2 percent of the total foraging area for the potentially affected raptors. Considering also that the other grasslands in the vicinity are not planned or proposed for conversion, the loss

of a portion of the on-site grasslands would not constitute a significant impact on foraging habitat for Golden Eagles and other raptors.

- Mitigation 10.** **Preconstruction surveys would be conducted 30 days prior to site development to ensure that no active eagle or other raptor nests have been established on the site, with implementation of appropriate mitigation if active nests are found.**

Construction activities during the nesting season (February to July) would be preceded by preconstruction surveys for nesting eagles and other raptors by a qualified ornithologist. No construction activities, including tree removal, which would result in disturbance to active raptor nest, would proceed prior to these surveys. The ornithologist would determine the extent of construction-free zones around any active raptor nests located during surveys. If any active nest of the Golden Eagle or other raptors are found on the site, recommendations for avoiding impacts to these birds would be submitted to the USFWS and CDFG for review.

- Impact 11.** **The project would result in the reduction of habitat on the site for the ringtail, American badger, California horned lizard and several species of raptor, all of which are special-status species which occur on the site. (Less-than-Significant Impact)**

The ringtail occurs primarily within the valley oak woodland and riparian woodland habitats. Approximately 96 percent of this habitat would remain as permanent open space on-site. Therefore, the loss of a small amount of potential habitat is considered a less-than-significant impact.

A potential badger burrow was discovered on-site in May 1993. The project would eliminate some habitat potentially used by badgers. Considering the large amount of grassland/woodland habitat to be preserved as permanent open space on the site, and the abundance of these habitats regionally, impacts to badgers are expected to be less-than-significant.

The California horned lizard was observed on-site. The majority of the appropriate habitat for this species (valley oak woodland) would not be lost due to project development. Hence, project-related impacts to this lizard are considered a less-than-significant impact due to the abundance of suitable habitat to remain as open space on-site and regionally.

White-tailed Kite, Sharp-shinned Hawk, and Cooper's Hawk use the project site for foraging. The proposed project would eliminate some foraging habitat for these species. Due to the abundance of similar habitat regionally, impact to these species resulting from a small loss of foraging habitat is expected to be less-than-significant.

- Mitigation 11.** **No mitigation required.**

- Impact 12.** **The project would eliminate approximately 1.5 acres of existing wetlands on the site. (Potential Significant Impact)**

Potential impacts to wetlands include direct modifications to creek channels and seasonal wetlands to accommodate fairways, roadways and golf cart path crossings, and to modify the existing pond.

The development of the project would result in the loss of approximately 1.3 acres of wetland under the jurisdiction of the U.S. Army Corps of Engineers, and an additional 0.2 acres of emergent vegetation along existing ponds. The grading and filling of seasonal stream courses

for golf fairways and roadway and golf cart crossings would remove approximately 0.7 acres of watercourses. The excavation planned for the northern and eastern edges of the main stock pond would remove approximately 0.3 acres of these wetlands plus 0.2 acres of surrounding emergent vegetation, although these areas would be converted to storage pond. Approximately 0.3 acres of the seasonal wetlands in the western portion of the property would be filled for construction of the maintenance access road to Watsonville Road.

Wetland habitats are important for many native plants and animals. The loss of any of these habitats is considered significant and would require authorization from the U.S. Army Corps of Engineers. The bed and banks of all seasonal drainages would be under the jurisdiction of the California Department of Fish and Game (CDFG), and any alterations would require a Streambed Alteration Agreement from CDFG.

The floristic composition of these seasonal wetlands within and directly adjacent to the proposed maintenance access road is rare in Santa Clara County. Seasonal wetlands are generally considered by the CDFG to be of high priority. Therefore, the loss of any of this habitat is considered to be significant. Additionally, these seasonal wetlands may be subject to the jurisdiction of the U.S. Army Corps of Engineers.

Based on the preliminary estimate of 1.5 acres of wetlands affected by the project, it appears that the project may qualify for a General or Nationwide Permit from the Corps.

Potential erosion and degradation of the wetland and riparian habitats may result from increased urban runoff volumes and degraded water quality associated with proposed development. Soils exposed during grading and construction would contribute to increases sediment loads in the creeks unless adequate erosion control measures are implemented. Increased urban pollutants, such as petroleum products from automobiles, and fertilizers, herbicides, and pesticides associated with the golf course may contribute to long-term degradation of water quality.

Mitigation 12(a). A detailed wetland protection, replacement, and restoration plan would be prepared which meets with the approval of the County, the Corps of Engineers, and the Department of Fish and Game.

The plan would clearly identify: the total wetlands and other jurisdictional areas affected by the project; the replacement of wetland habitat lost at an acceptable ratio; and provisions for re-establishment, enhancement, and/or replacement of wetland vegetation. The following details would be included in the plan:

- The location(s) of on-site mitigation areas would be identified. Mitigation for loss of existing wetlands would be provided at a minimum replacement ratio of 1:1, and would result in created or restored wetlands with a higher habitat value. Use of freshwater marsh vegetation around the perimeter of the new waterbodies as partial mitigation would only be considered where long-term management to prevent interference with golf play would not preclude its establishment.
- Replacement habitat would be in-kind (e.g., seasonal wetland would be replaced with seasonal wetland, etc.).
- The plan would specify performance criteria, maintenance and long-term management responsibilities, monitoring requirements, and contingency measures.

- The plan would define site preparation and revegetation procedures, an implementation schedule, and funding sources to ensure long-term management of the overall wetland mitigation plan.

A concept for on-site wetlands mitigation has been outlined by LSA Associates (see letter to Bert Verrips dated December 18, 1995, in Appendix F). According to this concept, approximately 0.75 acres of new wetland area would be provided in the new ponds to be created as mitigation for the California tiger salamander and the western pond turtle (see discussion under Impacts 6 and 7 above). An additional 0.36 acres of wetland would be created adjacent to pond #1, as proposed in the project site plan. This accounts for a total wetland creation of 1.11 acres. The remaining wetland mitigation acreage would be created by further expanding the wetland habitat at pond #2, and/or by the creation of an additional salamander breeding pond.

Mitigation 12(b). Best Management Practices would be used to manage and maintain the golf course in order to minimize impacts of pesticides, fertilizers, and herbicides on the wetlands of the site.

Appropriate guidelines would be established, including the following provisions:

- Require the use of slow-release nitrogen formulas for all fertilization operations.
- Restrict the application of fungicides, pesticides, herbicides, or fertilizers onto any landscaped areas to fair weather days to prevent precipitation from leaching chemicals into surface water resources.
- Require that chemicals be applied with equipment that has a low ground clearance and a coarse spray to reduce the potential of inadvertent release.
- Minimize the potential of downward percolation of chemicals by requiring that water applied to fairways during fertilization shall be in an amount equal to the day's evapotranspiration rate.
- Restrict "heavy management" of golf course landscaping to tees and greens.
- Require the use of turf species that are low-energy demanding for golf course and other areas with turf landscaping.

[Note: The proposed golf course management practices are described in detail in the Environmental Management Plan, which is contained in Appendix E of this EIR.]

Mitigation 12(c). A detailed erosion and sedimentation control plan would be prepared and implemented during project grading and construction.

The plan would contain detailed measures to control erosion of stockpiled earth and exposed soil, provide for revegetation of graded slopes before the first rainy season following construction, and specify procedures for monitoring of the plan's effectiveness.

[NOTE: Comprehensive erosion control measures would be implemented under the Storm Water Pollution Prevention Plan required for the project, as discussed in Section III. F. Water Quality.]

Impact 13. **The introduction on non-native species to the site may adversely affect the native vegetation of the site. (Potential Significant Impact)**

Several exotic species used in landscaping commonly escape cultivation and become naturalized in adjacent native habitats. Typical species include French broom, black locust, blue gum, acacia, and periwinkle. These and other exotics are capable of naturalizing in native habitats and reducing the diversity of native plants on the site. This would constitute a potentially significant adverse affect on the native vegetation of the site.

Mitigation 13. **The use of invasive species in project landscaping would be avoided.**

A qualified botanist or horticulturalist would prepare a list of all exotic plants known to readily naturalize in habitats similar to those found on the project site. Species such as black locust, blue gum, various brooms, periwinkle, and others known to be invasive and difficult to eradicate would be placed on this list and not be used in landscaping for the golf course or residential elements of the project.

Conclusion. **With implementation of the above mitigation measures, the project impacts on biological resources would be reduced to less-than-significant levels.**

H. ARCHAEOLOGY

The following discussion is based on the Cultural Resources Evaluation prepared for the project by Basin Research Associates in December 1995, and the subsurface investigation report by Basin Research dated March 1996. The archaeology reports are kept administratively confidential by the Santa Clara County Department of Planning and Development.

Environmental Setting

There are 4 prehistoric and historic sites which have been recorded within the Hayes Valley site. The following discussion summarizes the findings and conclusions for each of these sites, based on surface reconnaissance and subsurface auger testing conducted by Basin Research.

CA-SCI-76: This site is located in the vicinity of the present ranch complex and according to Basin Research ".... probably represents the largest aboriginal village in the southern Santa Clara Valley." Previous studies reported that numerous artifacts have been recovered from this site including many mortars and pestles, points and blades, tobacco pipes, in addition to a large midden (refuse dump) containing fire-cracked rock, burnt bone and shell fragments. The field surveys by Basin Research also yielded several chert flakes from the prehistoric period.

The previous studies also reported that several prehistoric burials were uncovered. Local residents have also reported seeing bone fragments along West Branch Llagas Creek in the vicinity, particularly after heavy storm events. However, a thorough field survey of SCI-76 and the adjacent downstream creek channel conducted by Basin Research found no evidence of human remains.

SCI-76 is also believed to be the site of a pueblo from the Hispanic Period, although no material from this period has been discovered (see Section III. I. *Historic Resources*).

Given the potential for the project to disturb cultural resources at SCI-76, a program of subsurface excavation was undertaken by Basin Research Associates in March 1996 to determine the presence or absence of archaeological material in the vicinity of the proposed improvements. A total of 15 backhoe test units were excavated in areas of SCI-76 likely to be subject to deep excavation during project construction (e.g., proposed lake areas, swim and tennis center, and main access road). No archaeological materials were brought to the surface at any of the 15 test sites. These negative findings resulted in the conclusion by Basin Research that no subsurface prehistoric or historic cultural deposits associated with the site are located within areas to be potentially subject to deep excavation during project construction.

CA-SCI-77: Located near a spring at the northern boundary of the project, this site is believed to be a temporary camp site, with previously reported concentrations of chert flakes and cores, and some fire cracked rock. This site was reportedly disturbed by previous home construction, plowing and discing. However, an intensive ground investigation by Basin Research did not reveal any evidence of cultural resources in the vicinity of this recorded site.

CA-SCI-305/H: Located in the western portion of the site, near the north project boundary, the prehistoric component of this site was previously described as a chert outcrop probably used for tool manufacturing. The historic component ("H") of this site consisted of an American period dwelling which was destroyed by fire in the 1920s. The surface reconnaissance of this site by Basin Research identified several pieces of chert but none showed cultural modification. No trace of the historic-era house was found in the vicinity.

CA-SCI-568: Located in the west-central portion of the site, at the foot of the south-facing slopes, this site was previously described as consisting of a scatter of chert flakes, a few chert cores, a hammerstone and a several

possible sandstone, groundstone fragments. The site was reportedly highly disturbed by agricultural activity. The field survey by Basin Research did relocate this site, but found no prehistoric cultural material.

In summary, 3 of the previously recorded sites within the project area, CA-SCI-77, SCI-305/H and SCI-568, did not have any visible surface or subsurface indicators of prehistoric occupation. Only CA-SCI-76 yielded surface and subsurface indications of prehistoric activity and therefore it is likely that this is the only site within the project boundaries which has archaeological significance. Given that Native American skeletal remains have been reported at CA-SCI-76, this site should also be considered significant to the Native American community.

Ordinances and Regulations that Address Archaeological Resources

County Ordinance Code Section B6-18; B6-20: This ordinance sets forth procedures to be followed in the event that human skeletal remains or artifacts are encountered, or in the event of a discovery of a Native American burial site. In the event that human skeletal remains are encountered, the applicant is required by County Ordinance No. B6-18 to immediately notify the County Medical Examiner/Coroner (299-5137). Upon determination by the County Medical Examiner/Coroner that the remains are Native American, the Coroner shall contact the California Native American Heritage Commission, pursuant to subdivision (c) of section 7050.5 of the Health and Safety Code, and the County Coordinator of Indian Affairs. **NO FURTHER DISTURBANCE OF SITE MAY BE MADE EXCEPT AS AUTHORIZED BY THE COUNTY MEDICAL EXAMINER/CORONER.** If artifacts are found on the site, a qualified archaeologist shall be contacted, along with full compliance with section B6-19 of the Santa Clara County Code.

Significance Criteria

With respect to archaeological resources, Appendix G of the CEQA Guidelines states that a project will normally have a significant effect on the environment if it will: "(j) Disrupt or adversely affect a prehistoric or historic archaeological site of a property of historic or cultural significance to a community or ethnic or social group; or a paleontological site except as part of a scientific study." In addition, Appendix K of the CEQA Guidelines provides detailed recommendations for the mitigation of impacts to archaeological resources, and sets forth criteria for determining "important" archaeological resources.

Impacts and Mitigation

Impact 1. **The construction of the main project entrance road and the proposed lake may have an adverse impact on the archaeological site recorded as CA-SCI-76. (Potential Significant Impact)**

As discussed under Environmental Setting above, a thorough program of subsurface excavation conducted at SCI-76 uncovered no evidence of archaeological resources within the area proposed for construction of the lakes, the swim and tennis center, and the main access road. However, given the proximity of the roadway to the southern boundary of SCI-76, there is a slight possibility that archaeological resources could be encountered during excavation for the project.

Mitigation 1. **Grading and excavation in the vicinity of SCI-76 would be subject to intermittent or spot monitoring by a qualified archaeologist.**

A program of intermittent or spot monitoring is recommended for the construction of the main access road in the vicinity of SCI-76, for any area subject to subsurface disturbance greater than 12 inches below the ground surface. The project archaeologist would have the latitude to modify or terminate any portion of the monitoring program at any time if significant cultural materials are not exposed during grading and or subsurface construction.

If any potentially significant cultural materials are exposed during monitoring, all grading and excavation within 30 feet of the find would stop pending the recommendation of the on-site archaeologist as to appropriate action (see Mitigation 2a below). Significant artifacts or features would include, but are not limited to, aboriginal human remains, chipped stone, groundstone, shell and bone artifacts, concentrations of fire cracked rock, ash, charcoal, shell, and bone; and historic features such as privies or building foundations.

In the event that human skeletal remains are encountered, the County Medical Examiner/Coroner would be contacted immediately, and further steps taken in accordance with County Ordinance No. B6-18, as discussed under Ordinances and Regulations above (see Mitigation 2b below).

Impact 2.

In the other areas of the project site which are archaeologically sensitive, such as at the locations where prehistoric sites were the previously recorded but where no archaeological material was found in recent surveys, there is a potential that buried archaeological resources may be damaged or destroyed by grading or excavation for the project. (Potential Significant Impact)

Of the 3 other previously recorded sites within the project boundaries, 2 are located in areas of potential impact. The first site, SCI-77, located near a spring at the northern site boundary, may be subject to disturbance from grading for the golf course in that area. The second site, SCI-305/H, located in the western portion of the site, at the northern site boundary, may be disturbed by construction of the maintenance access road through that area. The third site, SCI-568, is located in the western area of the site to be preserved as permanent open space, and is not subject to potential impact.

According to present plans, the grading for the project in the vicinity of SCI-77 and SCI-305/H would not be deep enough to have an impact on any buried cultural deposits.

Mitigation 2(a). Should evidence of prehistoric cultural resources be discovered during construction, work in the immediate area of the find shall be stopped to allow adequate time for evaluation and mitigation, and a qualified professional archaeologist shall be called in to make an evaluation; the material shall be evaluated; and if significant, a mitigation program including collection and analysis of materials prior to the resumption of grading, preparation of a report, and curation of the materials at a recognized storage facility shall be developed and implemented under the direction of the Planning Office.

Mitigation 2(b). Any human remains that are discovered shall be removed, the remains shall be analyzed, a report shall be prepared, and if determined to be Native American, the remains shall be reburied under the direction of a designated Native American group.

Conclusion.

With the implementation of the mitigation measures identified above, the potential impact upon archaeological resources would be reduced to less-than-significant levels.

I. HISTORIC RESOURCES

The following discussion summarizes the Historical and Architectural Evaluation prepared for the project site by Archives and Architecture in May 1995. The full report is contained in as Appendix G of this EIR.

Environmental Setting

Over 19 buildings are included in the ranch complex located near the eastern end of the site. During the historic period, this site was originally settled by Carlos Castro in 1827 or 1828, and formed the nucleus of the hacienda for Rancho San Francisco de las Llagas granted to Castro in 1834. During this period, buildings included at least one, and probably two, adobe residences and a building known as the soap factory, of which no visible traces remain. Upon the purchase of the rancho by the Murphys in 1848, the hacienda buildings were abandoned, and the Murphys constructed their ranch complexes elsewhere in the vicinity. The site was again occupied in 1890 when the property was acquired by the Lion Company. All the buildings currently on the site appear to have been constructed after 1890 by either Lion or by the Hayes family, which acquired the ranch in 1918 and operated it until the early 1950s, when it was sold.

The main buildings in the existing ranch complex are briefly described below.

Yellow Residence: Located south of the creek, this residence is a one story, front gabled, rectangular structure that appears to date from the 1890s.

Residence: Located on the south side of the creek east of the yellow residence, this dwelling is a one-story bungalow with a low-pitched hipped roof and an integrated porch. This residence may have replaced a Victorian house built by Lion, which burned down in 1918.

Residence and Barn on Highland: This double-gabled residence is located east of the main ranch complex on the north side of Highland near the Turlock intersection. Associated with this residence is a raised redwood water tank and a barn.

Hillside Residence: Located on the north side of the creek on the lower slopes of the northern hills, this dwelling has a wrap-around porch and a shed roof supported by braced posts.

Guest House: Located next to the hillside house, this small dwelling has a side-gabled roof and a full porch.

Creamery: Associated with the Hayes-era dairy operation, this stucco building has a low-pitched gabled roof clad in corrugated metal sheeting.

Barns, Sheds, etc: There are 6 barns and a number of sheds and other structures associated with the ranch complex.

Evaluation for Historic Significance

All the buildings within the subject area were constructed after 1890 and were associated with ranching and farming activities. None of these buildings have been previously identified as potentially significant resources. As part of the study by Archives and Architecture, all the structures were evaluated for historical and architectural significance.

The County Historical Heritage Commission uses the National Register criteria to determine eligibility for listing in the historic inventory. Therefore, even though no federal actions are involved in this project, the standards for the National Register of Historic Places were used for this evaluation. To meet National Register standards, a property must: 1) be at least fifty years old; 2) meet at least one of the criteria listed below; 3) possess architectural integrity; and 4) be evaluated within the context of the area's local history. Criteria for eligibility

include: a) association with events significant to broad patterns of history; b) association with significant personalities in our past; c) have distinctive architectural characteristics of type, period, or method of construction; or d) have yielded or are likely to yield important archaeological information on the history of the area. Each of the resources in the subject area were evaluated both for possible individual significance and as a contributing structure to a potential historic district.

For about 80 years, the property was utilized as a large ranching and farming operation that included fruit production, dairying, and cattle grazing. Most of the buildings in the complex exceed the age of 50 years. All of the buildings currently on the property appear to be relatively well-maintained and most retain architectural integrity. None of the buildings, however, represent distinctive architectural types, periods or methods of construction as per criterion C.

Criterion A addresses the association of the buildings with events significant to broad patterns of history. The land use of the Hayes Valley property was typical of land use patterns in the valley. No significant events were identified that associated this property with broad agricultural or land use patterns.

Criterion B addresses the association of the resources with significant historic personalities. The people and activities associated with the history of the site do not have sufficient significance to satisfy criterion B.

Criterion D addresses the potential for yielding important archaeological information on the history of the area. The potential for significant historical archaeological deposits associated with Castro occupation during the Hispanic Period is highly likely.

It was concluded by Archives and Architecture that the Hayes Valley building complex does not constitute a significant historic district, and that none of the structures are individually eligible for the National Register of Historical Places or for listing in the Santa Clara County Heritage Resources Inventory. There is a potential, however, for significant subsurface historical resources that may yield important archaeological information on the history of the area according to criterion D of the criteria for significance.

Ordinances and Regulations that Address Historic Resources

County Ordinance Code Section C1-91: Structures that are designated as a Heritage Resource by the County cannot be demolished unless the Board of Supervisors finds that there is no feasible alternative to demolition. (None of the structures on the project site are designated as Heritage Resources by the County.)

Zoning Ordinance: Under Article 31, districts given the "H" designation (Historical Conservation District) have special regulations for the preservation of historic sites, historic structures, buildings of architectural significance, or other natural and man-made heritage resources. Special regulations pertain to requirements for Architectural and Site Approval, development standards, demolition, and types of uses permitted within the historic district. (No part of the project site is within the Historical Conservation Zoning District.)

Significance Criteria

With respect to historic resources, Appendix G of the CEQA Guidelines states that a project will normally have a significant effect on the environment if it will: "(j) Disrupt or adversely affect a prehistoric or historic archaeological site of a property of historic or cultural significance to a community or ethnic or social group, or a paleontological site except as part of a scientific study."

Impacts and Mitigation

Impact 1. Demolition and earth moving activity at the existing ranch complex could have a potentially adverse affect on any buried remnants of the Hispanic Period adobe structures that once occupied this site. (Potential Significant Impact)

The project would involve the demolition of all of the existing structures within the ranch complex with the exception of the residence, guest house and barn on the north side of the creek which occupy a site that is not part of the proposed project. Since none of these structures have historic or architectural importance, their demolition would not represent a significant impact.

Any subsurface remnants of the adobe structure may be subject to disturbance during grading and excavation for the main access road, underground utilities and the lake planned for this area. Such disturbance may represent a significant impact.

Mitigation 1. Grading and excavation in the vicinity of the ranch complex would be subject to intermittent or spot monitoring by a qualified archaeologist, with appropriate mitigations implemented in the event that cultural materials are encountered.

As discussed in Section III. H. *Archaeology*, subsurface excavation and testing undertaken at prehistoric site SCI-76 found no evidence of prehistoric or historic period archaeological material within the areas of proposed excavation for the project. Since the ranch complex and the former pueblo complex occupy the recorded archaeological site SCI-76, archaeological monitoring of grading and excavation would already be required as mitigation for prehistoric archaeological resources. With the additional concern for the Hispanic Period adobes, the monitoring archaeologist would also be looking for these historic resources.

Conclusion. With the implementation of the above mitigation measure, the potential impacts to historic resources would be reduced to less-than-significant levels.

J. VISUAL AND AESTHETICS

Environmental Setting

The Lion's Gate site is rural and natural in appearance under existing conditions. The on-site series of hills and the central valley they enclose compose the dominant visual features of the site. The series of hills that bound the valley on the south are covered with oak woodland on the north-facing slopes, while the hills on the north side of the valley are covered with annual grasses and a few scattered trees.

The existing ranch complex near the eastern end of the site is the most distinguishable man-made feature present. It consists of several residences and a number of barns, sheds and other structures. Numerous palm, evergreen and broadleaf trees are planted among the structures. The West Branch of Llagas Creek flows through the complex, with large oaks along the banks just west of the ranch area.

Visual Accessibility of the Site

The Lion's Gate site is strategically located at the visual interface between the south Santa Clara Valley to the east and the foothills to the west. The on-site ridges are therefore visually prominent and can be seen from vantage points several miles to the east. However, the floor of the valley in the central area of the site is not visible from off-site vantage points. It is enclosed on the north and south by the on-site hills, on the west by low topographic saddle, and on the east by elevated topography and trees.

The eastern and western ends of the Hayes Valley site are characterized by relatively level terrain located outside of the main interior valley, and both of these peripheral areas are highly visible from off-site vantage points. Motorists on Watsonville Road traveling along the western site boundary have long views available into the site across almost one mile of flat grasslands with the hillside areas visually prominent to the south. Motorists traveling along Coolidge Avenue, north of Highland Avenue have direct foreground views into the orchard area and the steep hillsides in the background. Along Turlock Avenue, south of Highland, motorists have direct foreground views of the field extending back one-half mile to the first low hills. The ranch complex is also visible from Turlock Avenue and Santa Teresa Boulevard.

There is an existing development of residential estates located on the ridge to the north of the site. One of the dwellings in this development has sweeping views over the interior valley of the Lion's Gate site.

Scenic Roadways

The segments of Watsonville Road and Coolidge Avenue/Turlock Avenue which pass along the western and eastern site frontages, respectively, are designated by the County as "County Scenic Roadways" per Article 43 of the County zoning ordinance. As such, both of these roadways are subject to special development review requirements within their scenic corridors, as discussed in the following section.

Ordinances and Regulations that Address Visual Quality

Santa Clara County Zoning Ordinance: The zoning ordinance regulates the visual environment by establishing development standards for building height and setback, and by the implementation of site development approval procedures. The zoning ordinance also contains specific standards and required use permit findings to regulate bright lights, signs and development along scenic roads (see below).

Architecture and Site Approval: All applications for use permits (except for certain uses within Agricultural districts) require ASA approval to ensure the quality of architectural and site design of proposed development projects. The ASA Guidelines include detailed standards for architecture, site design, grading, landscaping,

parking, signs, lighting and energy efficiency. One goal of the ASA Guidelines in "HS" zones is to promote development that blends into the natural landscape through appropriate exterior colors and landscaping.

Design Review for Scenic Roads and Corridors: Article 43 of the County zoning ordinance contains provisions governing the construction of any building or structure within 100 feet of a designated County scenic road, in this case Watsonville Road, Coolidge Avenue and Turlock Avenue. The intent of Article 43 is to promote excellence of development, protect recreational and scenic features, and to maintain the open character of the designated scenic roads. The ordinance stipulates that any development proposed within 100 feet of a scenic road shall receive Design Review and thus be subject to the "Development Guidelines for Design Review." The intent of the Design Review Guidelines is to go beyond ASA approval to ensure that the placement and appearance of any structures and associated grading and landscaping be compatible with the character of the neighborhood, adjacent development and the natural environment.

Grading Ordinance: In addition to requirements for site grading, the County Grading Ordinance contains provisions to prevent potential visual impacts due to slope destabilization and scarring of hillsides, and requires revegetation of cleared areas (see Section III. D. *Geology and Soils*).

Significance Criteria

With respect to visual resources, Appendix G of the CEQA Guidelines states that a project will normally have a significant effect on the environment if it will: "(b) Have a substantial, demonstrable negative aesthetic effect."

Impacts and Mitigation

Impact 1. **The project would result in visual changes to some areas of the site open to public view. (Potential Significant Impact)**

As discussed under "Environmental Setting" above, the most visually accessible areas of the site are located along Coolidge Avenue (Santa Teresa Boulevard) and Turlock Avenue at the eastern end of the site, and along Watsonville Road in the west. The interior valley area of the site is not visible from off-site vantage points except for the single home that overlooks the site from the northern ridge. The hillside areas nearest to the flanking roadways are also visible.

The residential subdivisions proposed for the eastern end of the site would be partially visible from adjacent land uses and roadways. In the Rural Residential subdivision proposed adjacent to Coolidge Avenue, north of Highland, the 6 proposed lots would be set back from the roadway at least 300 feet toward the adjacent hillside to the west. The setback area would remain as permanent open space, with a landscaped berm and a planted vineyard providing visual screening for these lots.

The residential cluster subdivision proposed for the field west of Turlock Avenue, would also be partially visible to passing motorists. However, this subdivision would be set back 200 to 1,400 feet from the roadway, and would be screened by landscaped berms planted with black walnut trees. Nevertheless, the rooflines of the nearest dwellings would be visible from Santa Teresa Boulevard Avenue, at least until the black walnuts have matured enough to provide more complete screening (see Figure 16). Since two of the proposed lots (Lots 24 and 25) extend into the adjacent hillside area, it is possible that future custom homes to be built on these lots may be visible from Turlock Avenue and Santa Teresa Boulevard.

The only other visual changes that would occur at the eastern end of the site would be the roadway improvements and entry features along the Highland Avenue entry way. However,



EXISTING VIEW INTO SITE FROM HIGHLAND / SANTA TERESA INTERSECTION



VIEW WITH PROJECT SUPERIMPOSED

PHOTO SIMULATION

any improvements would be subject to Architecture and Site Approval to ensure that signs, fences, lighting and other features would be compatible with their surroundings. Also, the existing mature landscaping trees around the ranch complex would be retained and incorporated into the project.

From Watsonville Road in the west, very little of the project, if anything, would be visible. All of the area within 3/4 mile of the roadway is proposed to be maintained as permanent open space. The golf course would be located to the east of the low saddle that crosses the western position of the valley, and thus would not be visible from Watsonville Road. It is possible that the maintenance facility proposed for the western end of the golf course may be partially visible from Watsonville Road, 3/4 mile to the west. The only evidence of the project alongside Watsonville Road would be the new maintenance access road to be constructed from Watsonville Road to the golf course maintenance facility. There would be no structural entry features such as signage here since no public access to the golf course would be permitted from this direction.

In the interior area of the valley, the golf course, clubhouse and overnight units would not be visible from off-site vantage points, except for the single dwelling that overlooks the valley from the adjacent ridge to the north.

Mitigation 1. **The project would be designed and landscaped in a manner to help it blend in with the natural and rural surroundings, and to reduce its visibility from off-site locations.**

The site planning measures proposed as part of the project, including buffer zones from all adjacent roadways, as well as the proposed landscaping and berming, would minimize the potential visual impacts of the project. The design of the residential areas reflects many of the guidelines of the San Martin Integrated Design Plan (see Section II. *Consistency with Plans, Policies and Regulations*).

All structural elements such as signs, fences, lighting or other entry features would be subject to Architecture and Site Approval to ensure their compatibility with the surroundings. In addition, any structures proposed within 100 feet of the adjacent scenic roads would be subject to the County's Design Guidelines.

Impact 2. **Lighting for the project entrance, the clubhouse, swim and tennis center, equestrian center, parking areas and internal roadways may produce light and glare at off-site locations. Reflective building materials may also produce glare. (Potentially Significant Impact)**

Although detailed plans are not yet available, any unnecessarily bright or unfocused lights at the project entrance could be annoying to nearby residences and unattractive to passing motorists.

Light emanating from the clubhouse complex would be barely visible from off-site locations, if at all, since these buildings would be located at least one mile from the nearest public roads shielded by intervening topography and vegetation. The clubhouse lighting would be partially visible from the existing dwelling overlooking the complex from the northern ridge. However, this existing dwelling would be almost one mile away, and would have its view of most of the clubhouse complex blocked by an intervening knoll.

The lighting for the swim and tennis center and the equestrian center may be visible from off-site roadways to the east, and the neighboring ranch complex to the south. However, most of this lighting would be shielded by 4-foot high landscaped berms to be created along the eastern and southern site frontages.

Mitigation 2. Project lighting would be sited and designed to minimize off-site light and glare. The project structures would be composed of non-reflective building materials and non-glare windows.

At the project entrance, the swim and tennis center, and the equestrian center, lighting would be directed and focused so as to avoid nearby roadway and adjacent properties. At the clubhouse complex and internal roadways, exterior lighting would consist of hooded, downward directed lights. This would reduce overall light emanating from the site.

To avoid glare, all building materials would be non-reflective, and non-glare glass would be used in windows.

As noted, all project lighting and building design would be subject to ASA review.

Impact 3. Grading, vegetation removal and construction activity would result in temporary scarring. Storage of equipment and materials may be visible from off-site locations. (Potential Significant Impact)

Within the area visible from Coolidge and Turlock Avenues in the east, the grading activities would consist of the creation of building pads and roadway subgrades, as well as excavation for the on-site lake, and fill for the roadside berms. Grading in the hillside areas would be minimal, and would consist of grading for driveways and building pads for the two lots in the main cluster subdivision that would extend into the adjacent hillside area to the west. However, as noted on Figures 9a and 9b, the building envelopes for these lots would be located at the bottom of the slopes, so hillside grading would be minimized. There would be no massive cuts or fills in the hillside area that would leave permanent or visually prominent scars on the landscape.

On the western side of the site, the only grading that would take place would be for the proposed access road to the golf course maintenance facility. No grading for the golf course or clubhouse complex would be visible from Watsonville Road. Grading for the golf course would only be visible from the existing dwelling overlooking the site from the north.

In all, the grading and construction activities which would be visible from adjacent roadways would represent a portion of the total project, 33 percent at most. Given that these activities would be temporary, and that the public's views of them would be fleeting, the overall visual impact would not be significant.

Mitigation 3. Graded areas would be revegetated as soon as possible, and landscaped berms would be created along the project frontage prior to construction of the dwellings in the proposed residential subdivisions.

In order to minimize the visual effects of construction in the main viewshed area from the east, the landscaped berms proposed along Coolidge and Turlock Avenues would be created prior to grading and construction of the residential cluster subdivisions. This would be accomplished by creating the proposed 20-acre lake first, and using the excavated material for the berms.

Mitigation measures required for other potentially significant construction impacts would also have mitigating visual effects. Examples include revegetation of exposed slopes for erosion control, and control and regular clearing of debris and trash to maintain water quality.

Conclusion. With implementation of the above mitigation measures, the potential aesthetic and visual impacts resulting from the project would be reduced to less-than-significant levels.

K. TRAFFIC AND CIRCULATION

The following discussion is excerpted from the traffic report prepared for the project by TJKM in November 1995. The full traffic report is contained in Appendix H of this EIR.

Environmental Setting

Roadway Network

Important roadways serving the project area are shown in Figure 17 and discussed below.

U.S. 101 (South Valley Freeway) provides regional access to the site and is the major north-south highway in the south Santa Clara County area. In the area the project site, U.S. 101 carries 65,000 to 77,000 vehicles daily with interchanges at Tennant Avenue, San Martin Avenue, and Masten Avenue.

Monterey Avenue (Business 101), a major four-lane arterial, generally parallels U.S. 101 and provides service through the City of Gilroy to the south and Morgan Hill to the north.

Santa Teresa Boulevard/Coolidge Avenue, a two-lane north-south arterial, fronts the east side of the site.

Watsonville Road is a two-lane northeast-southwest arterial that fronts the west side of the site. It runs from the Hecker Pass Highway (State Route 152) up through the project vicinity, and connects with Monterey Road in the City of Morgan Hill.

San Martin Avenue and Highland Avenue are two-lane east-west collectors connecting Monterey Road (Business 101) and Santa Teresa Boulevard/Coolidge Avenue.

Transit Service

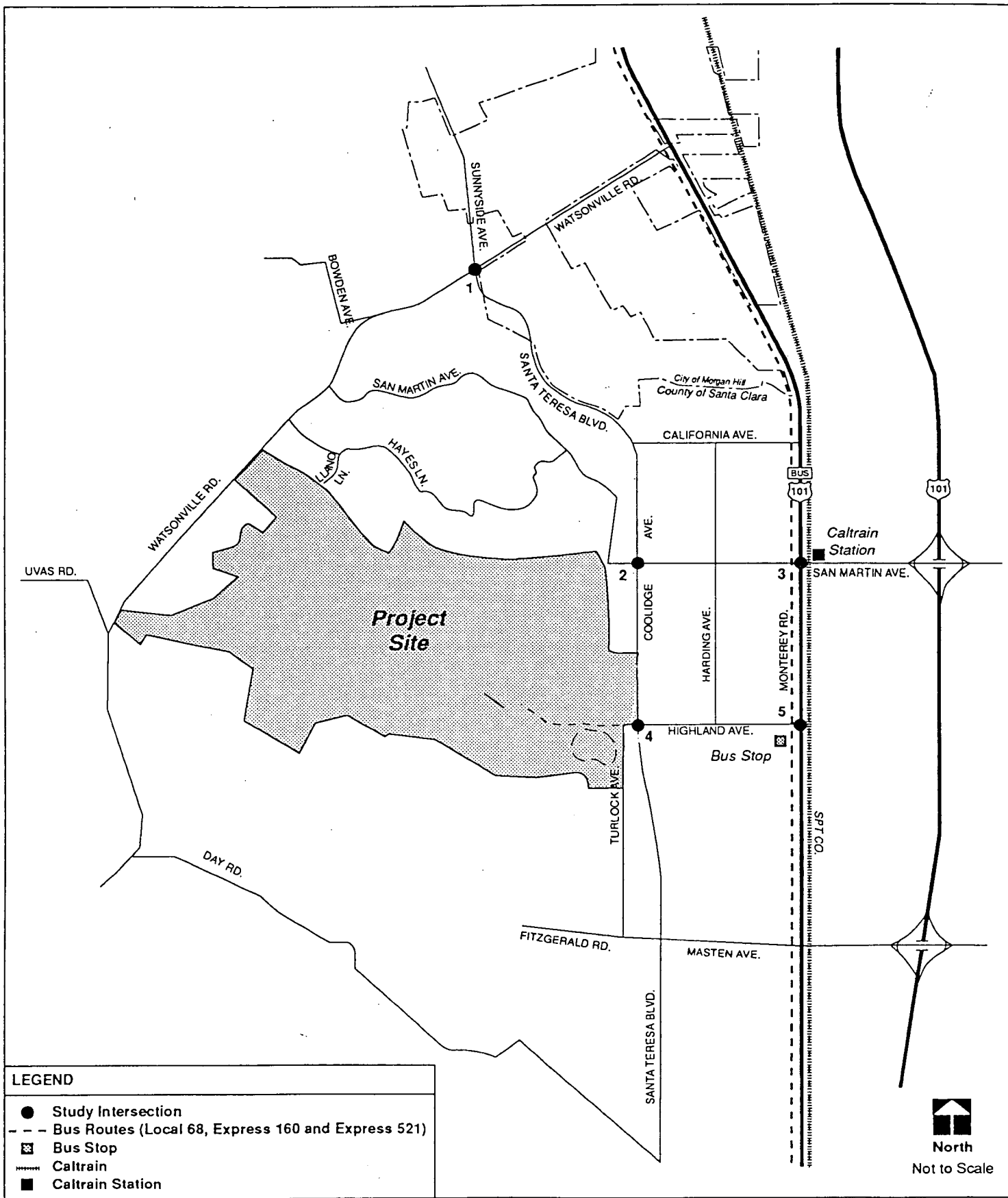
Figure 17 illustrates the existing transit routes in the vicinity of the proposed project. The transit center located closest to the proposed project site is the San Martin Caltrain Station on the northeast corner of Monterey Road and San Martin Avenue, approximately 1.5 miles northeast of the site. Caltrain service includes 4 northbound runs on the a.m. peak prior and four southbound runs in the p.m. peak period.

One local and two express bus routes along Monterey Road serve the Caltrain station and the surrounding area. The closest bus stops to the project site are at the intersection of the Monterey Road and Highland Drive. The local Route (68) runs between 4:30 a.m. and 11:45 p.m. with the frequencies of 15 minutes during the peak periods, 30 minutes during the midday, and 60 minutes in the late evening. The two express routes (160 and 521) combined offer 9 northbound and 9 southbound runs during the a.m. and p.m. peaks respectively.

Level of Service Analysis Methodology

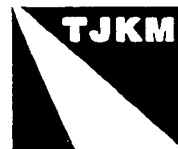
Levels of service are qualitative descriptions of intersection operations and are reported using an A through F letter rating system to describe travel delay and congestion. Level of Service (LOS) A indicates free-flow conditions with little or no delay. LOS F indicates jammed conditions with excessive delays and long backups.

Two-way and four-way STOP-controlled intersections were evaluated using the methodology contained in the 1994 Highway Capacity Manual. This methodology also measures level of service in terms of vehicular delay.



Santa Clara County
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ROADWAY NETWORK



Impact Criteria

The minimum acceptable intersection level of service during peak hours in the County of Santa Clara is LOS D (total average delay less than 40 seconds) while the minimum acceptable level of service on facilities monitored by the Santa Clara County CMA is LOS E (total average delay less than 60 seconds). Mitigation is required for any project traffic impact which causes an intersection to fall below these thresholds.

Existing Levels of Service

TJKM conducted a.m. and p.m. peak hour turning movement counts at the 5 existing study intersections during the week of April 11, 1994. All local school districts were in session during that week. Figure 18 illustrates the existing peak hour turning movements for the 5 existing study intersections.

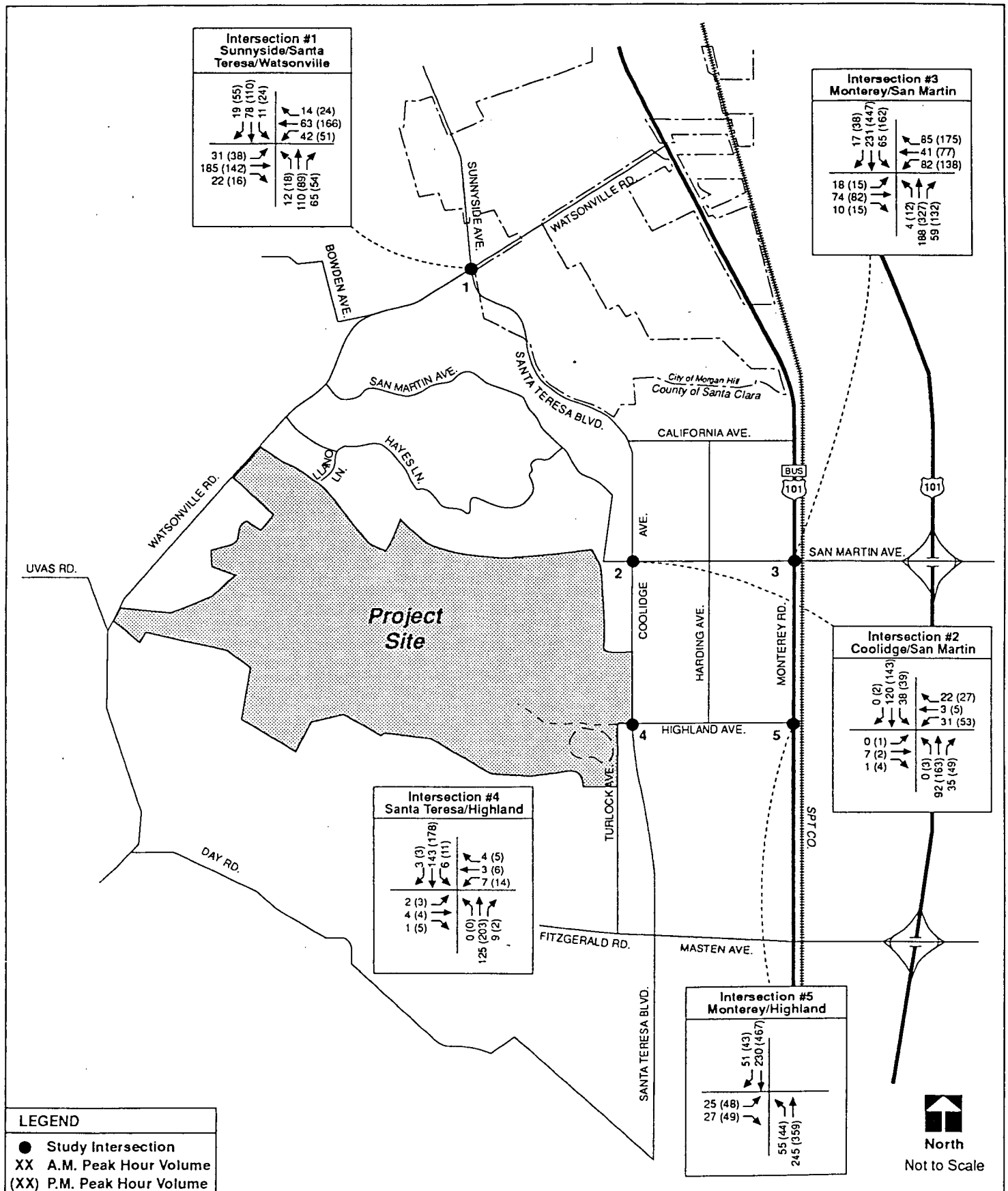
The results of the intersection analysis are summarized in Table 8 for existing conditions. As the table indicates, all study intersections are currently operating at acceptable levels of service. The Monterey Road/San Martin Avenue intersection operates with the lowest level of service, LOS C (average delay of 17 seconds), during the p.m. peak hour. Detailed calculations are contained in Appendix H of this EIR.

TABLE 8
LEVELS OF SERVICE - EXISTING CONDITIONS

Intersection	Control	A.M. Peak Hour		P.M. Peak Hour	
		Delay*	LOS	Delay*	LOS
1. Santa Teresa Blvd/Sunnyside Avenue/Watsonville Road	4-way STOP	3.5	A	4.8	A
2. Coolidge/San Martin Avenue	2-way STOP	1.2 (3.9)	A A	1.5 (5.1)	A B
3. Monterey Road/San Martin Avenue	Signal	12	B-	17	C+
4. Santa Teresa/Highland Avenue	2-way STOP	0.4 (4.2)	A (A)	0.6 (4.9)	A (A)
5. Monterey Road/Highland Avenue	Signal	10	B+	5	A
*Average Vehicle Delay is measured in seconds per vehicle. For 2-way STOP controlled intersections, values for delayed movements alone are also given in parenthesis.					

Background Traffic - Existing plus Approved Projects

The background scenario consists of existing traffic conditions plus development projects approved near the study area that will affect the study roadways. The list of approved projects was developed based on information provided by the Cities of Gilroy and Morgan Hill as well as the County of Santa Clara. (It should be noted that the City of Gilroy has indicated that no approved projects would affect the study area.) A table of these approved projects and a figure showing their locations are contained in Appendix G of this EIR.



Santa Clara County
Hayes Valley TIS
Existing Peak Hour Turning Movements

The levels of service for the background scenario are summarized in Table 9 based on the turning movement volumes shown in Figure 19. As the table indicates, all study intersections are projected to operate at acceptable levels of service under background conditions. The lowest operating condition, LOS C (average delay of 22 seconds), is again found at the Monterey Road/San Martin Avenue intersection during the p.m. peak hour.

TABLE 9
LEVELS OF SERVICE - BACKGROUND CONDITIONS

Intersection	Existing				Existing plus Approved			
	A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
	Delay*	LOS	Delay*	LOS	Delay*	LOS	Delay*	LOS
1. Santa Teresa/Sunnyside/Watsonville	3.5	A	4.8	A	4.3	A	6.5	B
2. Coolidge/San Martin	1.2 (3.9)	A (A)	1.5 (5.1)	A (B)	1.2 (4.1)	A (A)	1.5 (5.4)	A (B)
3. Monterey/San Martin	12	B-	17	C+	14	B-	22	C-
4. Santa Teresa/Highland	1.2 (3.9)	A (A)	1.5 (5.1)	A (A)	1.5 (2.6)	A (A)	1.3 (3.2)	A (A)
5. Monterey/Highland Avenue	10	B+	5	A	10	B+	5	A
*Average Vehicular Delay is measured in seconds per vehicle. For 2-way STOP-controlled intersections, values for delayed movements alone are also given in parentheses.								

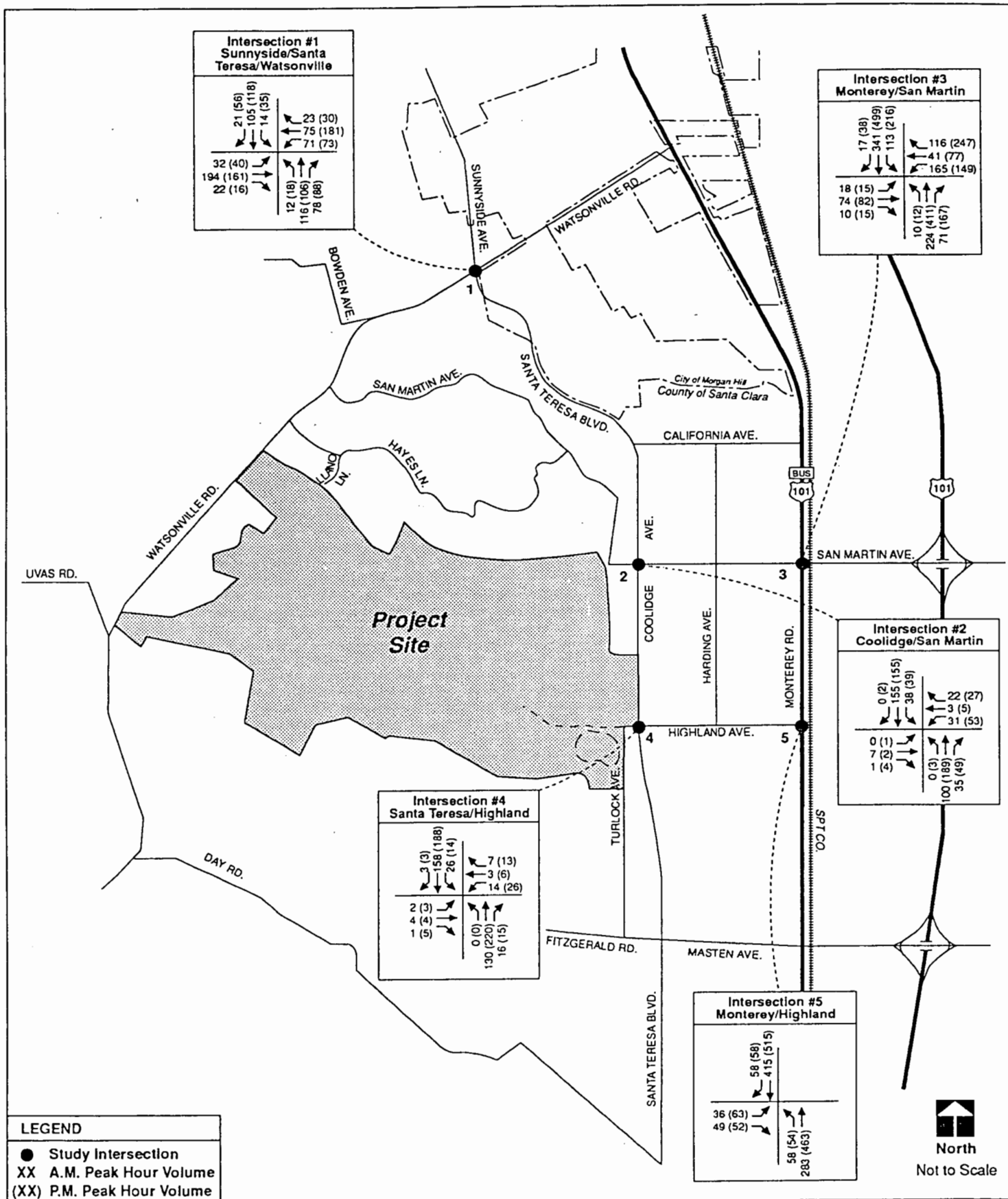
Ordinances and Regulations that Address Traffic

Parking Space Requirements: The County parking standards are intended to avoid or lessen congestion in the public streets by requiring adequate off-street parking consistent with the type of land use.

County Land Development Regulations: The County Subdivision Ordinance includes requirements for review and conditioning of projects for compliance with Official Plan Lines and off-street parking standards, as well as adequacy of street improvements and traffic circulation plans.

Official Plan Lines: This provides for the systematic execution of the Circulation Element of the General Plan by designating the precise location of rights-of-way, and limiting the location of buildings and other improvements with respect to planned rights-of-way. Official maps showing the rights-of-way have been adopted by the Board of Supervisors and are the basis for road dedication required for projects approved by the County.

Zoning Ordinance: The County zoning ordinance stipulates use permit findings requiring that safe access (including access for fire and emergency vehicles), and that adequate off-street parking and loading/unloading areas be provided, and that the proposed use shall not cause traffic congestion that adversely affects the surrounding area.



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Existing plus Approved Peak Hour Turning Movements



Significance Criteria

With respect to traffic, Appendix G of the CEQA Guidelines states that a project will normally have a significant effect if it will: "(1) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system."

In the County of Santa Clara, a level of service which is worse than LOS D (total average delay less than 40 seconds) is considered a significant adverse affect for traffic. For facilities monitored by the Santa Clara County Congestion Management Agency (CMA), the standard is LOS E (total average delay less than 60 seconds).

Impacts and Mitigation

Impact 1. The project would result in increased traffic generation at the project site. (Less-than-Significant Impact)

As discussed below, the additional traffic generated by the project would not result in significant degradation of service levels at the affected intersections.

Trip Generation and Assignment.

The trip generation assumptions for the residential and lodging portion are based on information contained in ITE's Trip Generation. The 5 homes to be removed were subtracted from the 41 new homes to yield a new increase of 36 homes on the site. An average occupancy rate of 78 percent was assumed for the 45 guest rooms. The golf course trip generation assumptions are based on previous studies performed by TJKM and on data specific to this project as described in Appendix H. The project is expected to generate 57 trips during the a.m. peak hour and 93 trips during the p.m. peak hour, as indicated in Table 10. These estimates take into account a slight decrease in traffic due to the displacement of 7 employees currently on the site.

TABLE 10
PROJECT TRIP GENERATION

Use	Size	A.M. Peak Hour					P.M. Peak Hour				
		Rate	In:Out	In	Out	Total	Rate	In:Out	In	Out	Total
Net New Single Family	36 du	0.74	26:74	7	19	26	1.01	64:36	23	13	36
Lodging	35 occ. rooms	0.33	60:40	7	5	12	0.48	37:63	6	11	17
Golf Course	18 holes	--	67:33	14	7	21	--	48:52	11	14	25
Restaurant*	4,000 sq. ft.	0.92	94:6	4	0	4	7.66	70:30	22	9	31
Displaced Employees	7 employees		100:0	(5)		(5)	--	0:100		(5)	(5)
NET TOTAL				26	31	57			54	39	93
*Restaurant trips were reduced by 35% to account for patrons staying in overnight lodging.											

Project trip distribution assumptions were developed based on travel patterns, knowledge of the study area, and information contained in previous traffic studies. Figure 20 illustrates the trip distribution for the proposed project for both residential and golf course/lodging traffic.

Level of Service Analysis

Based on the project trip distribution, project trips were assigned to the local roadway network. Figure 21 illustrates the intersection turning movements for the project as added to the existing plus approved project traffic. Table 11 summarizes the results of the level of services analysis. Detailed calculations are contained in Appendix H.

As the table indicates, all study intersections are projected to continue to operate at acceptable levels of service under this scenario. The most congested intersection continues to be Monterey Road/San Martin Avenue (LOS C, delay of 23 seconds); however, this is well below the acceptable delay threshold as defined by the County standards.

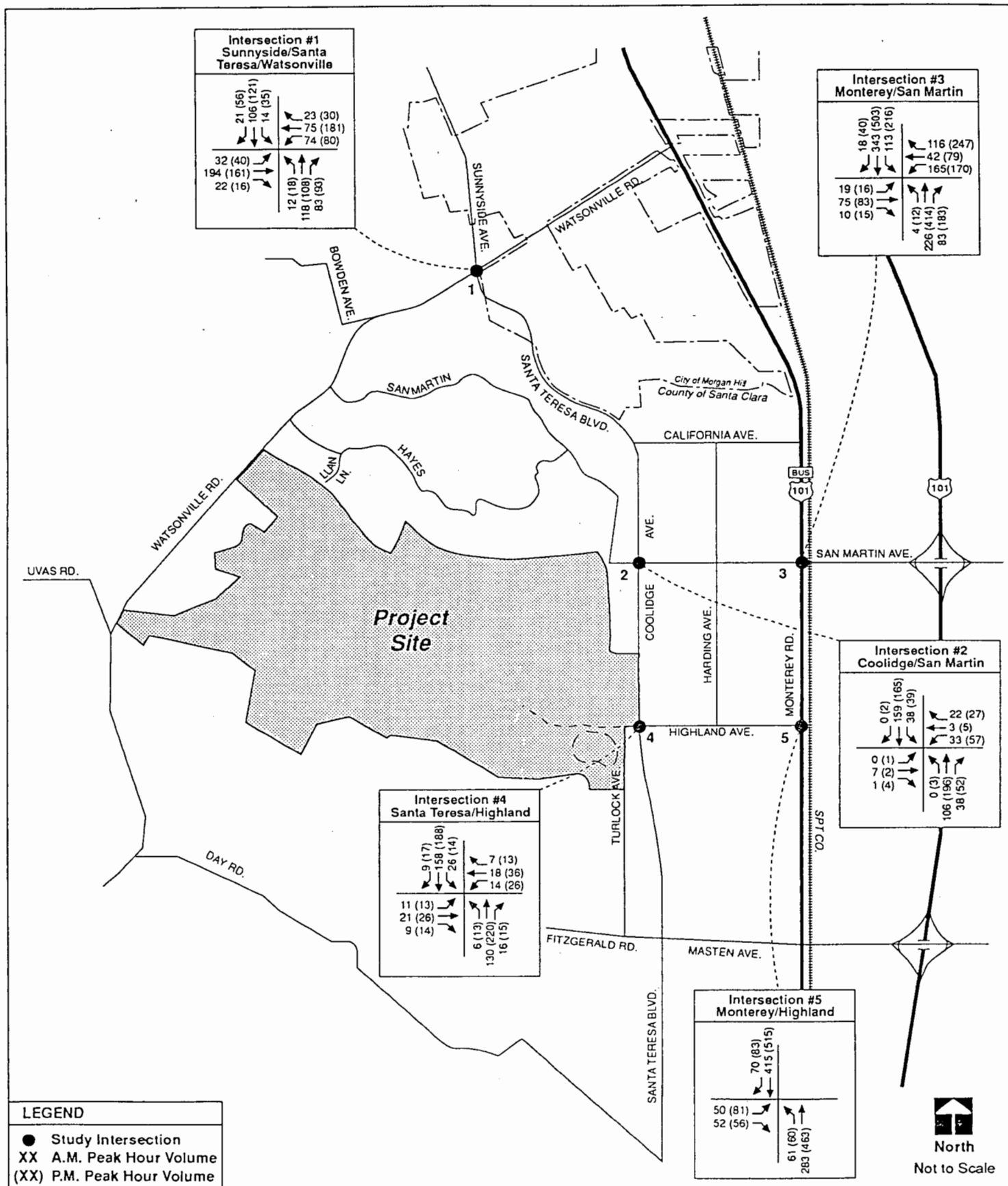
TABLE 11

LEVELS OF SERVICE - EXISTING PLUS APPROVED PLUS PROJECT

Intersection	Existing		Existing plus Approved		Existing plus Approved plus Project			
	A.M Peak Hour		P.M. Peak Hour		A.M Peak Hour		P.M. Peak Hour	
	Delay*	LOS	Delay*	LOS	Delay*	LOS	Delay*	LOS
1. Santa Teresa/ Sunnyside/Watsonville	3.5	A	4.8	A	4.3	A	6.5	B
2. Coolidge/ San Martin	1.2 (3.9)	A (A)	1.5 (5.1)	A (B)	1.2 (4.1)	A (A)	1.5 (5.4)	A (B)
3. Monterey/ San Martin	12	B-	17	C+	14	B-	21	C-
4. Santa Teresa/ Highland	0.4 (4.2)	A (A)	0.6 (4.9)	A (A)	1.5 (2.6)	A (A)	1.3 (3.2)	A (A)
5. Monterey/Highland	10	B+	5	A	10	B+	5	A
*Average Vehicular Delay is measured in seconds per vehicle. For 2-way STOP-controlled intersections, values for delayed movements alone are also given in parentheses.								

Mitigation 1. No mitigation measures required.

Since the project would not result in level of service impacts to the potentially affected intersections, no off-site mitigation measures are required. However, it is the recommendation of TJKM that a STOP sign be installed at the intersection of Highland and Turlock Avenues, on the Turlock Avenue approach, in order to improve safety at that intersection.



Santa Clara County
Hayes Valley TIS
Existing plus Approved plus Project Peak Hour
Turning Movements



At the time of site development, the county would require the developer to dedicate and improve a minimum 30-foot half-street along the Watsonville Road and Highland Avenue frontages of the site, in conformance with existing Official Plan Lines (OPL). (To the west of Turlock Avenue, the extension of Highland Avenue would be a private roadway serving as the main entry road to the project.) Along Coolidge Avenue, a minimum 55-foot half-street would be required to be dedicated and improved.

Prior to project approval, a drainage plan would be submitted which demonstrates that runoff from the site would not have an impact on County maintained roads, and that surface runoff from the site would be carried to an acceptable outfall of adequate capacity.

The project applicant proposed to offer shuttle services to the Caltrain station on San Martin Avenue. This measure would potentially reduce the projects vehicular trip generation. However, since no project-related intersection impacts have been identified, the shuttle service would not change the findings of the traffic impact analysis.

Impact 2. **The project would increase the on-site parking required for the project site.
(Less-than-Significant Impact)**

The on-site parking provisions proposed for the project were evaluated using the County of Santa Clara Parking Space Requirements. The analysis indicated that the 250 parking spaces proposed for the clubhouse/overnight/practice area of the project would more than satisfy County requirements. In addition, the parking spaces proposed for the equestrian center and the maintenance facility would also meet County parking requirements for such facilities.

Mitigation 2. **No mitigation required.**

Conclusion. **The project would not result in potential traffic or parking impacts; therefore, no mitigations are required.**

L. NOISE

The following discussion is based on the Environmental Noise Assessment prepared for the project by Illingworth & Rodkin, Inc., in November 1995. The full noise report is contained in Appendix I of this EIR.

Environmental Setting

To characterize the noise environment at the project site and on roadways serving the site, Illingworth & Rodkin conducted 3 noise measurements, at the locations shown in Figure 22. Measurement Site A, located on the eastern portion of the site near Highland Avenue, indicated an ambient noise level of 49 dBA L_{dn} . (Note: dBA indicates decibels measured on an "A-weighted" scale, which adjusts sound measurements to emphasize frequencies most sensitive to the human ear. L_{dn} stands for Day-Night Level and is the 24-hour average of noise levels, with a 10-dB penalty for noise occurring between 10:00 p.m. and 7:00 a.m. See Appendix I for a full explanation of terminology and concepts related to noise assessment.) Measurement Site B, located on Highland Avenue east of Coolidge Avenue (Santa Teresa) and west of Harding Avenue; indicated a background L_{dn} of 59 dBA. Measurement Site C, located on the west side of Santa Teresa Avenue, south of Highland Avenue, indicated a background L_{dn} of 66 dBA at 50 feet from the center of the roadway.

Ordinances and Regulations that Address Noise Impacts

Noise Ordinance: The County's Noise Ordinance establishes noise standards to control unnecessary, excessive and annoying noise and vibration. It sets maximum noise standards for both exterior and interior settings according to sensitivity of the land use. Limits are also established for specific types of noise and vibration generators (e.g., construction/demolition, loudspeakers, animals, etc).

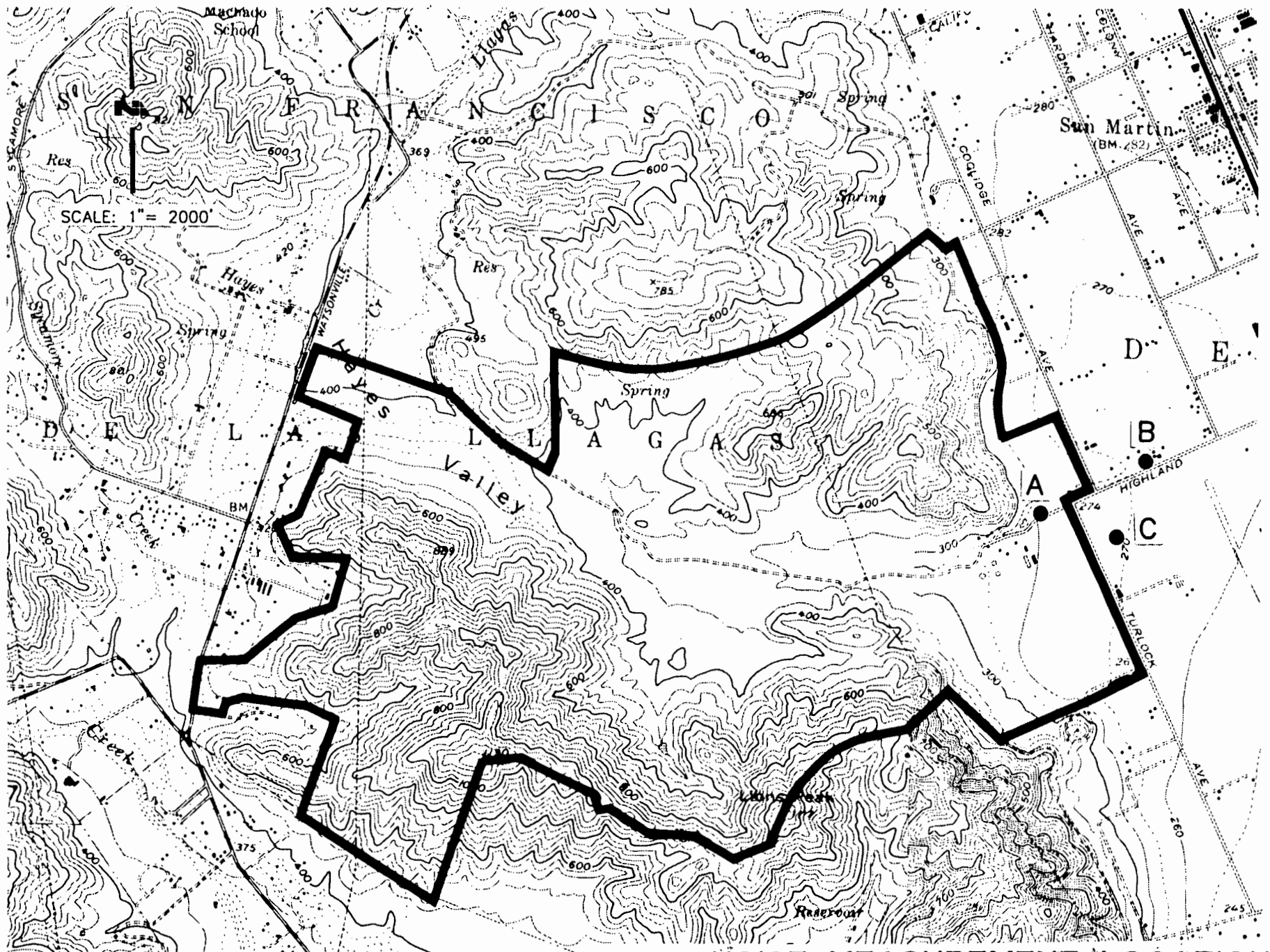
Santa Clara County General Plan: The General Plan noise policies are designed to protect existing land uses from unacceptable noise levels generated by sources such as new development, and require that mitigation be incorporated in new development projects proposed for sites already subject to high noise levels. The maximum allowable noise levels for various land uses are set forth in the Noise Compatibility Standards of the General Plan (see below).

Significance Criteria

With respect to noise, Appendix G of the CEQA Guidelines states that a project will normally have a significant effect on the environment if it will: "(p) Increase substantially the ambient noise levels for adjoining areas."

Noise Compatibility Standards for specific land uses in proposed new development are set forth in the County General Plan. For residential uses, noise levels of up to 55 dBA L_{dn} are satisfactory, while levels ranging between 55 dB and 65 dB are rated as "cautionary," indicating a need for acoustical mitigation to achieve indoor noise levels of 45 dB or lower. For less sensitive commercial uses, such as the proposed clubhouse, golf course and overnight units, noise levels of up to 65 dB are acceptable, while noise levels ranging from 65 dB and 70 dB are classified as "cautionary."

The County's Noise Element does not contain quantitative criteria for establishing the amount of noise increase that would be considered a significant noise impact. Thus, for purposes of this assessment, if the average hourly sound level generated by the project does not exceed the existing background noise level (L_{90}) by 5 dBA or more, the impact is considered insignificant. If the noise generated by the project would result in an increase of greater than 5 dBA at an existing residence, the impact is considered significant.



NOISE MEASUREMENT LOCATIONS

Source: Illinaworth & Rodkin

FIGURE 22

Impacts and Mitigation

Impact 1. **Traffic generated by the project would increase noise levels at existing residences. (Less-than-significant Impact)**

It was calculated by Illingworth & Rodkin that the noise resulting from project-generated traffic, in addition to traffic from approved projects in the vicinity, would result in noise level increases of less than 1 dBA on all roads except Highland Avenue.

On the segment of Highland Avenue west of Coolidge (Santa Teresa), traffic noise levels would increase by 8 dBA, almost entirely as a result of the project. Although this is a substantial increase, the resulting noise level would remain below the County's criterion level of 55 dBA. The road segment contains one existing dwelling, located on the project site, which would be demolished as part of the project.

On the adjacent segment of Highland Avenue to the east, between Coolidge Avenue and Harding Avenue, traffic noise levels would increase by 5 dBA, largely as a result of the project. This also would be a substantial increase, but would not constitute a significant noise impact since the County's criterion of 55 dBA would not be exceeded.

On the next segment of Highland Avenue to the east, between Harding Avenue and Monterey Road, traffic noise levels would increase by 2 dBA, which would not represent a significant increase.

Within the project site itself, the traffic on the new internal access road would generate additional noise. The existing ranch house at the east end of the project site would be potentially affected by traffic noise from the access road. Given the distance between the ranch house and the road, as well as the relatively low projected traffic volumes, it was calculated that the average noise level due to the traffic on the access road would be below 40 dBA outside of the existing ranch. This would represent an increase in the background noise, but the resulting noise level would remain below the County's criterion of 55 dBA for residential development.

Mitigation 1. **No mitigation required.**

Impact 2. **Portions of 2 lots proposed in the vicinity of Coolidge Avenue would be exposed to traffic noise levels in excess of 55 dBA L_{dn} , the County standard for residential uses. (Less-than-Significant Impact)**

The future traffic volume, including existing traffic, the traffic generated by all approved projects, the project-generated traffic, and expected growth in the area would generate an L_{dn} of 67 dBA a distance of 50 feet from the centerline of Coolidge Avenue. The 55 dBA noise contour would be located 315 feet from the centerline of the roadway. The two proposed lots closest to Coolidge Avenue (lots 4 and 6) would be set back approximately 290 feet from the centerline of the roadway. Any dwellings constructed within the proposed lots would be set back 30 feet from their lot boundaries as required by the applicable County zoning provisions. Thus the nearest proposed dwellings would be a minimum of approximately 320 feet from the centerline of the roadway. Assuming also that the outdoor use areas for these two lots would be at least 315 feet from the centerline of Coolidge Avenue, the County guidelines would be met and there would be no significant noise impact.

Mitigation 2. No mitigation required.

Impact 3. Noise generated by golf course mowers would have a potentially adverse effect on nearest dwellings proposed on the project site. (Potentially Significant Impact)

The mowing machines used at the golf course would be the loudest noise sources. These pieces of equipment typically generate noise levels no higher than 70 dBA at a distance of 50 feet.

The closest existing residence to the proposed golf course would be the existing ranch house near the eastern limits of the project site, which would be 900 feet from the golf course at its nearest point. At this location, the highest noise levels from mowers would be approximately 45 dBA. The average noise levels would be less.

The second closest residence would be the home to the north of the central area of site on the ridge, which would look down on the golf course, and which would be 1,600 feet from the golf course and its nearest point. For this home, the maximum noise levels generated by lawn mowers would be 41 dBA at the nearest point near the project property boundary. This noise level would be barely audible with the windows open.

The new lots in the proposed cluster subdivision would be 200 feet from the golf course at the nearest points, and the dwellings themselves would be at least 230 feet away (given the minimum required front setback distance of 30 feet). At the nearest dwelling, the maximum noise from mowers would be approximately 58 dBA. The maximum levels of mowing noise would exceed the County's 55 dBA threshold for the proposed new lots in the subdivision located north of Holes 8 and 9 at the eastern end of the golf course. According to the County's Noise Ordinance, however, the maximum mowing noise of 58 dBA would not constitute a noise impact if the residences were subject to these noise levels for less than 15 minutes in any hour. Since maximum noise levels would drop off to 55 dBA at a distance of approximately 330 feet, the noise threshold would be exceeded by the mowing of a band of turf 100 feet wide (or less, depending on the location of individual dwellings relative to the fairway). It is expected that the gang reel mowers would complete the mowing of that strip within 15 minutes with respect to any of the individual residences affected. It should be noted that the average noise level generated by mowers would be less than 5 dBA above the background level in the area of the proposed residences. In addition, fairway mowing would typically occur in the afternoon.

Mitigation 3. The hours of mowing within 330 feet of any existing or proposed residences, would be restricted to weekdays between the hours of 8:00 a.m. and 5:00 p.m., with total noise generating activities in those areas restricted in accordance with the limits set forth in the County's Noise Ordinance.

Beyond the requirements of the County's Noise Ordinance, the CC&Rs for the project should establish clear guidelines for operational golf course noise to minimize potential annoyance and inconvenience for all concerned.

Impact 4. Activities at the clubhouse would increase noise levels in the interior of Hayes Valley. (Less-than-Significant Impact)

Events at the clubhouse, such as weddings or banquets, would generate noise from music played at such events. There are two existing residences in the vicinity which would be within audible range of the clubhouse. One residence is located approximately 3,600 feet

from the clubhouse on the northern ridge overlooking the valley. An on-site ridge located mid-way between the clubhouse and this residence would break the line of sight between these two structures and would provide noise shielding under normal atmospheric conditions. The second potentially affected residence is the existing on-site ranch house located approximately 2,400 feet east of the clubhouse, along West Branch Llagas Creek. The line of sight between the clubhouse and the ranch house would be unbroken by intervening terrain.

To evaluate potential noise impacts to these existing residences, worst-case meteorological conditions were assumed. The conditions of maximum sound propagation would be a temperature inversion with a light wind blowing toward the receiver. Under these conditions the sound levels would bend down from the atmosphere toward the receptor, thus negating shielding by intervening hills, buildings and other barriers. Under these conditions, it was calculated by Illingworth & Rodkin that the sound level of a loud rock band inside the clubhouse with the windows open would be about 35 to 40 dBA outside the on-site ranch house to the east, and about 35 dBA outside the ridgetop house to the north. Under the vast majority of meteorological conditions, sound levels would be 10 to 20 dBA lower, and essentially inaudible. Under conditions of good sound propagation, the sound of a very loud event at the clubhouse could be audible outdoors at these residences. However, it is also most likely under these conditions the windows in the clubhouse would be closed because it would have to be quite cold to create the type of inversion needed to result in the highest sound levels. Therefore, it is expected that sound from the clubhouse would be audible at the nearest residences, but only under rare circumstances.

The nearest residences proposed within the project itself would be located 1,200 feet to the northeast of the clubhouse. Under the worst-case meteorological conditions described above, the noise level at the nearest residence would be about 40 to 45 dBA, outside the residence. This noise level would still be well under the County's noise criteria of 55 dBA for residential land uses.

Mitigation 4. **No mitigation required.**

Impact 5. **Noise levels would be temporarily elevated during grading and construction. (Potential Significant Impact)**

Most of the existing noise receptors in the area are far from the main grading and construction area at the golf course. The major exception is the existing ranch house at the east end of the site. During construction, maximum noise levels generated by grading, paving, and other activities would be below 55 dBA at all receptors except the existing ranch. Average noise levels would be 5 to 10 decibels lower. If average levels do not exceed 55 dBA, there would be no interference with outdoor activity or indoor activity, although the construction may be occasionally audible. Noise levels at the existing ranch could reach as high as 80 dBA with average levels of up to 75 dBA. During most of the construction, however, noise levels would be significantly below 55 dBA.

The existing residence on the ridge to the north of the project site would be approximately 1,200 feet from the nearest grading activity for the golf course. At this distance, the sound of equipment would be noticeable but would not exceed 55 dBA.

At the eastern end of the project site, existing dwellings in the vicinity would be subject to short-term grading and construction noise impacts from construction of the perimeter berms, and to a lesser extent the proposed residential subdivisions which would be set back from the site boundary.

At the western end of the site, the construction of the maintenance access road to Watsonville Road would generate noise from grading and paving. The nearest existing dwelling would be 700 feet from this maintenance road at its nearest point, and would not be subject to construction noise impacts, although the noise would be audible.

Mitigation 5. **Short-term construction noise impacts would be reduced through compliance with the County's Noise Ordinance with respect to hours of operation and maximum noise levels at adjacent property lines.**

For example, the Noise Ordinance stipulates that construction noise generated between 7 am and 7 pm on weekdays and Saturdays should reach noise levels no greater than 75 dBA at an adjoining property line of a single-family or two-family dwelling.

These hours would be enforced by the grading inspector, and also the County Department of Environmental Health in the event of a violation of the County Noise Ordinance.

To minimize noise generation, construction equipment should be maintained in good operating condition and properly muffled.

To further reduce construction noise impacts, the berms proposed for the eastern project boundaries would be constructed during the early phases of grading in order to provide noise shielding from construction and grading in the interior of the project.

Conclusion. **Implementation of the above mitigation measures would reduce noise impacts resulting from the project to less-than-significant levels.**

M. AIR QUALITY

The following discussion is based on the Air Quality Study prepared for the project by MO'C Physics Applied in November 1995, as well as other sources. The MO'C air quality report is contained in Appendix J of this EIR.

Environmental Setting

Air Pollution Climatology

The amount of a given pollutant in the atmosphere is determined by the amount of pollutant released and the atmosphere's ability to transport and dilute the pollutant. The major determinants of transport and dilution are wind, atmospheric stability, terrain and, for photochemical pollutants, sunshine.

The combined effects of moderate ventilation, frequent inversions that restrict vertical dilution, and terrain that restricts horizontal dilution, give the Santa Clara Valley a relatively high atmospheric potential for pollution compared to other parts of the San Francisco Bay Air Basin.

The terrain features of Hayes Valley itself are of limited significance for air quality. Due to the sheltering effect of the adjacent hills that form the "walls" of Hayes Valley, there appears to be some potential for stagnant air flow or "calms" to sometimes develop in Hayes Valley even while adjacent areas of the Santa Clara Valley have some measurable air flow. However, such temporary stagnation of air flow would be of little consequence, given the proposed low density of development and the substantial width of the floor of the Hayes Valley.

Ambient Air Quality Standards

Both the U. S. Environmental Protection Agency and the California Air Resources Board have established ambient air quality standards for common pollutants. These ambient air quality standards represent safe levels of contaminants that avoid specific adverse health effects associated with each pollutant. Table 12 identifies the major "criteria" pollutants, along with their characteristics, health effects and typical sources.

The federal and California state ambient air quality standards for important pollutants are summarized in Table 13. In general, the California state standards tend to be more stringent, particularly for ozone and PM-10.

Ambient Air Quality

The Bay Area Air Quality Management District (BAAQMD) monitors air quality at several locations within the San Francisco Bay Air Basin. The monitoring sites closest to the project site are in Gilroy, 6 miles south site, and in downtown San Jose, 25 miles northwest of the project site. Table 14 summarizes exceedances of state and federal standards at these monitoring sites during the period 1991-1993. Table 14 shows that ozone and PM-10 exceed the state and federal standards in the project area. Violations of the carbon monoxide standards were recorded at the downtown San Jose site prior to 1992.

Both ozone and PM-10 are considered regional pollutants in that concentrations are not determined by proximity to individual sources, but show a relative uniformity over a region. Thus the data shown in Table 14 for ozone and PM-10 provide a good indication of levels of these pollutants at the project site.

Carbon monoxide is a local pollutant, i.e., high concentrations are normally only found very near sources. The major source of carbon monoxide is automobile traffic. Elevated concentrations, therefore, are usually only found near areas of high traffic volumes.

Air Quality Programs and Attainment Status and Regional Air Quality Plans

The federal Clean Air Act and the California Clean Air Act of 1988 require that the State Air Resources Board, based on air quality monitoring data, designate as "nonattainment areas" those portions of the state where the federal or state ambient air quality standards are not being met.

Until recently, concentrations of ozone and carbon monoxide have exceeded Federal standards in at least some parts of the San Francisco Bay area several times each year. However, the basin was recently declared to be in attainment of all the air quality standards which are ordained by the Federal Clean Air Act.

TABLE 12
MAJOR CRITERIA POLLUTANTS

Pollutant	Characteristics	Health Effects	Major Sources
Ozone	A highly reactive photochemical pollutant created by the action of sunshine on ozone precursors (primarily reactive hydrocarbons and oxides of nitrogen. Often called photochemical smog.	<ul style="list-style-type: none"> • Eye Irritation. • Respiratory function impairment. 	The major sources ozone precursors are combustion sources such as factories and automobiles, and evaporation of solvents and fuels.
Carbon Monoxide	Carbon monoxide is an odorless colorless gas that is highly toxic. It is formed by the incomplete combustion of fuels.	<ul style="list-style-type: none"> • Impairment of oxygen transport in the bloodstream. • Aggravation of cardiovascular disease. • Fatigue, headache, confusion, dizziness. • Can be fatal in the case of very high concentrations. 	Automobile exhaust, combustion of fuels, combustion of wood in woodstoves and fireplaces.
Nitrogen Dioxide	Reddish-brown gas that discolors the air, formed during combustion.	<ul style="list-style-type: none"> • Increased risk of acute and chronic respiratory disease. 	Automobile and diesel truck exhaust, industrial processes, fossil-fueled power plants.
Sulfur Dioxide	Sulfur dioxide is a colorless gas with a pungent, irritation odor.	<ul style="list-style-type: none"> • Aggravation of chronic obstruction lung disease. • Increased risk of acute and chronic respiratory disease. 	Diesel vehicle exhaust, oil-powered power plants, industrial processes.
PM-10	Solid and liquid particles of dust, soot, aerosols and other matter which are small enough to remain suspended in the air for a long period of time.	<ul style="list-style-type: none"> • Aggravation of chronic disease and heart/lung disease symptoms. 	Combustion, automobiles, field burning, factories and unpaved roads. Also a result of photochemical processes.

TABLE 13
FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	Federal Primary Standard	State Standard
Ozone	1-Hour	0.12 PPM	0.09 PPM
Carbon Monoxide	8-Hour	9.0 PPM	9.0 PPM
	1-Hour	35.0 PPM	20.0 PPM
Nitrogen Dioxide	Annual	0.05 PPM	—
	1-Hour	—	0.25 PPM
Sulfur Dioxide	Annual	0.03 PPM	—
	24-Hour	0.14 PPM	0.05 PPM
	1-Hour	—	0.5 PPM
PM-10	Annual	50 $\mu\text{g}/\text{m}^3$	30 $\mu\text{g}/\text{m}^3$
	24-Hour	150 $\mu\text{g}/\text{m}^3$	50 $\mu\text{g}/\text{m}^3$
Lead	30-Day Avg.	—	1.5 $\mu\text{g}/\text{m}^3$
	Month Avg.	1.5 $\mu\text{g}/\text{m}^3$	—

PPM = Parts per Million

 $\mu\text{g}/\text{m}^3$ = Micrograms per Cubic Meter

TABLE 14
SUMMARY OF AIR QUALITY DATA FOR SAN JOSE AND GILROY

Pollutant	Standard	Station	Days Exceeding Standard in:			
			1991	1992	1993	1994
Ozone	State 1-Hour	San Jose	6	3	4	2
		Gilroy	5	12	10	3
Carbon Monoxide	State/Federal 8-Hour	San Jose	4	0	0	0
		Gilroy	0	0	0	0
PM-10	Federal 24-Hour	San Jose	1	0	0	0
PM-10	State 24-Hour	San Jose	10	13	10	10

Under the California Clean Air Act, Santa Clara County is a nonattainment area for ozone and PM-10. The County is either classified as attainment or unclassified for other pollutants.

Sensitive Receptors

The BAAQMD defines sensitive receptors as facilities where sensitive population groups (children, the elderly, the acutely ill and the chronically ill) are likely to be located. These land uses include residences, school playgrounds, child care centers, retirement homes, convalescent homes, hospitals and medical clinics. Sensitive receptors in the vicinity include residences located along Coolidge, Turlock and Highland Avenues to the east site.

Ordinances and Regulations that Address Air Quality

In addition to the state and federal ambient air quality standards shown in Table 9, the following local provisions apply.

Grading Ordinance. The Grading Ordinance contains provisions for erosion and dust control (see Section III. C. *Geology and Soils*).

Zoning Ordinance. The Zoning Ordinance, Section 47-5(d) regarding use permit findings requires control of odor and dust.

BAAQMD Emissions Thresholds. The Bay Area Air Quality Management District defines substantial emissions as 80 pounds per day for all regional air quality pollutants except carbon monoxide. For carbon monoxide the threshold is 550 pounds per day (for stationary sources), although exceedance of this threshold only triggers the need for estimates of carbon monoxide "hot spot" concentrations.

Significance Criteria

With respect to air quality, Appendix G of the CEQA Guidelines states that a project will normally have a significant effect on the environment if it will: "(x) Violate any ambient air quality standards, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations." (The applicable air quality standards are set forth in Table 13.)

Impact and Mitigation

Impact 1. Construction and grading for the project may generate dust and exhaust emissions that could adversely affect local and regional air quality. (Potential Significant Impact)

During construction activities such as demolition, excavation and grading operations, vehicle traffic and wind blowing over exposed earth would generate exhaust emissions and fugitive particulate matter emissions that would affect local and regional air quality.

Construction activities are also a source of organic gas emissions. Solvents in adhesives, non-waterbase paints, thinners, some insulating materials and caulking materials would evaporate into the atmosphere and would participate in the photochemical reaction that creates urban ozone. Asphalt used in paving is also a source of organic gases for a short time after its application.

Construction dust could affect local air quality at various times during construction of the project. The dry climate of the area during the summer months creates a high potential for

dust generation when underlying soils are exposed to the atmosphere. Construction vehicles traveling along unpaved roads within the project site would generate dust. Construction vehicles may also carry dirt onto paved roads outside the project site where it would eventually become airborne dust due to the action of passing vehicles.

The effects of project construction would include increased dustfall and locally elevated levels of PM-10 downwind of construction activity. Construction dust has the potential for creating a nuisance at nearby properties, particularly at the closest homes along Coolidge, Turlock and Highland Avenues. The generation of construction dust is considered to be a potentially significant localized and temporary impact of the proposed project.

Mitigation 1. Effective measures would be implemented to reduce emissions of dust and vehicle exhaust emissions during grading and construction.

The following specific mitigation measures should be implemented:

- Construction equipment should be selected considering emission factors and energy efficiency. All equipment should be properly tuned and maintained.
- Diesel-powered, low sulfur fuel, or electric equipment should be used, wherever possible and feasible, in lieu of gasoline-powered engines.
- Ridesharing and transit incentives for the construction crews should be supported and encouraged.
- The following dust control measures should be implemented:
 - Earthmoving or other dust-producing activities should be suspended during periods of high winds when dust control measures are unable to avoid visible dust plumes.
 - Provide equipment and staffing for watering of all portions of the site subject to vehicle or equipment travel or disturbance. A dust palliative or suppressant, suitable for use near bodies of water, should be added to the water before application. The frequency of application would vary according to the moisture level of the soils on the site, but should be frequent enough to avoid visible dust plumes.
 - Paved streets and roadways in the project vicinity should be swept daily of all mud and debris carried out from the site, since this material can be pulverized and later resuspended by vehicle traffic.
 - Roadways and driveways within the project site should be paved early in the construction phase, in order to reduce potential dust generation. These internal roadways should be swept or washed regularly.
 - Final grades should be treated with an appropriate dust suppressant, and covered with mulches or seeded as early as practical.
 - Construction contractors should cover stockpiles of debris, soil, sand or other materials that can be blown by the wind.
 - Travel speed on unpaved surfaces should be limited to 15 mph.

Impact 2. **Traffic generated by the project would increase carbon monoxide emissions at local roadways and intersections. (Less-than-Significant Impact)**

On the local scale, the pollutant of greatest interest is carbon monoxide. Concentrations of this pollutant are directly related to the levels of traffic and congestion along streets and at intersections. The most congested intersection in the project vicinity would be the intersection of Monterey Road and San Martin Avenue. It is estimated that worst-case concentrations of carbon monoxide in the vicinity of that intersection in the year 2000 would be 5.1 ppm. This estimate takes into account CO concentrations resulting from current traffic, as well as traffic associated with the Lion's Gate project and other approved projects in the vicinity. The worst-case CO concentration of 5.1 ppm would be far below the 8-hour standard of 9.0 ppm. Therefore, the project would not result in a significant air quality impact.

Mitigation 2. **No mitigation required.**

Impact 3. **Emissions from project-generated traffic would result in air pollutant emissions affecting the entire San Francisco Bay air basin. (Less-than-Significant Impact)**

The regional pollutants of concern include reactive organic gases, oxides of nitrogen (precursors of ozone), and PM-10. The BAAQMD significance threshold for each of these pollutants is 80 pounds per day.

The project would generate relatively small numbers of trips and would include few intermittent sources of pollutants such as space and water heaters, household paints, solvents, fireplaces and woodstoves, and the mowing of lawns and turfgrass. It is estimated that total emissions would be well below the 80 pounds per day threshold for each criteria pollutant. (For example, it would take emissions associated with a 380-unit residential project to generate 80 pounds of reactive organic gases per day.) Thus the project would not have a significant impact on regional air quality. However, the increment of pollutants resulting from the project would contribute to the cumulative degradation of regional air quality.

Mitigation 3. **No mitigation required.**

Conclusion. **With the implementation of the above mitigation measures for short-term construction emissions, the potential air quality impacts would be reduced to less-than-significant levels.**

[Note: The potential odor impacts associated with the equestrian facility are addressed in Section III. N. *Hazardous Materials, Public Health and Safety.*]

N. HAZARDOUS MATERIALS, PUBLIC HEALTH AND SAFETY

This discussion of hazardous materials is based on the following reports:

- Applied Geosciences Inc., Preliminary Site Assessment, 200 acres of Partially Developed Land, 785, 930 and 1005 Highland Avenue, San Martin, California, August 1995.
- Terratech, Inc., Pre-Purchase Site Assessment of Geologic Hazards, Ground Water Supply and Environmental/Toxic Contamination, Hayes Valley Property, Santa Clara County, January 20, 1988.

The report by Applied Geosciences is contained in Appendix K, and the report by Terratech is contained in Appendix B of this EIR.

Environmental Setting

The Terratech report of 1988 included a site reconnaissance of the entire Hayes Valley Property, as it was constituted at that time, as well as a general survey of the ranch complex. Subsequent to the 1988 survey, an additional 176 acres owned by IBM was added to the eastern end of the project. The 1995 assessment by Applied Geosciences included a site reconnaissance of the IBM lands, and also included a more detailed survey of the ranch complex.

The surveys conducted by both Terratech and Applied Geosciences were preliminary site assessments consisting of visual site inspections and reviews of existing inventories maintained by federal, state and local agencies. No sampling of soil or groundwater was conducted as part of these preliminary assessments.

The findings of these preliminary site assessments are summarized below.

Potential Sources of Hazardous Materials and Public Health and Safety

Underground Storage Tanks (USTs)

No USTs are currently evident on the property, according to Applied Geosciences. However, the 1988 Terratech report noted the presence of a 500-gallon UST, used for gasoline storage, which had just been excavated at the ranch complex on the north side of the access road. Apparently, no soil contamination was observed when the tank was removed. However, a representative from the County Environmental Health Department did not observe the removal and no soil samples were collected for laboratory testing.

A second historic UST was reportedly located within the ranch complex to the north of the old milk house. No soil staining was observed in the vicinity of the reported UST site.

According to records of the County Environmental Health Department, a third historic UST was removed in 1990 from the rear of the house located at 785 Highland Avenue (east of the main ranch complex on the 32-acre IBM orchard parcel). The tank was observed to be in good condition and the soil samples from the tank area contained petroleum by-products in non-hazardous concentrations.

The use of the 3 historic USTs on the site may have resulted in leaks or spills of gasoline or diesel fuel, which may still persist in the soil in hazardous concentrations.

A fourth historic UST was reported to have been located just off-site on the Ukestad property, the 20-acre out-parcel located to the north of the main ranch complex. According to Mr. Ukestad, this gasoline tank was removed in 1983, prior to the enactment of required tank removal permit procedures by the County. No soil sampling was conducted at that time, and there is a potential that spillage from refueling or leaks from the UST

may have occurred. Considering that the UST site was approximately 20 feet north of the project boundary, there is a potential that petroleum by-products from the UST may be present subsurface at the northern site boundary.

Above Ground Storage Tanks (ASTs)

There is one existing 1,000-gallon diesel AST located near the barn to the rear of the main ranch house. There was no soil staining or other indications of spills or leaks in the vicinity of this tank.

Three portable 500-gallon ASTs, two gasoline and one diesel, were reported in the vicinity of the old milk house. No soil staining was observed in the vicinity of these tanks.

It was reported that a number of ASTs were historically located next to the pump and well house in the central area of the ranch complex. The contents of the historic ASTs is unknown. No staining was observed on the ground in this area.

At the eastern farm complex, north of Highland Avenue in the IBM orchard parcel, 3 propane ASTs were observed, but not in use, at the rear of the property.

The use of the historic and existing ASTs on the site may have resulted in leakage or spills of fuel, which may still persist in the soil in hazardous concentrations.

Other Storage Drums and Containers

In the central area of the ranch complex there are two barns used for equipment storage and repair which contain a number of hazardous materials. These include one 55-gallon drum of oil and smaller containers of diesel fuel, gasoline, motor oil, lubricant, spraying oils, and anti-freeze, as well as batteries and grease guns.

One of the barns contained a wooden rack that may have been for the storage of oil drums. Dark stains were observed on the surrounding concrete. Dark stains were also observed beneath a tractor in one of the storage barns. A nearby outdoor equipment storage area included a D7 Caterpillar tractor with an oil stain beneath it.

Based on these observations, there is a potential that these hazardous materials may have been spilled or leaked in sufficient quantities to persist in hazardous concentrations.

Transformers

Three pole-mounted power transformers were observed on one pole in the central area of the ranch complex. These transformers had a rusty color, and the center transformer had a dark stain on the bottom. These transformers may contain PCBs, a hazardous material.

Pesticides and Herbicides

There is some evidence of pesticide use on the property, including an old spray rig being stored in one of the barns, and a white powdered substance is present on the floor of a shed, which may have been a pesticide or herbicide. Three empty cans of "pour-on insecticide" were observed in another shed. The insecticide was reportedly poured on the backs of cattle in small quantities. In addition, the records of the Santa Clara County Agricultural Department indicate that a Monthly Pesticide Use Report for the Hayes Ranch was submitted in April 1995 for the application of herbicides on 15 acres of oats.

Although no containers of pesticides or herbicides were observed at the IBM parcel north of Highland Avenue, the plum orchard would have involved the application of these chemicals. Thus there is a moderate to high likelihood that pesticides and herbicides are present in the shallow subsurface soils of the site. However, it is expected that if these chemicals are present, their concentrations would be low.

Asbestos-Containing Building Materials

Based on the age of the residential structures present, it is expected that construction materials used for these residences are likely to contain asbestos, a hazardous material.

Asbestos Occurring in Serpentine Bedrock

A portion of hillside areas north of the ranch complex consist of serpentine bedrock, which contains small concentrations of chrysotile, a naturally-occurring form of asbestos (see Figure 11). If this serpentine area is disturbed by grading, it could result in the release of airborne particles of chrysotile, posing a potential health hazard if inhaled.

Groundwater Quality

The groundwater in the Llagas subbasin is well documented as having elevated levels of nitrate in the groundwater. This nitrate contamination is the result of a combination of cattle waste, fertilizer use, and septic tank/leach field system discharges. There are no wells on the Hayes Valley site to test for nitrates. It is an extrapolation that the problem exists beneath the property. The 1980 nitrate levels in the 3 closest wells were 30, 76 and 80 milligrams per liter (mg/l), while the drinking water standard is 45 mg/l.

Contamination Documented in the Vicinity

A review of publications, records and inventories by federal, state and local agencies revealed that there are no documented instances of hazardous materials releases within at least one-half mile of the Hayes Valley Site.

Ordinances and Regulations that Address Hazardous Materials and Public Health and Safety

Hazardous Materials Storage Permit Ordinance: This County ordinance is intended to provide for the safe use, handling and storage of hazardous materials in order to prevent injury, releases or potential contamination. The ordinance requires that a permit be obtained for the use of hazardous materials from the County Department of Environmental Health's Hazardous Materials Compliance Division before the issuance of a building permit. To obtain a permit, the applicant must submit appropriate plans, and provide evidence that the design and construction of the storage facility is suitable for the storage of hazardous materials.

In accordance with the ordinance, new facilities intended for the use, handling and storage of hazardous materials are to include the following: 1) a monitoring system, 2) primary and secondary containment, 3) overfill protection, 4) separation of materials, 5) a drainage system, 6) a security system, 7) emergency equipment and procedures, and 8) a Hazardous Materials Management Plan. The plan is to include the following: 1) general project/applicant information, e.g., names, phone numbers, hours, etc., 2) a general facility description, 3) a facility storage map, 4) a hazardous materials inventory statement, 5) separation of materials information, 6) a description of the monitoring system, 7) record keeping forms, and 8) emergency equipment information. A Hazardous Materials Management Plan is also required to be submitted for any proposed handling and storage of hazardous materials during construction.

Regulation of Horses by Zoning District: Article 47 of the Santa Clara County Zoning Ordinance sets forth standards and requirements for the keeping of horses. For the "HS" zone, the ordinance permits stables subject to securing a use permit. Findings required for the use permit are as follows: the use shall not constitute a nuisance; corrals must be set back from creeks to prevent water contamination, and from property lines and dwellings to protect the health, safety and welfare of residents and neighbors; and a satisfactory erosion control plan shall be provided. Stables are also subject to Architecture and Site Approval.

Significance Criteria

With respect to hazardous materials, Appendix G of the CEQA Guidelines states that a project will normally have a significant effect on the environment if it will: "(v) Create a potential public hazard or involve the use, production or disposal of materials which pose a hazard to people or animal or plant populations in the area affected."

Impacts and Mitigation

Impact 1. **The historic and current agricultural activities on the Hayes Valley Ranch may have resulted in potential soil contamination due to spilled or leaked hydrocarbon products, pesticides and herbicides, PCBs from electrical transformers, and other potential sources of contamination. The existing residential structures may include materials that contain asbestos. (Potential Significant Impact)**

As discussed under Environmental Setting, the Preliminary Site Assessments for the Hayes Valley site included observations of potential contamination from various sources. However, the potential for contamination was not verified through soil sampling and testing.

Mitigation 1. **Prior to demolition of the existing ranch structures and site grading, the areas identified as having potential soil or asbestos contamination would be sampled and tested to determine whether contaminants are present in hazardous concentrations. Any soils which are found to be contaminated would be subject to remediation measures, as appropriate. If asbestos containing materials are found to be present, they would be removed in the manner specified by law.**

The locations of soil sampling would include, but would not be limited to, the area beneath the pole-mounted transformers, areas below the existing ASTs, the location of the historic AST and USTs, areas where soil staining has been observed, and any other areas known to have been the sites of hazardous materials storage. In the plum and walnut orchard, soil samples for pesticides and herbicides would be taken throughout the orchard area. Soil samples for pesticides and herbicides would also be taken in the field south of Highland Avenue, which has been used for cultivating oats in the past. In addition, the area along the northern site boundary to the south of the former UST site on the adjacent Ukestad property would be sampled and tested. All soil sampling for hazardous materials would be conducted prior to grading and demolition, under the supervision of the Department of Environmental Health Hazardous Materials Compliance Division.

To determine the presence of asbestos-containing building materials, samples of material would be taken from the residential structures and tested. Any structures containing asbestos materials would be subject to an Asbestos Removal Plan which would be prepared and implemented prior to general demolition of the ranch structures as required by the Bay Area Air Quality Management District (BAAQMD).

Impact 2. **Any unplanned construction or grading activity that encroaches upon the on-site serpentine hillsides could result in the release of airborne particles of chrysotile asbestos, potentially causing a public health hazard if inhaled. (Potential Significant Impact)**

There are no plans for development or grading to occur within any part of the serpentine hillside, and the project plans have been carefully prepared to avoid encroachment of this area with residential building lots. However, a portion of the hillside cluster residential subdivision would be constructed adjacent to the southern edge of the serpentine area. Unless this area

is properly marked and fenced, there is a potential for grading activity to inadvertently encroach upon the serpentine area.

Mitigation 2. **To avoid disturbance to the serpentine bedrock area, the edge of this area would be fenced or roped-off to prevent encroachment by construction equipment.**

In addition, signs would be posted along this construction boundary warning of the potential hazard. Also, construction workers would be educated about the serpentine area and of the importance of preventing soil disturbance there.

Impact 3. **Improper use, handling and storage of hazardous materials used in the construction and operation of the golf course may result in potential soil or groundwater contamination. (Potential Significant Impact)**

The proposed project includes a maintenance facility, where equipment and vehicles would be maintained and cleaned, and where pesticides and fuel for the golf course operation would be stored. Unsafe storage and use, or unintended leaks or spills of these materials could result in soil and groundwater contamination, impacts to wildlife habitat, release of hazardous chemicals into the atmosphere, or damage to underground utilities. (See Section III. F. *Water Quality* for a discussion of potential impacts resulting from pesticide applications on the golf course.)

There may be chloride and other chemicals stored on-site which would be used to disinfect or treat the wastewater treatment plant effluent or the swimming pool water. In addition, diesel or gasoline would be used for the wastewater treatment plant emergency generators and pumps.

During construction, any temporary storage of fuels, lubricants and other toxic materials may result in spills or discharges which could contaminate soils, surface water and groundwater, and result in impacts to any nearby habitat.

No hazardous waste would be stored on the site. Waste oil, which is considered hazardous waste, would be generated at the site during routine vehicle maintenance. However, the waste oil would be picked up for off-site disposal or recycling, and would not be stored in significant quantities.

Mitigation 3. **The project would be required to obtain and implement the provisions of a Hazardous Materials Storage Permit for the proper use, handling and storage of pesticides, herbicides and other hazardous products during construction and operation of the golf course.**

As discussed previously in this section, the handling and storage of hazardous materials on the site would be carried out in compliance with the Hazardous Materials Management Plan to be prepared by the applicant.

Within the maintenance building there would be separate designated areas for handling and storage of pesticides and fertilizers. In addition, all golf course chemicals would be handled, applied and disposed of by technicians licensed by the State, thereby further reducing the risk of spills or improper usage.

The parking and washdown areas adjacent to the maintenance building would consist of a concrete pad surrounded by a continuous 6-inch concrete curb, and an 8-foot high chain link fence with a windscreen. The runoff from the washdown area would be conveyed to an

advanced water filtering and recycling system which would capture grease and other hazardous materials washed off the equipment and vehicles.

Within the maintenance facility compound there would be a separate area for storage of fuels. The plan is to have a split 1,000-gallon vaulted storage tank which would contain both diesel and gasoline for vehicles and equipment. This would consist of a steel tank enclosed in secondary containment and encased in 6 inches of reinforced concrete. The fuel tank would be mounted on a concrete pad with earthquake restraints, and would be surrounded with a 6-inch high concrete berm to provide further containment.

The storage of chlorine and other chemicals for the wastewater treatment plant and the swimming pool, as well as fuel storage for emergency generators and pumps, would be subject to the storage and handling requirements of the County's Hazardous Materials Storage Permit Ordinance.

During the construction phase, any potential spills or discharges resulting from the temporary storage and handling of fuels and toxic materials would also be prevented through compliance with the County's Hazardous Materials Storage Permit Ordinance. (A Hazardous Materials Management Plan would also be required to be submitted for approval prior to any proposed handling and storage of hazardous materials during construction.) Storage of fuels and other toxic materials would occur well away from water courses and other sensitive habitats, and would be confined to designated storage areas with containment dikes, as would washdown and maintenance activities.

Given the stringent County requirements for storage and handling of hazardous materials, the probability of major spill occurring, even during an earthquake, is very slight. In the unlikely event of such spill, the Hazardous Materials Storage Plan required for the project would stipulate specific measures to be taken in the event of such an emergency.

Impact 4. **The equestrian facility could result in potential vector and odor impacts. (Potential Significant Impact)**

Vectors such as flies and rodents could become a problem if the stables are not properly managed. Offensive odors could develop from a large accumulation of manure or other poor husbandry practices.

Mitigation 4. **The equestrian facility would employ vector control measures, and would be operated in accordance with a manure management plan in conformance with State law, which would also be reviewed and approved by the County Department of Environmental Health.**

A manure management plan would be required under Title 23, Chapter 15 of the California Code of Regulations. The stable would be operated as cleanly as possible to reduce vectors and the potential for odor. Specific vector controls would include baiting for flies, manure management and rodent trapping. Hay would be stored in a barn and all feed grain would be stored in enclosed containers to reduce availability to rodents.

Manure management practices would consist of cleaning up manure daily and placing it in debris boxes which would be emptied daily or every other day and taken to a local landfill.

The equestrian facility would be subject to Article 47 of the County zoning ordinance which requires that stables not create a nuisance, and that they be set back from water courses and neighboring uses. The ordinance requires that erosion control plans be prepared for stables, and that they be subject to Architecture and Site Approval.

Conclusion.

Implementation of the above mitigation measures would reduce impacts associated with hazardous materials handling and storage, and potential health and safety impacts from vectors and odors, to less-than-significant levels.

O. ELECTROMAGNETIC FIELDS (EMFs)

Environmental Setting

As described in Section I. *Project Description*, the Lion's Gate site is traversed by 2 high-voltage power transmission lines of 115 kV each. Since all electrical devices emit electromagnetic fields or EMFs, there is a potential that portions of the Lion's Gate project may be exposed to high levels of EMF, particularly where the transmission lines pass close by proposed residential lots in the east-central area of the site.

Background

In recent years there has been much controversy regarding the potential health effects resulting from long-term exposure to electromagnetic fields (EMFs). While EMFs occur naturally and are present in everything from visible light to radio waves to X-rays, attention has focused on whether exposure to extremely low frequency (ELF) EMFs is hazardous. Specifically, the question is whether or not long-term exposure to ELF EMFs associated with alternating current electricity (60Hz) causes health problems in humans. These ELF EMFs are present in appliances, televisions, video display terminals (VDTs), electric blankets, and household wiring, as well as electric transmission and distribution lines. The strength of an EMF is highly dependent upon the amount of current flow (amperage); the more power being consumed, the stronger the EMF. While the electric field component of the EMF is relatively easy to shield, the magnetic field component passes through most materials, including concrete and lead.

Most health-related research is centered on the potential hazards associated with the magnetic field component of EMFs. The unit of measurement of the magnetic field is the milliGauss (mG). The strength of a magnetic field diminishes sharply as one moves away from the source of the EMF. As an example, at a distance of 1.2 inches, the strength of the magnetic field from a hair dryer can range from 60 to 20,000 mG, while at 12 inches the strength drops from 1 to 70 mG.

The typical household background levels of EMFs range from 0.1 to 2.0 mG (Consumer Reports, 1994), with average residential levels at 0.9 mG (Merritt, 1994).

The earth's magnetic field, to which humans are constantly exposed, is about 500 mG.

Health Effects

There have been hundreds of studies on the subject of the health effects associated with long-term exposure to ELF EMFs. Recent studies have shown a potential link between chronic exposure to ELF EMFs and cancer. Some studies indicate that there may be health risks associated with long-term exposure to EMFs at strengths as low as 1 to 5 mG. According to American Planning Association report on EMFs, "current thinking holds that EMFs are cancer promoters rather than cancer initiators: they may not cause cancer or alter DNA directly, but rather accelerate the growth of tumors" (Slessin et al, 1991). However, it is critical to note that the EMF - cancer link has not yet been proven and that further studies are underway. In 1992, EPA's Science Advisory Board concluded that "currently available information is insufficient to conclude that... electric and magnetic fields are carcinogenic."

In April 1995, the American Physical Society released the findings of its exhaustive study on the issue, stating in effect that it could find no evidence that electromagnetic fields from power lines cause cancer (Broad, 1995).

There is no federal government standard on exposure levels for electromagnetic fields.

Implications for Development near Powerlines

Despite the absence of a conclusive scientific link between EMFs and cancer, and the unlikelihood that a national standard will be forthcoming, there remains a strong public concern with exposure to EMFs from powerlines. In response to this concern, various agencies have adopted the policy of "prudent avoidance" as the best way to address the problem. In most instances this results in some attempt to establish a standard for exposure. For example, Florida and New York have standards which limit exposure to EMFs to 150-250 mG at the edge of power line rights-of-way (ROW), but these standards have been criticized because they are not health based, but rather seek to maintain the status quo until further studies are completed. The California State Board of Education requires that new schools be sited 100 feet from the ROW of 100-110 kilovolt (kV) power lines, 150 feet from the ROW of 220-230 kV lines, and 250 feet from the ROW of 345 kV lines. Irvine, California has an ordinance which forbids the siting of schools or residences where they will receive exposure to EMFs from power lines of 4 or more mG, which has resulted in setbacks ranging from approximately 60 to 100 yards. Elsewhere, standards as low as 1 mG have been proposed (Slessin et al, 1991).

When considering the potential effects of power lines, it is important to note that the strength of EMFs is greatly dependent upon the design of the line (i.e., configuration and spacing of the wires, tower design, electrical phasing and circuitry, above ground, below ground, etc.), voltage, and current flow.

EMFs on the Lion's Gate Site

There are two 115 kV power transmission lines that traverse the site from north to south. The EMFs emanating from these power lines fluctuate depending on the current load passing through them at any given time. In June 1995, PG&E technicians recorded EMF strengths at the easterly 115 KV transmission line traversing the Lion's Gate site. Recorded in the late morning on a weekday, the field strength measured directly under the power lines was 2.5 mG. At a distance of 60 feet from the tower centerline, the field strength had dropped to 2.0 mG, and at about 130 feet from the centerline, the levels had dropped to about 1.0 mG. At the time of the measurements, the power line was carrying about 200 amps, which is not a peak load. (See Appendix K for the PG&E report on the field measurements.)

Previous measurements by PG&E at another 115 kV power line in San Jose in 1994 indicated EMF levels of 46.0 mG under the power line under normal current flow conditions for that line. The EMF level dropped to 2.0 mG at a distance of 175 feet from under the power line (City of San Jose, 1994). Under conditions of peak current flow, typical readings would be 91.5 mG under a 115 kV power line, which would drop off to 1.9 mG at a distance of 200 feet from under the power line (APA, 1991). For purposes of the impact analysis below, the worst-case condition is represented by this latter scenario.

Ordinances and Regulations that Address Electromagnetic Fields

There are no regulations or standards at the local, state or federal levels that address electromagnetic fields with respect to land use. However, many other local jurisdictions have adopted a policy of "prudence avoidance" in dealing with EMFs.

Significance Criteria

With respect to potential public hazards, Appendix G of the CEQA Guidelines states that a project will normally have a significant effect on the environment if it will: "(v) Create a potential public hazard or involve use, production or disposal of materials which pose a hazard to people or animal or plant populations in the area affected."

In the absence of any standards for acceptable exposure levels, or commonly accepted setback distances, a reasonable goal for prudent avoidance would be to avoid exposure to EMFs which are higher than about 1.0 to 2.0 mG, which represents the range of typical household background levels from electrical appliances.

Impacts and Mitigations

Impact 1. The siting of residential lots in the vicinity of existing high-voltage power lines may potentially expose future residents to increased levels of electromagnetic fields. (Less-than-Significant Impact)

The western portion of the proposed cluster subdivision would be near the easterly 215 kV transmission line traversing the Lion's Gate site. Although the measured EMF strength at this powerline is relatively low, dropping to 1.0 mG at 130 feet from the powerline, worst-case levels for a 115 KV line would be significantly higher. Assuming peak loads with EMF strengths of 91 mG under the power line, the EMF levels at the edge of the PG&E easement or approximately 50 feet from the powerline would be about 30 mG. Compared with typical household background levels of 1.0 to 2.0 mG, exposure to 30 mG would not constitute prudent avoidance. At 300 feet from the powerline, the EMF strength under these worst-case conditions would drop to 1.0 mG, which is equivalent to the average household background level. At 200 feet, worst-case EMF levels would be about 1.9 to 2.0 mG, which is at the upper end of the range for typical household levels.

The project site plan (Figure 9b) shows that most of the proposed facilities and residential lots would be at least 300 feet from the power lines. In the clubhouse and overnight complex, the nearest overnight unit would be 700 feet from the powerline. The nearest residential lot fronting on the main access road northeast of the golf course would be 300 feet from the power line. The powerline would pass directly through Lot 24, the 18-acre lot southeast of the golf course, but the building envelope on that lot would be set back approximately 165 feet from the powerline, where worst-case EMF levels would be about 3.0 mG. The powerline would pass within 100 feet of Lot 25, but the building envelope on that lot would be set back approximately 250 feet from the power line. Since the worst-case EMF exposure at these distances would be within or very close to the range for a typical household, the project as proposed would not be subject to significant impacts from electromagnetic fields.

Mitigation 1. No mitigation required.

Conclusion. The proposed project would not be subject to significant impacts due to exposure to electromagnetic fields.

P. WATER SUPPLY

Environmental Setting

Existing Water Systems

West San Martin Water Works

The existing on-site ranch complex at the west end of Highland Avenue receives domestic water service from the West San Martin Water Works via a 2-inch pipe from its storage facilities on Hayes Lane to the north of the project site. The Water Company currently provides water to 180 residential customers and the San Martin County Water District.

The majority of the Lion's Gate site (and all of the proposed golf course and residential improvements) lie within the service area of the West San Martin Water Works. The water company currently has 3 operating wells in central San Martin with a total output of 1,000 gallons per minute. The average current water usage in the water company service area is approximately 184 acre-feet per year or 164,000 gallons per day. The water company's storage facilities consist of three 50,000-gallon tanks located on Hayes Lane, approximately 1/2 to one mile north of the proposed Lion's Gate project. In the near future, the water company plans to construct a new tank on Hayes Lane to provide an additional 300,000 gallons of storage capacity to improve existing low pressure problems in the system, to enhance fire protection capability and to provide for projected future growth. (See the letter from the West San Martin Water Works, which is included in Appendix M.)

Twin Valley Inc.

The extreme western portion of the project site lies within the service area of the Twin Valley Inc. This water company provides service to 60 residential/agricultural customers in the vicinity of Watsonville Road and Sycamore Avenue from two 120-foot deep wells located on the west side of Watsonville Road, southwest of the project site. There are 3 other wells within 1/4 mile of Twin Valley's wells. These wells are used for agricultural use only and have not experienced problems as far as pumping their required water. Due to elevated nitrate levels, Twin Valley's existing wells would not comply with the 1996 drinking water standards of the federal Safe Drinking Water Act and will be discontinued as a source of domestic supply. The water company plans to drill a 300-foot deep well as a new source of domestic supply for its existing customers, and would then pipe the (non-potable) water from the existing wells to the Lion's Gate project for irrigation supply.

On-site Groundwater

There are 4 agricultural wells on the site which were previously used for irrigation supply, but are no longer in use. In a groundwater study prepared by Geoconsultants, Inc., it was preliminarily concluded that the alluvial basin of the Hayes Valley has a storage capacity of approximately 2,150 acre-feet of groundwater. The safe yield of groundwater resources in the basin is estimated to be approximately 280,000 gallons per day (gpd). (For more detail, see the Geoconsultants report, contained in Appendix M.)

Ordinances and Regulations that Address Water Supply

There are no County ordinances that address water supply.

The applicable General Plan policies R-RC 8 and 9 require that development in rural unincorporated areas demonstrate adequate quantity and quality of water supply as a pre-condition of development approval. (See Section II. *Consistency with Plans, Policies and Regulations.*)

Significance Criteria

With respect to water supply, Appendix G of the CEQA Guidelines states that a project will normally have a significant effect on the environment if it will: "(n) Encourage activities, which result in the use of large amounts of fuel, water, or energy," "(o) Use fuel, water or energy in a wasteful manner," or "(h) Substantially degrade or deplete groundwater resources."

Impacts and Mitigation

Impact 1. **The proposed project would increase the demand for water at the site. (Potential Significant Impact)**

The project will require large quantities of water for golf course irrigation, and lesser amounts for residences, clubhouse and overnight units, swim and tennis center, equestrian center, as well as landscaping and maintenance activities, as described below and summarized in Table 15.

Residences: The residential water consumption was based on the factor of 800 gallons per day (gpd) per dwelling, which would result in a total demand of 32,800 gpd for the 41 proposed lots.

Golf Course Irrigation: The total annual irrigation demand for the golf course is estimated to be 122 million gallons (374 acre-feet), which represents an average daily demand of 334,000 gallons. During the summer months, the average daily water requirement for irrigation is estimated to be approximately 677,000 gallons per day.

Clubhouse: The clubhouse restrooms are estimated to be used by a maximum 200 people daily at 5 gpd, for a total water use of 1,000 gpd. Assuming 10 percent of golfers take showers, at 25 gpd, the total water demand for this purpose would be 2,000 gpd. The restaurant would serve a maximum of 200 meals a day at 10 gallons per meal, for a total of 2,000 gpd. Additionally, the 30 employees would generate a total of 450 gpd, based on 15 gpd per employee. Thus the maximum total water use for the clubhouse would be 5,450 gpd.

Overnight Lodging: The 45 overnight units would use a maximum of 150 gpd per unit for a total of 6,750 gpd for the complex.

Swim and Tennis Center: Based on 50 visitors/employees per day and a unit flow of 10 gpd per person, this facility would use a maximum of 500 gpd.

Equestrian Center: The equestrian center water demand for horse upkeep at 25 gpd per stall, for up to 30 stalls, would be 750 gpd. The estimated 25 visitors and employees of the center would use an additional 250 gpd, based on 10 gpd per person. In addition, the caretaker's residence would use 150 gpd. Thus the total daily water use for the equestrian center would be 1,150 gpd.

Maintenance Facility: It is estimated that the maintenance facility would use 225 gpd for domestic use, based on 15 employees at 15 gpd per employee. The washdown water estimates are provided below.

TABLE 15
ESTIMATED DAILY WATER DEMAND

Project Facilities	Average Daily Demand ¹ (gpd)	Peak Daily Demand ² (gpd)
<u>Domestic Water Use</u>		
• Residential (41 dwellings)	32,800	65,600
• Clubhouse	5,450	10,900
• Overnight Units	6,750	13,500
• Swim and Tennis Center	500	1,000
• Equestrian Center	1,150	2,300
• Maintenance Facility	225	450
• Landscape/Washdown	10,000	20,000
Total Domestic Water Use	56,875	113,750
<u>Non-Potable Water Use</u>		
• Golf Course Irrigation	334,000 ³	677,000 ⁴
Total Project Water Use	390,875	790,750
Notes: 1. Assumes all units are fully occupied and all facilities are in maximum use. 2. A peaking factor of 2.0 is applied to domestic water use. 3. Derived from total annual water use divided by 365 days. 4. Average daily irrigation needs during the summer months (Source: Audubon Conservation Services).		

Landscaping and Washing: Water would be required for landscaping at the clubhouse and overnight complex, and the swim and tennis center. Water would also be needed for washing golf carts and maintenance equipment and vehicles. The total water required for these uses is estimated to be 10,000 gpd. This does not include landscaping irrigation for the 41 private residences, which is included in the estimates provided above for the residences.

Mitigation 1a. Increased water supplies to meet project demand for domestic water would be provided by the West San Martin Water Works, without adversely affecting existing or future users.

The Lion's Gate project lies within the service area of the West San Martin Water Works. As discussed in the Water Supply Report prepared by Geoconsultants in February 1996, there is sufficient capacity in the aquifer to produce a safe yield of 645,000 gallons per day. After subtracting the 164,000 gpd of current average use, this leaves 481,000 gpd available for increased usage. The combined domestic and irrigation water demand (see below) for the Lion's Gate project (97,000 gpd) would represent 20 percent of this remaining available supply, and 15 percent of the safe yield of the aquifer.

In the near future, the water company plans to construct a new 300,000 gallon water tank at an existing tank site on Hayes Lane, approximately 3/4 mile north of the proposed clubhouse. This tank is being constructed to improve existing low pressure problems in the system, to enhance fire protection capability, and to provide for projected future growth. With the completion of this tank, the water company would have sufficient capacity to meet the estimated water demands and fire flow requirements for the Lion's Gate project.

The clubhouse area and residential subdivisions would be served by 10-inch and 8-inch water mains. The first water main would extend from Highland Avenue westward into the project along the main project access road. The 8-inch main would extend from the new water tank on Hayes Lane southeastward around the site to join the 10-inch main at the project entrance.

During times of drought, the project would be subject to the same cutbacks and penalties for overuse as other water customers. The program for reduced golf course irrigation under drought conditions is described below.

Mitigation 1b. Water supplies for golf course irrigation would be provided by a combination of sources, including on-site pumping of groundwater, non-potable water from Twin Valley, Inc., and backup supplies from West San Martin Water Works. This water would be supplied in a manner that would not exceed the safe yield of any of these sources.

The primary source of golf course irrigation water would be on-site groundwater. As discussed in the Preliminary Groundwater Availability report prepared by Geoconsultants in April 1995 (see Appendix M), the on-site alluvial basin has an estimated safe yield of 280,000 gallons per day based on average daily use. Actual pumping rates may exceed the daily average depending on the time of year, provided that the annual safe yield is not exceeded. A new groundwater well (or wells) would be used to pump the groundwater. As discussed in the Water Supply report by Geoconsultants (Appendix M), the pumping of on-site groundwater would not result in impacts to wells immediately down-gradient to the east, provided that the new on-site irrigation well is located a prudent distance from the eastern property line. (Note: The on-site ranch house that is not a part of the project receives its water from the West San Martin Water Works.) The precise location of the on-site irrigation well would be determined prior to project development, based on primary locational criterion of resulting in no down-gradient impacts.)

To determine an appropriate location for the new well(s), pump tests would be conducted to gain an understanding of aquifer characteristics, especially the transmissivity of the

groundwater. It is expected that an existing on-site well would be used for the pump test, with another on-site well used as an observation well for any drawdown effects. Based on the data generated by the pump tests, the radius of influence of the proposed groundwater pumping for the project would be determined. The objective would be to locate the new wells where the cross-section of the aquifer would produce the required volume of irrigation water while resulting in minimal if any drawdown at nearby wells.

Back-up supplies of non-potable water would be provided by Twin Valley, Inc. As discussed under "Environmental Setting" above, Twin Valley Inc. serves 60 residential/agricultural customers in the Watsonville Road/Sycamore Avenue area southwest site. Due to high nitrate conditions in the two existing wells, the company is discontinuing use of those wells for domestic supply in 1996. The company has agreed to dedicate these wells to providing non-potable irrigation water supply for the Lion's Gate project. As discussed in the Water Supply Analysis prepared by Geoconsultants in February 1996 (see Appendix M), the groundwater basin utilized by Twin Valley, Inc. has a remaining safe yield of 14,000 gallons per day. This water would be conveyed to the site via a new 6-inch diameter PVC water line which would be extended from the existing water company pipe in Watsonville Road, and would follow the proposed maintenance access road eastward to the irrigation storage reservoir.

TABLE 16
PROJECTED WATER SUPPLY

Water Sources	Water Yield (gpd) (average)
• West San Martin Water Works	150,000 ¹
• On-site Groundwater	280,000 ²
• Twin Valley, Inc.	14,000 ¹
Total Average Daily Water Supply	444,000 ³
Total Average Daily Water Demand	391,000
Surplus Water Supply	53,000
Notes 1. These figures are based on the average daily use over the course of a year. 2. Preliminary estimate based on average annual safe yield. Actual pumping rates may exceed the daily average depending on the time of year, provided that the annual safe yield is not exceeded. (Source: Geoconsultants, Inc.) 3. This does not take into account spray irrigation of treated wastewater, which would provide a daily average irrigation supply of approximately 23,000 gallons.	

The total non-potable irrigation supply available from on-site groundwater pumping combined with backup supplies from Twin Valley, Inc. would be 294,000 gallons based on average daily flows. This would be augmented by domestic water from the West San Martin Water Works, which would readily be able to provide the additional 40,000 gallons of irrigation supply needed to meet the total daily average irrigation demand of 334,000 gallons (i.e., total average daily supply available from West San Martin Water Works is 150,000 gallons, minus 57,000 gallons for domestic use, minus 40,000 gallons for irrigation backup, equals 53,000 gallons surplus).

In order to avoid cross connections of the potable water supply with the non-potable irrigation water supply piping, the irrigation piping would be color coded or otherwise clearly marked.

In the event of a prolonged drought, water usage at the golf course would be cut back in phases. As a drought develops and/or water supplies diminish, irrigation applications would first be reduced in less critical areas such as fairways. As conditions worsen, irrigation of fairways would be further reduced or turned off altogether, depending on the severity of the drought. During this time, irrigation would also be reduced on higher priority areas such as tees and fairway landing areas, to a level which still maintains plant life, but at a severely stressed level. The greens would be the last to have reduced irrigation because they include the most critical turfgrass, and because they make up only about 4 percent of the total irrigated acreage.

Conclusion.

Implementation of the above mitigation measures would reduce the potential water supply impacts of the project to less-than-significant levels.

Q. WASTEWATER TREATMENT AND DISPOSAL

The following discussion is largely based on the Wastewater Feasibility Study prepared by Questa Engineering in December 1995. The full report is contained in Appendix N of this EIR.

Environmental Setting

No public sanitary sewer system exists on the project site or in adjacent areas. The nearest public sanitary sewer system is located in the City of Morgan Hill, approximately one mile north of the project site.

The existing wastewater facilities for the on-site residences located on Highland Avenue consist of individual septic systems, which appear to be functioning normally.

Ordinances and Regulations that Address Wastewater

Sewage Disposal Ordinance: This ordinance establishes standards for the approval, installation and operation of individual, on-site sewage disposal systems (septic tank and leachfields) consistent with the appropriate California Regional Water Quality Control Board standards and basin plans. These standards are adopted so as to preclude the creation of health hazards and nuisance conditions and to protect surface and groundwater quality. Systems generating more than 2,500 gallons per day of effluent must be reviewed by the appropriate Regional Water Quality Control Board. Percolation tests are required to determine the suitability of a site for leachfields and to determine the amount of leachfields required. The systems are required to be set back a minimum distance from wells, creeks, reservoirs, springs, etc. The County Department of Environmental Health implements this Ordinance and issues the required septic tank permits.

County Ordinance Code - Chapter II, Article 3, Private Sewage Disposal in Lexington Basin: This ordinance sets additional requirements for the establishment of sewage disposal systems in the Lexington Basin. All lands within the basin have been mapped according to septic suitability, with varying design criteria, including minimum lot sizes, stipulated for each zone. In areas with poor septic suitability ratings, the ordinance requires installation of a second drainfield in the event of failure of the first leachfield. The ordinance requires 10 feet of separation between the leachlines and underlying groundwater table or bedrock.

County Zoning Ordinance: Section 47-(d) stipulates use permit findings that waste and sanitation facilities shall satisfy applicable County, state and federal requirements and that the use shall not adversely affect water quality.

Significance Criteria

With respect to wastewater, Appendix G of the CEQA Guidelines states that a project will normally have a significant effect on the environment if it will:

- "(f) Substantially degrade water quality;
- (g) Contaminate a public water supply; or
- (h) Substantially degrade or deplete groundwater resources.
- (s) Extend a sewer trunk line with capacity to serve new development."

Impacts and Mitigation

Impact 1. **The proposed project would increase the demand for wastewater treatment and disposal facilities at the site. (Potential Significant Impact)**

The proposed residences, golf course clubhouse, overnight units, swim and tennis center, and equestrian center would significantly increase the wastewater disposal requirements for the property. Although use of the golf facilities would vary seasonally and between weekdays and weekends, wastewater facilities should be designed on the basis of maximum expected daily flows, i.e., assuming 100-percent facility use. In order to calculate overall flows, the maximum wastewater treatment requirements were estimated for each project component, as described below.

Single-Family Residential Units: The project includes 41 custom residential lots. For central wastewater facilities, average flows from single-family residential units are typically estimated to be in the range of about 200 to 250 gallons per day (gpd) per connection. The actual flows will vary depending upon the size, occupancy and character of the residences, and the degree to which water conserving plumbing devices and practices are incorporated in the homes. The recent laws in California requiring low-flow plumbing devices (e.g., 1.6-gallon flush toilets) in new construction have had a measurable effect on wastewater flows; typical flows from new residential areas tend to average less than 200 gpd/house. (A similar project in Monterey County has experienced average daily flows of 150 to 175 gallons per dwelling over a six year period of operation.) To be conservative in planning wastewater facilities for the proposed project, an average daily unit flow estimate of 250 gpd/residence was assumed; this would adequately account for wastewater from a 4 to 5 bedroom (or more) residence on each parcel. On this basis, the total estimated flow contribution from the proposed 41 single-family residences would be 10,250 gpd (average dry weather flow).

Clubhouse: The clubhouse would generate wastewater from the restaurant, the employees and golfers. The flow estimates for each are as follows:

Restaurant: Based on a unit flow of 10 gallons per meal, the total daily flow for a maximum 200 meals would be 2,000 gpd.

Golfers: At a unit flow for restrooms of 5 gpd, 200 golfers would generate a total of 1,000 gpd. Assuming 10 percent of golfers would take showers, at 25 gpd, this would result in an additional 2,000 gpd for showers.

Employees: Up to 30 employees would work in and around the clubhouse on any given day. Based on a unit flow of 15 gpd per employee, the maximum flow would be 450 gpd.

Overnight Lodging: The maximum flows for the 45 overnight units were estimated on the basis of 150 gpd/unit, yielding total flows of 6,750 gpd.

Swim and Tennis Center: These facilities would be available for use by residents, corporate members and their guests. The facilities would include restrooms, showers and, perhaps, a small kitchen. Use of these facilities would be greatest in the summer and on weekends, and smallest in the winter and during the week. Accordingly, daily wastewater flows would fluctuate greatly. For planning purposes, the maximum daily flow is estimated to be 500 gpd, based on 50 visitors/employees per day and a unit flow of 10 gpd/person. In addition, backwash water from the swimming pool filter and occasional draining of the spa at the proposed recreation center would go to the wastewater system and add small volumes to the overall flow (i.e., not more than a few hundred gallons per week; and it would be greater in the warm summer months than in the winter). The spa would likely be drained once or twice

per year, contributing about 1,000 to 1,500 gallons of flow to the system at each draining. These flows constitute minor miscellaneous additions that are accounted for by the 1,000 gpd "contingency" contained in the preliminary wastewater flow projections (see Table 17).

Equestrian Center: This facility would have restrooms for employees and visitors. The wastewater flows from the equestrian facility are estimated to be approximately 400 gpd, based on 25 visitors/employees per day at a unit flow of 10 gpd/person, and 150 gpd for the caretaker's residence.

The total estimated wastewater flows are summarized in Table 17. Based on the above generation rates, the total wastewater flow for the Lion's Gate project is estimated to be approximately 23,000 gpd. This includes a contingency of approximately 5 percent to account for uncertainties about the specific details of project facilities that would not be determined until the design stage. Final wastewater facility design would also need to anticipate and provide for peak flow conditions which, on a daily basis, may be in order of 25 to 30 percent higher than the average daily flow. For the proposed project this translates to a peak system flow estimate of about 30,000 gpd.

TABLE 17
ESTIMATED WASTEWATER FLOWS*

Residences	41 houses	250 gpd	10,250
Golf Course Clubhouse			
• Restaurant	200 meals	10 gal/meal	2,000
• Golfers			
• Restroom	200	5 gpd	1,000
• Showers	20	25 gpd	500
• Employees	30	15 gpd	450
Overnight Units	45 rooms	150 gpd	6,750
Practice Range	50 golfers	3 gpd	150
Equestrian Center	25 visitors	10 gpd	250
Subtotal			22,000
Contingency			1,000
Total Project			23,000
<p>*This does not include the wastewater flows for the golf course maintenance building (approximately 300 gpd) which would be served by an individual septic system.</p>			

Mitigation 1. Increased wastewater from the project would be treated and disposed of with new facilities to be constructed in conjunction with the project.

The proposed method of wastewater treatment and disposal for Lion's Gate project involves a central collection, treatment and disposal system for the golf course facilities (except the maintenance facility) and all of the residential development. The various elements of this system are described below and shown in Figure 23.

Septic Tanks: Each residential lot, the clubhouse/overnight complex and the equestrian center would be provided with septic tanks where primary effluent treatment (i.e., sedimentation) would occur. The effluent from the tank would then be piped to centralized treatment and disposal facilities (described below) instead of individual leachfields.

Collection System: The collection system would consist of a network of small diameter plastic pipes. The flow from the septic tanks to the collection system would be generally by gravity, although some pumping units would be required where septic tanks are at lower elevations.

Transmission Line/Pump Stations: The collection system would consist of 2 to 4 inch diameter PVC pipe which would convey all septic tank effluent to a central treatment plant, to be located north of the practice range. The collection system would have two major branches: one branch to serve the residential units, equestrian facility and the swim and tennis center; and a second branch to serve the golf course clubhouse and overnight lodging units. Both branches would require a central pump station, located approximately as shown in Figure 23.

Treatment Facility: As noted above, primary sedimentation is to be provided by the individual on-lot septic tanks. The remaining treatment would be provided by a central treatment plant, to be located adjacent to the practice range. The treatment plant would occupy an area of about 3,000 to 4,000 square feet. The plant would consist of a fully-enclosed proprietary "package" system that would produce secondary level effluent quality. The plant would include the following elements: (a) below ground, built-in-place concrete vaults for sedimentation and clarification; (b) oxidation process for secondary treatment; and (c) liquid chlorination system for disinfection.

Storage Facilities: The wastewater facilities would include short-term emergency storage and long-term wet weather storage, as described below.

Short-term Emergency Storage: Short-term emergency storage for one day of peak flow would be provided by underground tanks located alongside the treatment plant, and would have a capacity of 30,000 gallons. Each of the pump stations in the collection system would also have emergency storage capacity, roughly equal to one day of sewage flow from the respective service area, bringing the total emergency storage in the system to about two days of flow. The sewer pump stations would include alarm systems with auto-dialers and standby generator(s) for emergency power. This would ensure continuous pump station operation during power outages or mechanical breakdown of an individual pump. Emergency power would be provided by a dedicated unit at each pump station.

Long-term Wet Weather Storage: Long-term (90-day) storage of treated wastewater during the wet season would be provided by a storage pond to be located in the "saddle" area immediately upslope and to the northwest of the practice range. The storage pond would be roughly 16-feet deep (at capacity), with an additional two feet of freeboard and an overall maximum water surface area of about 30,000 square feet. The storage volume of the pond at capacity would be approximately 8 acre-feet. The pond would be lined with a clay, plastic or gunite liner to prevent leakage.

Disposal Facilities: Treated wastewater would be disposed of entirely by spray irrigation of restricted-access turf grass and open space portions of the project. The areas planned for irrigation include the golf course practice range and chipping area, plus about 3 to 4 acres of open-space grassland knolls on the west side of the storage pond (see Figure 23). The overall land area required for irrigation is estimated to be about 12 acres. This is based on the assumption of an 8-month irrigation season (roughly March through November). The calculations are based solely on the evapotranspiration requirements for irrigated pasture; they assume negligible loss of water to percolation. The total volume of reclaimed water to be disposed of during the irrigation season includes the daily wastewater flow during the irrigation season, plus all wastewater and rainfall collected in the storage reservoir during the winter months. The total volume is estimated to be about 28.2 acre-feet in a wet rainfall year.

Facility Operation and Maintenance: The proposed community wastewater system would be owned and operated by the Community Services District (CSD) established for the project. Since the system would generate more than 2,500 gallons of effluent per day, it would be under the jurisdiction of the Central Coast Regional Water Quality Control Board; as such, the system would require a waste discharge permit from the Regional Board. The CSD would be the responsibility party (i.e., "discharger") named in the Waste Discharge Requirements (i.e., permit) issued by the Regional Board for the facility. Actual day-to-day operations could be performed by employees of the CSD or by contractors. However, the CSD would have ultimate responsibility for compliance with the Waste Discharge Requirements and the submittal of monitoring reports to the Regional Board.

With respect to day-to-day operations, Title 22 of the California Administrative Code contains specific requirements for monitoring, record keeping and treatment plant maintenance to assure public health protection. A certified wastewater treatment plant operator would be required for the treatment plant. Additionally, the Santa Clara County Sewage Disposal Ordinance requires that community wastewater systems be monitored by the designer for one year, and that the operator execute a maintenance contract with a sanitary engineering firm for the first 5 years of system operation.

Maintenance Facility

The maintenance facility would not be connected to the centralized wastewater system, but would have its own septic tank and leachfield system. Based on a generation rate of 15 gpd for 15 employees, maximum flows would be 225 gpd. Preliminary soils and groundwater studies indicate that there is adequate depth to groundwater, and that the soils in the vicinity have acceptable percolation rates for the planned leachfield.

Alternative Wastewater Treatment Configurations

Several alternative methods of wastewater treatment and disposal were studied for the Lion's Gate project, as described below.

Individual Residential Septic Systems: The main alternative to the proposed wastewater system would include: a) the use of individual septic systems for each residential lot (and the equestrian center, and the swim and tennis center); and b) a separate package treatment plant, storage pond and spray irrigation system solely for the golf course clubhouse and lodging units. This alternative is feasible as studies to date have verified adequate soil depth/groundwater conditions to support individual septic systems at the residential building sites. The layout of the residential sites has been planned to match the septic system options and limitations. A package treatment plant system for the golf course facilities is also feasible. It would be about one-half the size and capacity of the proposed wastewater system



to serve the entire development. The advantages of the proposed wastewater plan over this option of utilizing residential septic systems are as follows:

- All wastewater treatment and disposal would come under the maintenance and management authority of a public district and certified wastewater personnel;
- A greater percentage of the wastewater would be made available for reclamation and reuse for irrigation of a portion of the golf course (the practice areas), reducing the demand on other irrigation water sources; and,
- The overall nitrate loading from the project would be reduced, since the secondary treatment followed by irrigation removes a substantially greater amount of nitrate than do individual septic tank-leachfield systems. The use of package treatment plants with spray irrigation is identified as a nitrate control management objective in the Santa Clara Valley Water District's draft plan for the Llagas Groundwater Basin.

The one advantage of the individual residential septic system option would be the elimination of the effluent collection system (and its associated pump stations and piping) in favor of a simple, on-site gravity flow system at each house.

Conventional Gravity Sewers: Conventional gravity sewers, as opposed to effluent-only sewers, were considered as a system design option. Conventional sewers would eliminate the need for a septic tank at each house/building, but the construction costs and excavation requirement for larger diameter gravity sewers, manholes and lift stations spread over the development area would offset the savings. The on-site treatment plant could be designed to accommodate either effluent or raw sewage from a conventional sewer system. If conventional sewers were to be used, an additional screening and sludge handling process would be included at the treatment plant. Ultimately, disposal of the sludge would be by hauling to an approved landfill site. An advantage of the system design proposed for the project is the ability to build-in surplus storage or emergency disposal capacity at the stations or individual building sites with the use of subsurface leachfield trenches. This is possible because of the inclusion of septic tanks for primary treatment at each house/building. Septic tank effluent can be disposed in appropriately sited leaching trenches, but raw sewage cannot.

Municipal Sewerage: The possibility of extending sewer service from the City of Morgan Hill to the project site was considered in connection with prior development plans for the project site. The project site is not within the sewer service area for the Morgan Hill/Gilroy Wastewater Treatment Plant and would require annexation and several miles of sewer pipeline construction. Due to the relatively small wastewater flows from the Lion's Gate project, and the substantial distance to the Morgan Hill/Gilroy system, sewer connection to the system would not be a practical alternative.

Impact 2.

The proposed wastewater disposal facilities may result in degradation of surface and groundwater quality. (Potential Significant Impact)

Under proper operation, the proposed disposal of wastewater to land should not result in any noticeable impacts on surface water quality in local drainages or the West Branch of Llagas Creek. This is because the system would be subject to the Regional Board's standard requirement that there be no runoff of wastewater from any spray disposal area into streams or drainages; and the spray disposal operations are planned to be confined to the irrigation season only. To further minimize the risks of reclaimed water runoff into streams, the proposed spray areas are to be set back 100 feet or more from local drainages. (Note: Treated effluent would be applied to the spray irrigation area at rates matching the

evapotranspiration rate of the practice range turfgrass. Also spray irrigation would not occur during the winter months when the turfed areas are likely to be saturated. Thus, there is no potential for treated effluent to leach or run off into on-site drainages.)

A critical water quality concern in the Llagas Groundwater Basin area, where the Lion's Gate project is located, is the concentration of nitrate in groundwater. The Llagas Groundwater Basin has documented high levels of nitrate attributable to agricultural wastes and fertilizer, wastewater disposal and other land use activities. Sources of nitrate loading from the Lion's Gate project would include golf course fertilizers and on-site wastewater disposal. The nitrate analysis for golf course fertilizers prepared by Audubon Conservation Services (see Appendix E), estimated an annual nitrogen loading ranging from 262 lbs to 1,965 lbs of nitrogen, with a resultant nitrate-nitrogen concentration ranging from 0.6 mg/l to 4.5 mg/l reaching the groundwater. The mass nitrate-nitrogen loading from wastewater disposal is estimated conservatively to be about 263 lbs per year. The combined total nitrogen loading for golf course fertilizers and wastewater disposal is estimated to be 525 to 2,228 lbs per year, which equates to projected groundwater concentration of 1.2 mg/l to 5.1 mg/l. (The equivalent concentration as NO₃ would be from 5 to 23 mg/l.) These nitrate loading calculations are a prediction of long-term cumulative nitrate levels resulting from the project, based on average annual conditions.

The nitrate loading analysis is based on very conservative (i.e., worst case) assumptions for the nitrogen content of treatment plant effluent (25 mg/l), nitrogen removal rate in the storage pond (40%), and uptake by the soils and vegetation (75%). Higher nitrogen removal rates are attainable with plant design (e.g., Sequencing Batch Reactor or SBR) or through an operating mode specifically selected to optimize nitrogen removal. A good example of the latter is the Las Palmas Ranch Wastewater Reclamation plant in Monterey County, which has a waste discharge limit of 10 mg/l nitrate-nitrogen set by the Central Coast Regional Water Quality Control Board. The total nitrogen concentration in effluent from the treatment plant ranges from 18 to 24 mg/l (as compared with our estimate of 25 mg/l); but, the final discharge from the storage pond is typically in the range of 3 to 4 mg/l, due to denitrification in the pond. Uptake by turf grass and soils in the irrigation area further reduces the concentration of nitrate-nitrogen reaching groundwater (probably to 1 to 2 mg/l, or less). Based on the demonstrated performance of the Las Palmas Ranch facility, reduction of nitrate concentrations to very low levels, e.g., a few mg/l, is feasible; however, a "zero nitrate discharge" is not an achievable or realistic standard.

The existing groundwater nitrate concentrations in the vicinity of the project site (at San Martin), as reported in the SCVWD Llagas Groundwater Basin Nitrate Study (November 1995), are indicated to be in the range of about 7 to 43 mg/l (as NO₃). Historic sampling of a water well on the project site is also reported to fall within this range. The Lion's Gate project site is currently used for cattle grazing; and nitrogen associated with cow manure and urine represents the main current source of nitrate loading to groundwater and surface water runoff. Generally, in pasture and rangeland situations the majority of nitrogen in animal wastes is readily assimilated into the soil and vegetation. However, where soils are damp, where animals congregate and where they have direct access to streams and other drainages, a portion of the nitrogen will be carried by runoff or percolate into the groundwater. These are likely the current routes of nitrogen input to the Llagas Groundwater Basin from the project site.

Under the proposed project, the cattle grazing is planned to be entirely eliminated in favor of the golf course and residential development. From a nitrogen loading standpoint, the turf fertilizer and reclaimed wastewater would essentially replace animal wastes as the principal source of nitrate on the project site. Because of the slow rate of groundwater movement, it is likely to take several years for any changes in water quality to be noticeable. Moreover,

as indicated by the water-chemical mass balance analysis in the wastewater feasibility study, the nitrate loading (in terms of resultant concentration) from the project is estimated to be roughly comparable to existing background groundwater conditions (i.e., 5 to 23 mg/l under project conditions, versus 7 to 43 mg/l under existing conditions). Thus, any long-term change in groundwater nitrate concentration is likely to be very slight and difficult to discern.

There is a slight possibility of leakage or spill of wastewater during a major earthquake. However, since the package wastewater treatment plant facilities would consist largely of below ground tankage, the potential consequence of failure or release of wastewater during an earthquake would likely be insignificant. However, this is a valid issue which would be covered in the "Contingency Plan," which is a standard element of the Waste Discharge Requirements that would be adopted for the wastewater facilities by the Regional Water Board.

Mitigation 2. Groundwater wells would monitor groundwater quality up-gradient and down-gradient of the proposed spray irrigation area, with corrective action taken as necessary.

Groundwater at the project site would be monitored as a precautionary measure in connection with the wastewater disposal systems and the golf course maintenance activities. All of the existing water wells on the property and the new proposed irrigation well would be periodically monitored for nitrate. Additionally, a dedicated monitoring well immediately down gradient (east) of the wastewater spray field areas (practice range and chipping areas) would be added to distinguish possible localized effects from the wastewater systems. The Regional Board may also require that additional monitoring wells be installed. This would provide a basis for detecting any changes over time and for making adjustments in fertilizer application rates or wastewater operations. In the unlikely event that evidence of contamination is found, corrective action could include incorporating additional treatment processes to further reduce nitrate levels prior to disposal. (The specific measures to be taken would be stipulated in the "Contingency Plan" for the treatment operation, which is a standard element of the Waste Discharge Requirements contained in the "permit" from the Regional Board.) In addition, surface water upstream and downstream of the spray irrigation area would also be monitored for water quality.

Impact 3. The use of reclaimed wastewater for golf course irrigation would expose humans to possible physical contact with the treated wastewater, resulting in a potential public health hazard. (Potential Significant Impact)

The areas planned for spray disposal of treated effluent include the golf course practice and chipping area and the grassy hillside knolls adjacent to the proposed wastewater storage pond.

Mitigation 3. The wastewater would be treated to levels deemed acceptable for disposal on golf courses, and the areas affected would be posted to notify golfers and employees where irrigation by treated wastewater is occurring.

State wastewater reclamation criteria recognize golf course irrigation as a suitable use for treated wastewater, and contain standards to protect against unacceptable risks to public health. The areas to be irrigated with treated wastewater would have restricted access and activities, and limited opportunity for human contact with the treated wastewater. The areas of the golf course proposed for irrigation are the practice range, which would be accessible primarily to maintenance staff, and the chipping area, which would have more general accessibility to the golfers. Both areas should be posted with appropriate signs indicating the irrigation with reclaimed water; and irrigation of these areas would need to be limited to times when people are not present, i.e., evenings. The other areas planned for irrigation are

grassland knolls that are well removed from general public access. These sites would be part of the permanent open space area and would be accessible to an occasional hiker or horseback rider. Evening spray disposal in those areas is also recommended.

With diligent compliance with waste discharge requirements, the risks to public health would be minimal. However, if desired, the wastewater system could be upgraded and operated to meet the treatment standards for unrestricted landscape irrigation, as defined in Title 22 of the California Administrative Code.

Impact 4. There is a potential for overflow of the storage reservoir, resulting in a public health hazard. (Potential Significant Impact)

There is the possibility of an overflow from a wastewater storage reservoir during high rainfall years, if the reservoir capacity is exceeded.

Mitigation 4. The wastewater storage reservoir would have sufficient capacity to accommodate high rainfall years.

To minimize or eliminate the possibility of overflow, the reservoir would be sized to include: (a) surplus storage capacity to account for extreme wet weather effects; and (b) two-feet of freeboard in the pond above the projected maximum water depth. The calculated winter storage requirement is based on 90 days with no irrigation. An additional contingency available for a wet winter would be selective spray disposal during the rainy season. In particular, the grassland knolls near the reservoir site would provide suitable winter spray disposal capacity for emergency use without posing a threat of runoff to streams or ponding of treated wastewater in public use areas. In the future, should the wastewater flows exceed the system design, the capacity of the wastewater storage pond could be expanded. Additionally, a reserve leachfield area could be constructed near the treatment plant or pump stations for emergency use.

Impact 5. The wastewater treatment and disposal system could generate odors. (Potential Significant Impact)

Odors could be generated within the immediate vicinity of the two main pump stations and at the treatment plant. At the effluent storage pond, odors could be created by algae which could grow in the nutrient-laden water.

Mitigation 5. Odor control would be achieved by mechanisms incorporated into the design of the pump stations and the treatment plant, and by measures to be undertaken at the effluent storage pond.

Odor control at the pump stations would be achieved by venting through subsurface soil "scrubber" trenches, or above-ground activated carbon canister-type filters. If properly maintained, these measures can be expected to reduce pump station odors to a level of insignificance.

To eliminate odors at the treatment plant, the plant would be designed to capture and eliminate methane and hydrogen sulfide odors with a vacuum system, and with soil filtration.

Control measures for algae include: (a) aeration of the wastewater pond; (b) addition of chemicals such as non-toxic dyes; and (c) promotion of duck weed to block light penetration.

With proper maintenance attention, these measures can be effective in reducing algae problems to less-than-significant levels.

Impact 6. The existing pond and the proposed open water areas of the project, such as the wastewater storage pond and the residential lake, have the potential to be sites for breeding of mosquitoes, which could create a nuisance and a potential public health problem. (Potential Significant Impact)

Mitigation 6. Mosquito breeding would be controlled by several methods, as appropriate for each type of water body. These methods would include the circulation of water to prevent stagnant conditions, the introduction of mosquito fish, and the application of larvacides. The specific mosquito mitigation measures would be formulated in consultation with the Department of Environmental Health Vector Control District.

At the wastewater storage pond, the water would be circulated through the pond, with a portion removed each day for irrigation. The turnover and movement of water would interfere with the mosquito breeding cycle during the warm months. The potential mosquito problem would also be minimized by the remote location of the storage pond which is well away from any residences or golf activity areas. At the existing pond in the central area of the site, and at the proposed lakes for the residential area, the introduction of mosquito fish and the circulation of water would not be appropriate measures for mosquito abatement. Since both of these water bodies would have outlets to West Branch Llagas Creek, the introduction of mosquito fish would risk the escape of the fish resulting in potential disruption of native species. For these ponds, mosquito abatement may require the use of one or more of the following three larvacides: lightweight oil, BTI and methoprene, which can be applied by air or with ground equipment. The oil, which contains surfactants, forms a very thin film on the water surface and essentially suffocates both the larval and pupal stages of the mosquito. The oil tends to dissipate within three or four days, depending on weather conditions. BTI (*Bacillus thuringiensis israelensis*) is a naturally occurring bacterial pathogen of mosquitoes. It is most effective against the larval stages and is approved for use in sensitive habitats by the U.S. Fish and Wildlife Service. Methoprene is an insect growth regulator which prevents the mosquito from developing from the pupal to the adult stage. Extensive research has demonstrated that methoprene has very little impact on non-target organisms, and the U.S. Fish and Wildlife Service has approved its use in sensitive habitats, such as the habitat of the endangered Santa Cruz long-toed salamander.

Prior to design and construction of the new ponds, the Department of Environmental Health Vector Control District would be consulted to ensure a design that will inhibit the development of mosquito breeding.

Conclusion. With the installation of the proposed wastewater facilities in accordance with applicable standards, and with the implementation of the mitigation measures set forth above, the potential wastewater and related impacts resulting from the project would be reduced to less-than-significant levels.

R. FIRE PROTECTION

Environmental Setting

Fire Protection Services

Fire protection for the Lion's Gate site is provided by the South Santa Clara County Fire District (SSCCFD). The District is operated by the California Department of Forestry and Fire Protection (CDF) under contract to the County. There are 3 stations in the South County area that would respond to a call at the project site, as follows: CDF Santa Clara Headquarters Station at Monterey Road and Watsonville Road in Morgan Hill; South County Fire Station #2 on NoNameUno Avenue south of Masten Avenue, north of Gilroy; and County Fire Station #3 on Hecker Pass Highway, east of Watsonville Road. The latter two stations are owned by the County and operated by CDF. All 3 stations have two persons on duty around the clock, 365 days a year. Firefighting equipment includes pumpers, engines and tankers at each station. The District has mutual aid agreements with the Cities of Morgan Hill and Gilroy.

Fire Hazard

CDF rates the degree of fire hazard for rural areas on a 3-level scale, identifying the severity of hazard as Moderate, High, or Extreme for a given area. To determine fire hazard rating, the following 3 criteria are applied: 1) slope gradient - steeper slopes have a fire spreading effect making them more hazardous than flat terrain; 2) vegetative cover - the density of vegetation determines the amount of fuel available, and hence the corresponding fire hazard; and 3) critical fire weather - the less humid and dryer an area is, the higher the probability of a major fire.

Based on the above criteria, the Lion's Gate site has been mapped by CDF as lying within two fire hazard zones, including the Moderate and Extreme zones, and with other portions of the site not rated due to substantial modification by agriculture. The area of the site rated as having Extreme Fire Hazard includes all of the wooded upland area south of West Branch Llagas Creek. The grass-covered northern hillside areas of the site are within the Moderate Hazard zone. The areas of the valley floor along the creek channel, and the eastern areas of the site lie within the unclassified area.

Ordinances and Regulations that Address Fire Hazard

Uniform Fire Code: Prescribes regulations for protecting life and property from fire hazard, including minimum fire flows and water pressure.

Uniform Building Code: Requires fire retardant roofing materials in high fire hazard areas.

Santa Clara County Fire Prevention Code: Requires a variety of fire suppression measures including: on-site water storage tanks dedicated for fire fighting purposes, and kept separate from domestic water supply; roadway access requirements which specify minimum widths and turning radii, and maximum slopes; placement and spacing of fire hydrants; fire sprinkler use; fire break requirements which specify clearing and management of brush and trimming of trees for prescribed distances around structures. Proposed project plans are reviewed by the County Fire Marshal for compliance with fire protection requirements, and for prescribing conditions of project approval relating to fire hazard.

Significance Criteria

The CEQA Guidelines do not contain significance criteria which specifically address fire hazard and protection. However, Appendix G of the Guidelines states that a project will normally have a significant effect on the

environment if it will: "(v) Create a potential public health hazard," and "(z) Interferes emergency response plans or emergency evacuation plans."

The County does not have performance standards relating to response times for fire emergency services. Given the remoteness of some unincorporated County locations, where response times may be one-half hour to an hour-and-a-half, it is not feasible to depend on fire services for fire suppression in these areas.

Impacts and Mitigation

Impact 1. Portions of the project site are located in areas rated as Extreme and Moderate Fire Hazard areas, and thus may be subject to loss of life and property in the event of a wildland fire. (Potential Significant Impact)

Fire Hazard: Most of the proposed structures would be located on the valley floor which lies within the unclassified area. This includes the clubhouse complex and all but one of the proposed residential lots (Lot 24), which is located in the southeastern upland area of the site, which is in the Extreme Fire Hazard Zone. In addition, portions of the southern cluster subdivision would be located adjacent to this wooded hillside area. The southern portions of the golf course would also be located in the Extreme Fire Hazard zone, and the northern portions of the golf course would lie in the Moderate Fire Hazard zone.

In those areas of the site proposed for the golf course, the potential for wildfires would be substantially reduced by the introduction of irrigated turf. The golf course would also function as a fire break, affording protection to clubhouse facilities, which would be surrounded by fairways.

Water Supply: The water supply system proposed to serve the project would be adequate to meet the fire protection needs. The water system improvements planned by the West San Martin Water Works would include adequate storage and flows for fire suppression, and would be subject to the approval of the County Fire Marshal. In addition, the irrigation storage reservoir for the golf course and the lake proposed for the residential area would provide a backup source of water.

Access: Most of the proposed development would occur at the eastern end of the site where emergency access is readily available via Highland Avenue. Secondary access to Watsonville Road to the west would be provided by the maintenance access road to the maintenance facility. Emergency access from the residential area to the west would be provided across the golf course along specially designated golf cart paths, which would be designed and built to carry heavy vehicles.

Response Time: The Lion's Gate site is centrally located relative to the 3 fire stations in the area. The residential areas would be located approximately 3 miles from both the CDF Headquarters station in Morgan Hill and South County Fire Station No. 2 at Masten Avenue, and would be approximately 7.5 miles from South County Fire Station No. 3 in Gilroy. Given the proximity of the fire stations, response times would be very favorable for any wildland or structure fires at the site.

The CDF/South Santa Clara County Fire District has indicated that the proposed project could be accommodated without the significant impact to fire protection services.

Mitigation 1. The project would be required to implement the County Fire Marshal's conditions for fire protection, including minimum roadway standards, adequate water storage and pressure for

fire fighting, installation of hydrants and automatic sprinklers, vegetation clearance and building specifications.

Project roadways would be built to County standards with adequate widths, radius curves and clearances for fire trucks. Roadway bridges should be structurally adequate for heavy fire fighting equipment.

The proposed water supply system would have sufficient water pressure for fire suppression. The system would include a minimum of 180,000 gallons of water for fire fighting purposes (to provide a fire flow of 1,500 gpm for 2 hours) in addition to domestic water supply. This fire storage would be provided by a new 300,000 gallon tank planned to be constructed by the West San Martin Water Works. Hydrants would be located in accordance with the Fire Marshal's specifications.

All on-site structures would be constructed in conformance with the Uniform Fire Code and Uniform Building Code, including installation of automatic sprinkler and alarm systems, and fire-resistant building and roofing materials.

As prescribed in the County Fire Code, all brush would be cleared and managed around all structures, and overhanging tree branches would be trimmed back from structures.

Landscaping around the clubhouse, residences, and other structures would consist largely of native fire-resistance plant species.

Conclusion.

Implementation of the above mitigation measures would reduce the fire hazard on the project site to less-than-significant levels.

S. POLICE AND SECURITY

Environmental Setting

Police protection for the Lion's Gate area is provided by the Santa Clara County Sheriff's Department from its South County Substation located on Highland Avenue, approximately one mile east of the project site. The substation has 14 regular officers, with 3 officers on duty at any given time. The Sheriff's Department has mutual aid agreements with the cities of Morgan Hill and Gilroy, as well as the CHP.

Ordinances and Regulations that Address Police Services

There are no applicable County ordinances or regulations which address the impact of new development on police services.

Significance Criteria

The CEQA Guidelines do not contain significance criteria which specifically address police protection services.

Impacts and Mitigation

- Impact 1.** **The proposed project may result in increased demand for police services at the site. (Less-than-Significant Impact)**
- The project would generate additional calls for police service in the area. However, the golf course and residential subdivisions would not be expected to generate many calls. Other golf courses in the area generate occasional calls regarding clubhouse burglary or for disturbing the peace. No additional Sheriff's Department personnel or equipment would need to be added as a result of this project.
- Mitigation.** **No mitigation required.**
- Overall security would be enhanced by installing perimeter fencing, providing locked gates at the golf course entrance, and installing burglar alarms at the clubhouse complex.
- Conclusion.** **The project would not result in a significant impact upon police services.**

T. SCHOOLS

Environmental Setting

The Lion's Gate site lies largely within the boundaries of the Morgan Hill Unified School District. (The southern portions of the site, which are not proposed for development, lie within the Gilroy Unified School District.) The nearest schools to the project site are: San Martin/Gwinn Elementary Schools (K-6) in San Martin, Britton Middle School (7-9) in central Morgan Hill, and Live Oak High School (10-12) in eastern Morgan Hill.

According to the District's facility planner, all of these schools are currently impacted. The District has plans to build a new middle school south of Morgan Hill near Monterey Road and California Avenue by the year 2000. The District also plans to construct a new high school on Tilton Avenue in northern Morgan Hill, with the first phase planned for completion by the year 2000.

Ordinances and Regulations that Address Schools

There are no County ordinances or regulations that address impacts to schools. However, Policy C-GD 54 of the 1995 County General Plan states that proposals for new residential development in locations where school overcrowding exists or would result from planned levels of growth should be reviewed and conditioned to adequately mitigate adverse impacts. Also, under state law, builders of residential projects are required to pay a fee of \$1.72 per square foot of residential floor area for school purposes.

Significance Criteria

There are no criteria in the CEQA Guidelines that address schools.

Impacts and Mitigation

Impact 1. **The proposed residential subdivisions would generate 32 school-aged children within the Morgan Hill Unified School District, where the schools are already impacted.**

Based on the School District's overall generation factor of .79 students per new single-family dwelling, the 41 dwellings proposed for the Lion's Gate project would generate a total of 32 school-aged children. Of this total, 18 would attend elementary school, 7 would attend middle school, and 7 would attend high school. As noted on the environmental setting discussion, all of the schools serving the Lion's Gate project are currently impacted. However, a new middle school and the first phase of a new high school are planned to be completed by the year 2000.

Mitigation 1. **The project's impacts to schools would be mitigated by the state-mandated school impact fee charge to the builder, and by a property tax increment for schools to be paid by the future homeowners under the Mello-Roos district that includes the Lion's Gate site.**

Under state law, all new residential development is subject to a one-time fee of \$1.72 per square foot of floor area, payable by the builder prior to issuance of the building permits.

In addition, since the Lion's Gate site is already included in a Community Facilities District under the Mello-Roos Act, future homeowners would be subject to a property tax surcharge for schools. The additional property tax would be \$418 plus \$.06 per square foot per year for 30 years. Alternatively a new homeowner could elect to make a one-time payment of

approximately \$4,510, which represents the net present value of the tax increment. This election would only be available to the first purchasers of homes in the Lion's Gate project.

Conclusion.

With the implementation of the above mitigation measures, the project's potential impacts to schools would be reduced to less-than-significant levels.

U. UTILITIES

Environmental Setting

Electricity: PG&E maintains 12-kilovolt overhead electrical powerlines which run along the site frontages on Coolidge/Highland/Turlock Avenues on the east, and Watsonville Road on the west. In addition, the site is traversed by two 115 kV transmission lines; however, these lines are not available for local service.

Natural Gas: There are existing PG&E gas distribution mains along portions of Highland Avenue to the east, and Watsonville Road to the west.

Telephone: The majority of the Lion's Gate site, including the proposed development area, lies within the Pacific Bell service area. Existing telephone service is provided to the ranch complex from Highland Avenue. The western end of the site along Watsonville Road is within the service area of GTE California.

Ordinances and Regulations that Address Utilities

There are no applicable County ordinances that address utilities impacts.

Significance Criteria

There are no criteria in the CEQA Guidelines that address utilities.

Impacts and Mitigation

Impact 1. **The project would increase demand for electric power, natural gas and telephone service at the site. (Less-than-Significant Impact)**

Electricity: According to PG&E, the existing electric power lines in the project vicinity have sufficient capacity to serve the proposed project. New services would be tied directly to the existing electric power lines or new lines would be added, depending on the location. There may be a need to change transformers serving the site.

Natural Gas: PG&E would provide natural gas to the site from the existing distribution main in Highland Avenue.

Telephone: The telephone lines to the site would require upgrading by PacBell to service the project.

Mitigation 1. **No mitigation required.**

Conclusion. **The project impacts on utilities would be less-than-significant.**

V. SOLID WASTE

Environmental Setting

Solid waste generated in the South County is picked up by private haulers and taken to the San Martin Transfer Station, which also serves as a collection point for recyclable materials. From here, solid waste is hauled to the Pacheco Pass landfill located east of Gilroy. This landfill site is expected to be full by 2010, at which time local solid waste would likely be conveyed to the Kirby Canyon landfill located north of Morgan Hill.

Ordinances and Regulations that Address Solid Waste

Integrated Waste Management Act of 1989 (AB 939): This state law shifted the focus of solid waste management from development of landfill capacity to development of alternatives to landfill disposal such as source reduction, recycling, composting and conversion to energy. The Act requires each locality to meet a 25% waste stream reduction goal by 1995 and a 50% reduction by the year 2000.

In accordance with AB 939, the County prepared a draft Unincorporated Area Source Reduction and Recycling Element and a draft Unincorporated Area Household Hazardous Waste Element in March 1994. The draft Source Reduction and Recycling Element outlines approaches to reducing solid waste at its source and for promoting recycling, composting, and public education and information programs. The Draft Household Hazardous Waste Element evaluates alternatives for managing household hazardous waste.

Significance Criteria

The CEQA Guidelines do not contain specific criteria for solid waste.

Impacts and Mitigation

Impact 1. **The project would increase the generation of solid waste at the site, thereby reducing overall disposal capacity at local landfill sites. (Less-than-Significant Impact)**

The 41 proposed residential units would generate a maximum of approximately 49.2 tons of solid waste annually, based on the County-wide average of 1.2 tons/year per household (this figure assumes little or no recycling).

The golf course, clubhouse and overnight units would also generate solid waste. Some composting may occur under the golf course operation, but the majority of grass clippings would be left on the golf course and would not be collected.

The equestrian center would generate horse manure which would be collected on a daily basis and disposed of at a local landfill (one which is permitted to accept manure). Alternatively, on-site composting of manure may be considered instead of off-site disposal.

The project would result in an incremental increase in cumulative solid waste generation and thus would slightly increase the rate at which local landfill facilities would reach capacity.

Mitigation 1. **Provisions for recycling, composting and "grass cycling" would be incorporated into the project operation to reduce solid waste generation.**

The project would include a system to collect and recycle glass, aluminum and plastic containers, as well as corrugated cardboard. All recyclable materials would be collected, separated and stored in recycling receptacles to be picked up by the recycling franchisee for this area or a private hauler. Used equipment oil is to be recycled by a private contractor.

Most of the grass clippings from turf mowing would be left in place. Mulching blades would be attached to mowers to facilitate such "grass cycling." The grass clippings not left in place (e.g., from the greens) and landscape debris would be composted on-site or at an approved off-site location. Any on-site composting operations would comply with applicable regulations and the necessary permits would be obtained. Additional measures would be implemented pursuant to the Waste Management guidelines of the Audubon Sanctuary Program.

Conclusion.

With respect to solid waste, the impact of the project would be less-than-significant.

W. ENERGY

Environmental Setting

Current energy consumption on the project site is very low, consisting only of electricity used for ranch operation and residences.

Ordinances and Regulations that Address Energy

Architecture and Site Approval Guidelines: The guidelines require that tentative subdivision maps include an energy conservation plan showing how buildings would be sited and designed for solar access, passive cooling, energy efficiency and other measures to reduce reliance on mechanical systems.

California Administrative Code, Title 24: These regulations require that energy efficient design standards be incorporated into new construction.

Significance Criteria

With respect to energy, Appendix G of the CEQA Guidelines state that a project will normally have a significant effect on the environment if it will:

- "(n) Encourage activities which result in the use of large amounts of fuel, water, or energy; or
- (o) Use fuel water, or energy in a wasteful manner."

Impacts and Mitigation

Impact 1. **The project would result in the consumption of non-renewable energy resources in both the construction and operational phases of the project. (Less-than-Significant Impact)**

During the construction phase, gasoline and diesel would be used to power equipment, and electricity would be required for power tools. Upon completion and occupancy of the project, electricity and fuel would be used for heating, cooling, lighting, office equipment, recharging golf carts, as well as in the operation of maintenance equipment and for pumping water and wastewater.

A number of energy-efficient features are included in the proposed project. The golf course irrigation system would operate during non-peak periods of power demand, and would deliver water according to specific plant needs reducing overall pumping requirements.

The compacted earth building technique proposed for the clubhouse and overnight complex would create 24-inch thick walls with excellent heat retention and cooling properties. The main golf course buildings would also include dual pane windows, high-rated insulation, and low-wattage lighting fixtures. To the extent feasible, the buildings would be designed to maximize solar orientation, with strategic landscaping to maximize passive heating and cooling. Natural lighting opportunities would be maximized, and appliances would be selected for energy efficiency.

Mitigation 1. Energy conservation measures would be incorporated into the project in accordance with Title 24 of the California Administrative Code. The project would also incorporate other energy efficient features in building design and construction, and in the operation of the irrigation system.

Conclusion. With the implementation of energy conservation features, as required, the project impacts to energy resources would be less-than-significant.

IV. CUMULATIVE IMPACTS

The potential impacts resulting from any individual development project may not be significant, or may be mitigated to less-than-significant levels. However, when the remaining less-than-significant levels of impact are considered along with the incremental effects of other projects, the resulting cumulative impact may become significant. The discussion of cumulative impacts is required under CEQA when such impacts may be significant, although the level of discussion may be general in nature.

The CEQA Guidelines define a cumulative impact as: "The change in the environment which results for the incremental impact of the project when added to other closely related past, present and reasonable foreseeable probable future projects" (CEQA Guidelines § 15355 (b)). This analysis of cumulative impacts considers the effects of other approved, pending or anticipated projects in the vicinity which would collectively result in potentially significant impacts when combined with the incremental effects of the project. Other projects in the Morgan Hill/San Martin vicinity which were considered in this cumulative analysis include the following: 10 single-family residential projects with a total of 324 dwellings, one senior housing project with 33 units, one RV park with 272 spaces, two commercial projects with a total floor area of 49,000 square feet, and the South County Court Facility in San Martin with a total floor area of 37,000 square feet.

In terms of land use, the character of this area is essentially a mixture of urban and rural areas. Therefore, these projects do not represent a fundamental change in character of the area, individually or collectively, but are incremental additions to the ongoing gradual shift from a rural to a more urban character. Each of these projects conforms with the applicable General Plan and zoning provisions, and has undergone discretionary review and environmental clearance. These projects were approved in consideration of their land use compatibility with adjacent uses, with design mitigations incorporated as appropriate. The remaining incremental land use effects of these projects would not result in a cumulatively significant impact.

The Lion's Gate project and the other local projects would result in the loss of prime farmland. Although the severity of this impact is reduced because these lands are no longer economically viable for agricultural production, and is offset at the Lion's Gate site by the planting of vineyards, the collective loss of prime farmland from all of these development sites represents a cumulatively significant impact.

In terms of parks, recreation and open space, none of these projects represents a major conversion of open space to urban use, or a major increase in the demand for recreational resources. Thus the cumulative impact of these projects on open space is not significant.

Geologically, these projects would be subject to some degree of seismic hazard, and potentially unstable soil conditions. Specific mitigations to be implemented for each project would maintain the level of cumulative geologic impact to less-than-significant levels.

In terms of drainage and flooding, all of these projects would alter the drainage patterns on their sites, and could potentially contribute to downstream flooding within the Llagas Creek drainage basin. However, since the Lion's Gate project would mitigate all of its potential flooding impact on-site, it would not contribute to cumulative flooding impacts elsewhere in the basin.

The potential erosion resulting from the projects could result in sedimentation of downstream water bodies. However, these projects would implement stringent erosion control measures, as required, such that cumulative sedimentation would not be significant.

Biologically, all of these projects are located on sites that have been substantially altered or previously converted to agricultural use. Due to the presence of urban uses and human disturbance in the areas of the other development sites, the general habitat value of these sites is minimal. Any impacts to special status species and wetlands would be mitigated at the site-specific level such that cumulative biological impacts would not be significant.

Potential impacts to archaeological and historic resources would be avoided or mitigated in all these projects, and where necessary would provide for contingent mitigation if previously undiscovered resources are encountered during construction. Thus cumulative impacts to cultural resources would not be significant.

Visually, all of the proposed projects would result in changes to their settings. The individual visual impacts of the projects, if any, would be mitigated to less-than-significant levels. When considered together, the cumulative visual impact would likewise not be significant, since these projects constitute part of an ongoing shift from rural to urban character in the area, a visual trend that has been in progress for some time.

The cumulative traffic impacts for all approved and pending projects were taken into account in the traffic analysis for the Lion's Gate project. As discussed in Section III. K. *Traffic and Circulation*, these projects would not result in a significant cumulative impact upon roadway facilities potentially affected by the Lion's Gate project.

The analysis of potential noise impact resulting from the project included an evaluation of noise resulting from cumulative near-term traffic. As discussed in Section III. L. *Noise*, no cumulatively significant noise impacts would result from the Lion's Gate project, taken together with other projects in the vicinity.

The calculation of air pollutant emissions discussed in Section III. M. *Air Quality*, took into account the cumulative emissions resulting from the other local projects. The air quality analysis concluded that there would be no cumulatively significant traffic-related emissions at the local level. At the regional level, neither the Lion's Gate project nor other local projects would result in significant impacts, but they would contribute to the cumulative degradation of overall air quality. This cumulative effect would be off-set by stricter emissions standards, reformulated fuels and improved fuel efficiency, which would result in lower overall levels of air pollution over time. During the construction phase, the projects would generate dust, although most of it would be suppressed through dust abatement measures, as required. Since these projects are unlikely to be constructed at exactly the same time, and since dust generation is highly localized, the cumulative effect would not be significant.

The use of hazardous materials at the Lion's Gate project site would be strictly controlled to prevent leaks or spills that could contaminate soil or groundwater. The other projects in the vicinity are predominantly residential which would be unlikely to utilize quantities of hazardous materials. The gas station project approved in Morgan Hill would be subject to strict local, state and federal regulations for handling and storage of petroleum products. The potential cumulative impacts from hazardous materials would therefore not be significant.

The Lion's Gate project would utilize a combination of three water supply sources: the West San Martin Water Works, Twin Valley, Inc., and on-site groundwater. These water sources would be utilized for domestic and irrigation supply in a manner that would not exceed the safe yield for any of these sources. Additionally, the project demand for water from these sources would not adversely affect existing users or constrain the ability to provide water to future users. Thus there would be no cumulative impact with respect to water supply.

The disposal of wastewater for the Lion's Gate project would occur in accordance with the requirements of the Regional Water Quality Control Board and County Department of Environmental Health, such that there would be no significant water quality impacts. The other projects located in Morgan Hill, and the South County Court Facility would be connected to the central sewer with wastewater treatment and disposal at the Gilroy Wastewater Treatment Plant. The 11-lot subdivision on Highland Avenue would utilize individual septic and leachfield systems, but it would be located one-mile to the east of Lion's Gate site. Therefore, no cumulatively significant water quality impacts would result from wastewater disposal.

The potential impacts to schools resulting from the Lion's Gate project and the other local projects would be fully mitigated through participation in Mello-Roos districts to finance the resulting improvements needed to school facilities. Consequently, there would be no cumulatively significant impact upon schools.

The potential project impacts on solid waste disposal capacity would be reduced by on-site recycling facilities and measures to minimize green waste. The other residential projects in the vicinity would be served by curbside

recycling pickup. There would be an incremental effect in terms of reduction of overall solid waste disposal capacity, but this is not considered to be a cumulatively significant impact.

In summary, the Lion's Gate project combined with other projects in the vicinity would not result in cumulative impacts, with the exception of the loss of prime farmland which represents a cumulatively significant impact.

V. ALTERNATIVES TO THE PROPOSED PROJECT

The CEQA Guidelines, at §15126(d), stipulate that EIRs contain a discussion of alternatives to be proposed action, as follows:

Describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.

This discussion provides an evaluation of 5 alternatives to the proposed project, as follows:

- 1) No Project
- 2) No General Plan Amendment Alternative
- 3) Higher Density Alternative
- 4) Lower Density Alternative
- 5) Alternative Project Location

A. NO PROJECT

The No Project alternative would involve the continuation of the existing cattle grazing operation on the Lion's Gate site. Under the No Project alternative, there would be no change in land use on the site, and no conversion of semi-natural open space to residential and managed recreational uses.

The No Project alternative would avoid exposure to potential geologic and soils impacts associated with the project, although these impacts can be mitigated to less-than-significant levels under the proposed project.

The No Project alternative would not result in the flooding and drainage impacts, although the potential flooding and drainage impacts of the proposed project would be fully mitigated on-site.

The biological impacts of the proposed project, including filling of wetlands and impacts to habitat of special status species, would be avoided by the No Project alternative. Under the proposed project, these impacts would be mitigated to less-than-significant levels.

The No Project alternative would avoid impacts to potential cultural resources on the site, although these impacts to would be avoided or fully mitigated under the proposed project.

The No Project alternative would not result in traffic, noise or air quality impacts, although the project also would not result in significant impacts in these areas.

The No Project alternative would not result in exposure to hazardous materials or electromagnetic fields, although these potential impacts would be avoided or fully mitigated in the proposed project.

The No Project alternative would not require additional water supplies or wastewater treatment, and would not increase demands for public services and utilities. The proposed project likewise would not result in significant impacts with respect to water supply, wastewater treatment or the provision of public services.

In summary, the No Project alternative would generally avoid the impacts associated with the proposed project. As such, the No Project alternative would be environmentally superior to the project as proposed. The No Project alternative was not selected because it does not meet the project objective of developing the Lion's Gate site with a championship golf course and cluster residential development.

It should be noted that under the No Project alternative, the project site could be subdivided as permitted under existing zoning. That could involve: the subdivision of the 260 acres zoned A-Exclusive Agriculture into 13 lots of 20 acres each; the subdivision of the 1381-acre Hillside area into 8 parcels of at least 160 acres each; and the subdivision of the 32-acre Rural Residential parcel into 6 lots of 5 acres each. This alternative was not presented because it could not reasonably attain the project objective and because much of this scenario is represented by the No General Plan Amendment alternative described below.

B. NO GENERAL PLAN AMENDMENT ALTERNATIVE

This alternative considers the effects of the project in the absence of the proposed General Plan Amendment to change 259 acres from "Agriculture-Medium Scale" to "Hillside" under the County General Plan. Under this alternative, the 144-acre field adjacent to Turlock Avenue would not be used to cluster residential density from the Hillside area. Likewise, the 115-acre parcel along Watsonville Road would not be devoted to permanent open space. Instead, these parcels would be subdivided into 20-acre lots, as permitted under the existing General Plan designation, resulting in a total of twelve 20-acre lots. The 6-lot rural residential subdivision proposed for the northeast parcel, west of Coolidge Avenue, would not be affected. The remaining 23 lots in the Hillside-designated area would be clustered around the golf course in the interior of Hayes Valley. The configuration of the golf course itself would likely be modified somewhat to accommodate the surrounding cluster subdivision.

In terms of land use impacts, this alternative would result in the placement of residential lots directly along the eastern and western frontages of the site. Without the buffer zone included in the proposed project, there would be a greater potential for conflicts with nearby agricultural operations.

Without the General Plan Amendment, substantially less area of the site would be preserved as permanent open space. The 115-acre parcel on Watsonville Road would be devoted to large-lot residential instead of open space, and the proposed open space areas immediately adjacent to the golf course would be devoted to the cluster subdivision and additional roadway to provide access to these residences.

The amount of agricultural land conversion would be approximately the same under this alternative as under the proposed project, although the net effect would not be significant in either case since the site is no longer economically viable for cultivation. Although the 144-acre field along Turlock Avenue would nominally remain in the "Agriculture-Medium Scale" General Plan designation, the division of this area into 20-acre parcels would effectively preclude any potential agricultural activity.

Geologically, this alternative would result in a greater level of potential impacts than the proposed project. The 23 dwellings in the Hillside subdivision and the access road for those lots would be constructed along the foot of the hillside adjacent to the golf course. These areas pose slope stability concerns and are subject to landslides and debris flows from the adjacent hillside. While these potential impacts could be mitigated, they would be largely avoided in the proposed project.

The potential flooding impacts would be greater for this alternative than for the proposed project, because the additional length of roadway needed for access to the dispersed residential lots would increase the overall impervious coverage and thus increase the runoff generated at the site. In addition, the subdivision of the field adjacent to Turlock Avenue into 20-acre parcels would preclude the ability to provide a flood detention lake in this area, as proposed. Without this on-site mitigation, this alternative would likely result in downstream flooding impacts.

Biologically, this alternative would likely result in greater impacts to special-status species and wetlands than the proposed project. The additional roadways and homesites in the interior of the site would likely require more filling or piping of streams, and the internal traffic would result in greater potential mortality to California tiger salamanders and western pond turtles. It would also result in greater loss of upland habitat for the tiger salamander and pond turtle. Construction of homesites and an access road along the foot of the southern hillside would also necessitate removal of oak woodland in this area, an impact not associated with the proposed project. Additionally, the introduction of dispersed residential uses into the interior of the site would reduce the general value of the site for wildlife habitat. The presence of human activity, particularly at night when many species are active, would exclude wildlife species which are not adapted to the built environment. In comparison, the proposed project would only involve nighttime activity at the clubhouse and overnight complex, thus confining the impact of human activity to a relatively small area.

Potential impacts to cultural resources would be slightly greater under this alternative, because the greater coverage of the site by development would increase the chances of disturbance to previously undiscovered cultural resource sites.

The visual impacts of the No General Plan Amendment alternative would be greater than under the proposed alternative. The creation of 20-acre lots at the eastern and western ends of the site could result in unsightly uses of those parcels due to inadequate weed control or outside storage. Also, such parcelization would preclude the permanent preservation of the area of the site along Watsonville Road. It would also preclude the creation of a bermed and landscaped buffer zone along Turlock Avenue at the eastern end of the project site.

The traffic generated by the No General Plan Amendment alternative would be the same as the proposed project, since they would have the same number of dwelling units. However, under the alternative, an access road would be needed to provide access to the 5 residential parcels at the western end of the site. It is also likely that the internal access road would be connected to the Watsonville Road access to provide through circulation across the site. This would likely result in a greater use of Watsonville Road to gain access to the golf course as well. However, the impacts of such increased traffic along the Watsonville Road would not be significant.

The noise and air quality impacts of the alternative would be similar to those associated with the proposed project, mainly because traffic generation would be about the same. The change in project configuration would not result in new noise or air quality impacts. The clustering of residential uses around the golf course would expose more of the proposed residences to mower noise, but this condition would presumably be accepted by buyers prior to purchase of the residential properties.

The wastewater impacts under the No General Plan Amendment alternative would likely be greater than for the proposed project. The cluster subdivisions would likely have effluent piped to a community facility as in the proposed project. However, such connection would likely be prohibitive for the 20-acre residential parcels at the eastern and western ends of the site. Although each site would be required to have adequate percolation and depth of groundwater, the potential for nitrate loading would be greater than under the proposed project where no residential leachfields are proposed.

The potential exposure to hazardous materials and electromagnetic fields would be the same under the alternative and the proposed project, since the potential impacts would be fully mitigated or readily avoided in both cases.

The demand for water supply, utilities and public services would be the same under the alternative and the proposed project, except that the alternative would require longer extensions of pipeline and utility lines to reach the dispersed residences. Likewise, response times for emergency services would be longer for the dwellings located in the interior of the valley under this alternative.

In summary, the No General Plan Amendment alternative would generally result in greater or the same levels of impact compared to the proposed project. As such, this alternative would not represent an environmentally preferable alternative to the project as proposed.

C. HIGHER DENSITY RESIDENTIAL ALTERNATIVE

This alternative would consist of approximately 800 single-family dwellings surrounding a championship golf course. A project of this magnitude would involve annexation to the City of Morgan Hill, and possibly the construction of a municipal wastewater treatment facility on the Hayes Valley site.

In terms of land use, the Higher Density Residential alternative would represent a significant expansion of urban-density development into the San Martin area. It would result in the conversion of more open space for urban uses, with less open space remaining for permanent preservation, than proposed under the project alternative.

The Higher Density alternative would result in the conversion of approximately the same amount of Class II soils as the proposed project, although the net effect would not be significant in either case since this site is no longer economically viable for cultivation. However, it is unlikely that this project would accommodate the 100 acres of vineyards, as proposed in the project to offset the loss of prime farmland.

Geologically, the higher density alternative would expose more residences to potential geologic and soils impacts, although these impacts would be fully mitigated under both the Higher Density alternative and the proposed project.

Potential flooding impacts would be greater under the Higher Density alternative since the substantially greater impervious surface coverage would result in greater runoff than under the proposed project. Also the greater development density would provide fewer opportunities to provide on-site mitigation in the form of a large detention lake as is included in the proposed project. Thus some form of off-site mitigation would likely be required, probably in the form of downstream flood detention facility or major channel improvements. Any off-site mitigation would be expensive and problematic, especially considering the need for property acquisition. Thus flooding would be a significant impact of the Higher Density alternative.

Biologically, the Higher Density alternative would likely result in filling of a greater proportion of on-site wetlands compared to the proposed project, and would also result in greater impacts to the habitats of special status species such as the California tiger salamander and the western pond turtle. Also, with greater coverage of the site with development, there would be fewer opportunities to provide on-site mitigation for displaced habitat. Thus the Higher Density alternative would result in greater potential biological impacts than the proposed project alternative.

Impacts to cultural resources would be similar under the Higher Density alternative and the proposed project, since these impacts would be avoided or fully mitigated in either case.

Visual impacts would be greater under the Higher Density alternative, primarily because residential development would likely be sited up to the project boundaries on Coolidge and Turlock Avenues in the east, and Watsonville Road in the west. There would not be the opportunity to provide buffer zones of open space at these peripheral areas of the site, as under the proposed project. With additional dwellings near the northeastern parcel located on Coolidge Avenue, a soundwall would likely be required along this site frontage to meet County noise standards. Even with architectural treatment, such a sound wall would be visually incompatible with the surrounding area. The traffic generated by the higher density project would be almost 20 times that of the proposed project. This increment of traffic would have potential impacts on roadways and intersections in the vicinity and would likely require off-site roadway improvements.

Noise and air quality emissions from traffic under this alternative would also be greater than under the proposed project. The potential exposure to hazardous materials would be the same under the Higher Density alternative as the proposed project since the same mitigation requirements would apply. However, it would be difficult to provide adequate setbacks from high voltage power lines to avoid EMF impacts under the Higher Density alternative. The demand for water supply and other public services and utilities would also be much greater under the Higher Density alternative than for the proposed project.

In summary, the Higher Density alternative would result in greater levels of impact than the proposed project alternative. As such, it would not represent an environmentally preferable alternative to the proposed project.

D. LOWER DENSITY ALTERNATIVE

A lower density alternative might consist of a championship golf course with 20 residential lots, and no overnight units at the clubhouse. Under this alternative, the residential cluster subdivision might be set back further from Turlock Avenue than under the proposed project.

In terms of land use, the slightly smaller scale of the Lower Density alternative would not result in a substantial reduction of impacts, which are already minimal in the proposed project. The amount of open space that would be gained would be minor, perhaps 40 acres, of a total permanent open space area of over 1,200 acres already proposed in the project alternative. The conversion of agricultural land to residential subdivision would be slightly less under this alternative, but the net effect would be the same in either case since the site is no longer economically viable for cultivation.

The geologic, flooding, biological, and archaeological impacts of the Lower Density alternative would be about the same as under the proposed project.

Visually, the Lower Density alternative affords the opportunity to set back the residential cluster subdivision several hundred feet further to the west. However, visual impacts under the proposed project would be mitigated by a 200 to 1,400 setback and a landscaped berm to reduce project visibility. The additional benefit that would be provided by further setback distance under the Lower Density alternative would be marginal.

The traffic, noise and air quality impacts of the Lower Density alternative would not be significant, as is the case under the proposed project.

The potential exposure to hazardous materials and electromagnetic fields would be mitigated or readily avoided under both the Lower Density alternative and the proposed project.

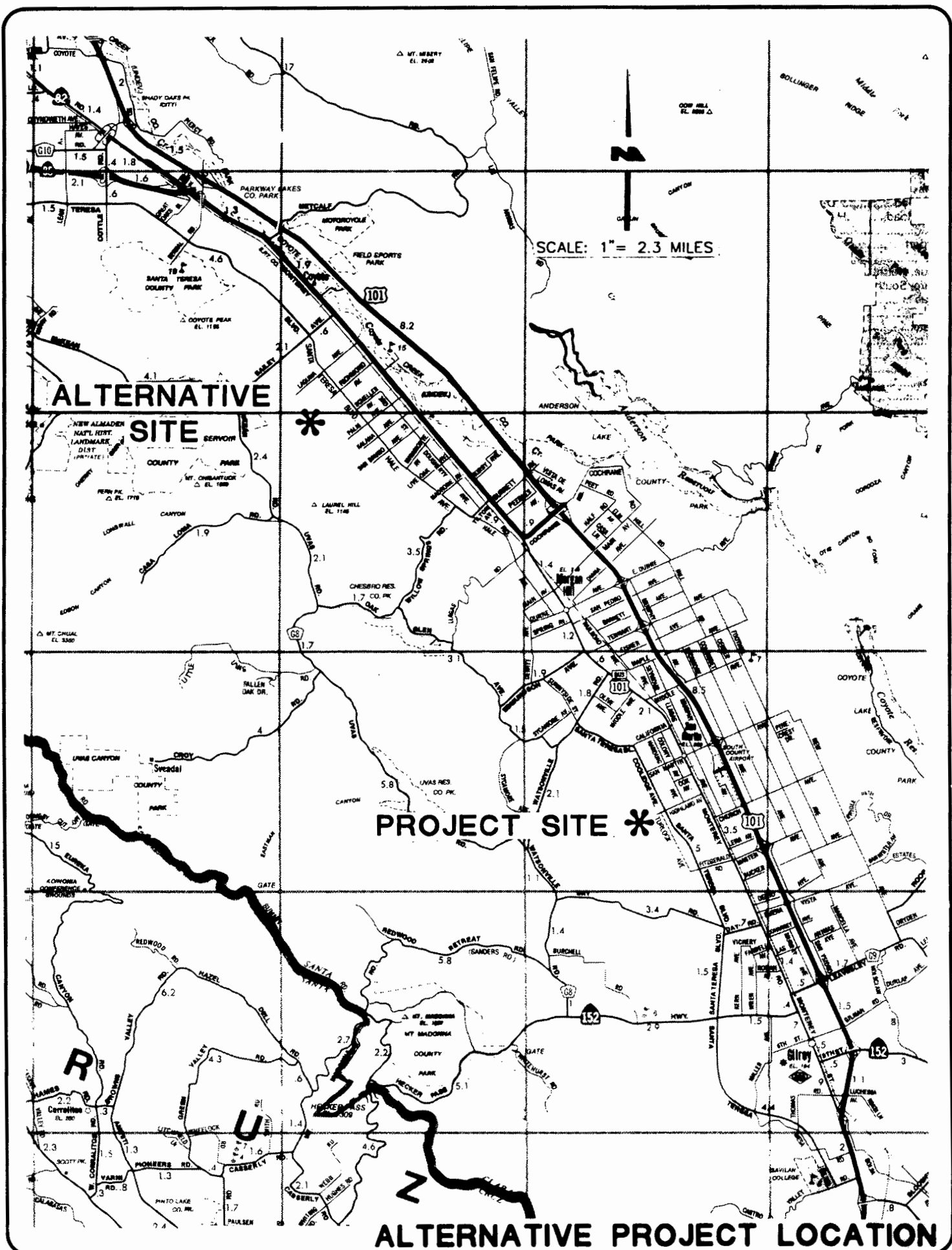
The demand for water supply, wastewater treatment and other public services and utilities would not be substantially lower under the Lower Density alternative, compared with the proposed project.

In summary, the Lower Density alternative would result in slightly lower levels of impact relative to the proposed project alternative. As such, it would represent an environmentally superior alternative to the proposed project. This alternative would not meet the project objective of including 45 units of overnight accommodation in the golf course, and of creating a 41-lot residential development as permitted under current General Plan and zoning.

E. ALTERNATIVE PROJECT LOCATION

An alternative site in Coyote Valley was selected for the evaluation of an alternative to the project location, as shown in Figure 24. Coyote Valley is an elongated valley located along Coyote Creek north of Morgan Hill, and is enclosed by the Mount Hamilton Range on the east and the Santa Teresa Hills on the west. A suitable alternative site may be located in the central portion of the Valley, south of Laguna Avenue and west of Monterey Road. Within this area there are approximately 2,000 acres of cultivated land with little of the scattered rural residential development that characterizes the southern portion of Coyote Valley, where a project of this size would likely be precluded. Although a specific site within central Coyote Valley was not selected, it is assumed that the project would be located near the foot of the Santa Teresa Hills west of Santa Teresa Boulevard.

Development of the project at this site would likely involve the conversion of prime agricultural land, which is also the case with the proposed project.



ALTERNATIVE PROJECT LOCATION

FIGURE 24

No earthquake faults occur in this area, but the soils in Coyote Valley are highly susceptible to liquefaction, a condition not found on the proposed project site. This area is also subject to seasonally high groundwater levels, and in some areas groundwater rises to the surface in winter, causing localized ponding. Thus, any structures would need to be constructed on fill pads, a constraint not found on the proposed project site.

Flooding is a common problem along Fisher Creek, a tributary of Coyote Creek which flows from south to north through the area. During major storm events, sheet flows inundate much of the western portion of the valley. This potential flooding would not act as a major constraint to the golf course itself, although the clubhouse and residential areas would need to be elevated above the 100-year flood elevation. Flooding is also a constraint on the eastern portion of the proposed project site, although conditions at the Lion's Gate site can be mitigated on-site as part of the project.

Biologically, the Coyote Valley site has little in the way of vegetation and trees, except for scattered oaks along the base of the hillsides, and there are no species of concern present. However, there are areas of seasonal wetland which would be subject to Corps jurisdiction, as would the channel of Fisher Creek. The total area of wetlands affected would likely be significant. Thus, while the alternative site would not involve impacts to special species habitats as would occur on the project site, it would probably result in substantially more elimination of wetland habitat.

In terms of cultural resources, the Coyote Valley site would not involve significant impacts to archeological resources, while potential impacts to cultural resources at the project site would be avoided or fully mitigated.

Visually, the Coyote Valley site is not aesthetically remarkable, nor does it lie within a major viewshed along a heavily-traveled route. The construction of the project here would not result in significant visual impacts. Although the proposed project site is in a visible location along a major local roadway, little of the site can actually be seen from off-site viewpoints, and landscaped berms and setbacks would be provided for visual screening and buffering, thus mitigating the potential visual impact.

Traffic generated by the golf course and residential subdivisions would be relatively light, and would not result in level of service impacts at either the Coyote Valley site or the proposed project site. Likewise, noise and air quality impacts would not be significant for either site.

The potential exposure to hazardous materials would be fully mitigated at both the project site and the alternative site in Coyote Valley.

There would be no potential exposure to electromagnetic fields at the Coyote Valley site since no high voltage power lines are present in the immediate vicinity. Exposure to EMFs would be avoided on the proposed project site by providing setbacks adequate for all structures.

Water supply for irrigation would likely be abundant for the Coyote Valley site, given the confined aquifer underlying the valley. Groundwater pumping for irrigation supply may even have the beneficial effect of lowering the high water table. Neither the alternative site nor the proposed project site would be subject to water supply constraints.

Wastewater treatment and disposal would likely be problematic for the Coyote Valley site. The presence of high groundwater would probably preclude leachfields, so reclamation involving spray irrigation of treated effluent over the golf course would be the only feasible option. This would necessitate a package treatment plant and a reservoir for the winter storage of treated effluent. Again, the high groundwater poses a constraint to the reservoir, which would need to be sealed or located upslope in the adjacent hills to prevent leaching into the groundwater. There are no constraints to wastewater disposal at the proposed Lion's Gate site.

The impacts on public services and utilities would be essentially the same at the Coyote Valley site as at the proposed project site.

In summary, an alternative project location in Coyote Valley would involve generally greater constraints and impacts than the proposed Lion's Gate site. Therefore, an alternative site in Coyote Valley would not represent an environmentally superior alternative to the proposed project site.

F. SUMMARY - ENVIRONMENTALLY SUPERIOR PROJECT ALTERNATIVE

Of the 5 project alternatives considered above, all but 2 would result in generally greater levels of impact than the project as proposed. The alternatives with greater impacts include the No General Plan Amendment Alternative, the Higher Density Residential Alternative and the Alternative Project Location in Coyote Valley. Of the remaining two alternatives, the lower Residential Density Alternative would result in slightly lower levels of impact in some categories, but the difference would not be substantial. The No Project Alternative would avoid the potential impacts of the proposed project, and therefore would represent the environmentally superior alternative. However, this alternative was not selected because it does not meet the project objective of developing the site for a championship golf course and 41 residential lots as proposed.

G. ALTERNATIVES FOR WASTEWATER TREATMENT AND DISPOSAL

As discussed in Section III. *Q. Wastewater Treatment and Disposal*, two alternative systems were studied for the proposed project. One alternative would place the residential portions of the project on individual septic systems, while serving the main golf course facilities with a centralized system as proposed. The second alternative would involve placing the entire project on conventional gravity sewers, with centralized treatment of all wastewater, and without the use of septic tanks at the residential lots or at the golf course facilities. Each of these alternatives is discussed below.

Individual Residential Septic Systems

Under this alternative, all of the residential lots, as well as the equestrian center and the swim and tennis center, would be on individual leachfields for the disposal of effluent. The treatment facilities for the main golf course facilities would be the same as for the proposed project, except that they would be reduced in scale without the residential component.

Although all proposed residential lots have sufficient separation from groundwater and adequate soil percolation characteristics, the level of treatment provided by leachfields would not be as high as the proposed secondary treatment and spray irrigation system. Thus the nitrate loading from individual septic systems would be greater than it would be under the proposed system. Given the elevated nitrate levels that already exist in the Llagas Groundwater Basin, this alternative would result in a lower quality of effluent to be disposed than the proposed system. In addition, individual septic systems would not be subject to the maintenance and management authority of a public district and certified wastewater personnel, while the centralized system proposed would include this higher level of operational management.

In other respects, there would be no significant difference in environmental effect between the on-site leachfield alternative and the proposed wastewater system.

Conventional Gravity Sewers

This alternative would involve placing the entire project on conventional gravity sewers. Thus there would be no individual septic tanks at the residential lots or the golf course facilities. The treatment plant would therefore include an additional screening and sludge handling process, with disposal of sludge at an approved landfill site. Also, the treatment plant would require additional emergency storage, to make up for the extra storage provided by the septic tanks and lift stations under the proposed system.

Since this system would not utilize individual leachfields, the potential nitrate loading would be about the same as for the proposed treatment system. However, the centralized handling and screening of solids at the treatment plant site would result in a greater potential to generate unpleasant odors than the proposed system.

In other respects, there would be no significant difference in environmental effect between the conventional gravity sewer alternative and the proposed wastewater system.

VI. GROWTH-INDUCING EFFECTS OF THE PROPOSED PROJECT

Section 15126(g) of the CEQA Guidelines stipulates that the growth-inducing impact of a project be addressed, as follows: "[d]iscuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment."

Precedent for Further Development

The proposed project reflects the level of development that would be permitted under the existing zoning and General Plan designations applicable to the property. Although the proposed action includes a General Plan Amendment and rezoning on approximately 260 acres of the site, this change would not affect the intensity of development allowed but is intended to facilitate the more efficient and environmentally sensitive clustering of residential units on the site. Since the project would not result in an intensification of development beyond that already permitted on the site, it would not set a precedent for allowing more intense growth than permitted under the General Plan for other similarly situated properties in the County.

The potential for inducing residential growth in the adjacent area of San Martin Planning Area to the east is a possibility, but this area has already been planned for Rural Residential development under the San Martin Community Plan. If the construction of rural residential projects in the planning area accelerates as a result of the Lion's Gate project, such growth would be planned and designed in the manner already prescribed by the Community Plan. There is a narrow band of land bordering the site on the southeast and extending southward along the base of hillsides that is designated "Agriculture-Medium Scale" in the County General Plan. It is possible that the approval of the General Plan Amendment from "Agriculture-Medium Scale" to "Hillsides," as proposed for the Lion's Gate project, could result in proposals for similar General Plan Amendments for these lands to the south. However, the net effect of such redesignations would be imperceptible since the minimum lot size for the two designations is the same, at 20 acres. Thus such General Plan Amendments would not increase the permitted density of development. However, if any such parcels are large enough to be subject to the clustering provisions of the Hillside Zoning Ordinance, a change in the character of such development could result. However, since clustering of residential development with open space preservation is preferable to the creation of 20-acre residential parcels, this would represent a positive change.

Additional Development Attracted by the Golf Course

There is a potential for golf course projects to act as a magnet for residential development on contiguous parcels, and possibly also commercial development. In the case of the Lion's Gate project, much of the demand for contiguous residential development would be taken up by the 41 lots proposed for the project itself. With the on-site preservation of open space buffers on all sides of the golf course and residential subdivisions, there would be no further opportunity for additional residential development adjacent to or within sight of the golf course. Although the golf course would be visible from adjacent properties to the north, this area has already been fully developed with 20-acre residential parcels. Since the adjacent areas to the east are already designated Rural Residential, at worst the Lion's Gate project could have an accelerating effect on the residential built-out of this area of San Martin.

On the western side of the project site, along Watsonville Road, the attraction for residential development would be weak since the golf course would be almost one mile away and out of sight, and because no public access to the golf course would be available from the west.

The potential for the golf course project to attract commercial development would be somewhat diminished by the provision of services such as overnight accommodations and a restaurant within the Lion's Gate project itself. Any proposals for nearby commercial development outside the project boundaries would be subject to the San Martin Community Plan, which firmly establishes the central area of San Martin as the commercial center, and the outlying areas near the Lion's Gate site as Rural Residential. Thus for a commercial project to be located near the Lion's Gate site would require an amendment to the County General Plan and the San Martin Community

Plan. Since there is no precedent for such a land use change in the area, such a proposal would have little chance of success.

Growth Induced by Increased Infrastructure Capacities

In cases where projects result in the extension of service capacities beyond the needs of the project, further growth could be accommodated thereby. In the project case, the West San Martin Water Works would provide domestic water service to the site, but pipes would be sized as needed to service the project, without excess capacity. The wastewater treatment and disposal system proposed for the project would not have any excess capacity beyond what is needed for the project. Thus the project would not induce further growth through the creation of excess service capacities which could serve other future development nearby.

Stimulus for Economic Growth

The proposed golf course would stimulate economic growth through direct employment, as well as indirect growth by increasing the demand for goods and services. This would contribute to incremental secondary effects such as increased hiring by suppliers. Given the relatively low level of economic activity that would result from the project, the indirect impacts from this minor increment of economic growth would not be significant.

The proposed residential development on the site would not induce direct economic growth since it would not create new permanent employment opportunities, as compared with industrial or commercial development. Residential development is generally considered a product rather than a cause of economic growth. However, during the construction phase, temporary jobs would be created and others supported in the purchase of materials. The project would also have a minor secondary impact on economic growth resulting from the consumer demand for goods and services by future residents.

Population and Housing Growth

The project would result in the direct creation of jobs at the golf course, and some indirect employment would be generated at suppliers and service companies. To the extent that employees of the country club would not already live within commuting range of the Lion's Gate project, there could be a slight increase in housing demand in the area. However, this minor increase in potential housing demand would not be significant.

In summary, the proposed project would not result in significant growth inducement by way of setting a precedent for similar projects, attracting additional growth to the area, creating excess infrastructure capacity, stimulating significant economic growth, or by generating significant unmet demand for housing.

VII. SIGNIFICANT UNAVOIDABLE IMPACTS AND IRREVERSIBLE ENVIRONMENTAL CHANGES

As discussed throughout this EIR, the project would not result in significant unavoidable impacts. The project would result in irreversible environmental changes. The alteration of site topography, while relatively minor, would represent an essentially permanent change since it is unlikely that the site would ever be returned to its existing topography. The construction of the proposed residences would also be a permanent change. The construction of golf course itself would not represent an irreversible change, but the proposed clubhouse and overnight complex would essentially be permanent. The change in character of the developed portions of the site from semi-natural open space to a managed open space character dominated by human activity would likely be a permanent change. Beneficial changes resulting from the project would include: the protection of over 1,200 acres as permanent open space; the provision of a trail easement to allow a cross-site trail connection; and the enhancement of over one mile of riparian corridor along the on-site reach of West Branch Llagas Creek.

Other irreversible changes resulting from the project would include the consumption of non-renewable building materials and energy resources during the construction phase, and the on-going consumption of energy for lighting, air conditioning, space and water heating, and travel to and from the site during project operation.

VIII. VIEWS OF LOCAL GROUPS

In response to the Notice of Preparation (NOP) for this EIR, the County of Santa Clara Department of Planning and Development received several letters from local groups and individuals including the Loma Prieta Chapter of the Sierra Club, the Greenbelt Alliance, and Gretchen K. Koch. These letters are included in Appendix A of this EIR. The main concerns raised in these letters are listed below.

SIERRA CLUB - LOMA PRIETA CHAPTER

- Preclusion of site for use as a water reservoir
- Impacts on groundwater levels
- Potential flooding
- Impacts of golf course chemicals
- Effect on existing groundwater nitrate contamination
- Wildlife impacts
- Traffic
- Air quality
- Noise
- Hazardous materials
- Impacts on emergency response times
- Cumulative impacts
- Growth inducement

GREENBELT ALLIANCE

- Growth-inducing impacts
- Impacts on the overall watershed system including Llagas Creek and the riparian corridor, the natural spring and underground water quality
- Impact on local water supply
- Impact on wildlife corridors and habitat areas
- Compliance with General Plan environmental policies for golf courses

GRETCHEN K. KOCH

- Loss of riparian corridor
- Water contamination from the golf course
- Impacts to trees and wildlife
- Scale of commercial development
- Conversion of natural open space
- Management of the permanent open space area
- Possibility of future development of the permanent open space area
- Inducement of urbanization in West San Martin
- Wildfire hazard
- Police protection
- Drying up of small wells in the area
- Water usage by the golf course
- Exacerbation of existing groundwater contamination
- Traffic generation
- Archaeological resources and Native American burials

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[NOTE: Additional references are found in the technical reports contained in the appendices to this EIR.]

B. PERSONS AND ORGANIZATIONS CONSULTED

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[NOTE: Persons and organizations consulted in the preparation of the technical reports are not listed here.]

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APPENDIX A

Responses to Notice of Preparation (NOP)

ENCLOSURE A

LISTED AND PROPOSED ENDANGERED AND THREATENED SPECIES AND
CANDIDATE SPECIES THAT MAY OCCUR IN THE AREA OF
SANTA CLARA COUNTY, CALIFORNIA
(1-1-94-TA-865, APRIL 13, 1994)

Listed Species

Fish

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

Birds

bald eagle, *Haliaeetus leucocephalus* (E)
American peregrine falcon, *Falco peregrinus anatum* (E)
Aleutian Canada goose, *Branta canadensis leucopareia* (T)
California brown pelican, *Pelecanus occidentalis californicus* (E)
California clapper rail, *Rallus longirostris obsoletus* (E)
California least tern, *Sterna antillarum (=albifrons) browni* (E)
western snowy plover, coastal population, *Charadrius alexandrinus nivosus* (T)

Mammals

salt marsh harvest mouse, *Reithrodontomys raviventris* (E)
San Joaquin kit fox, *Vulpes macrotis mutica* (E)

Invertebrates

bay checkerspot butterfly, *Euphydryas editha bayensis* (T)

Proposed Species

Amphibians

California red-legged frog, *Rana aurora draytonii* (PE)

Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (PE)
California linderiella, *Linderiella occidentalis* (PE)

Plants

Coyote Valley California-lilac, *Ceanothus ferrisae* (PE)
Santa Clara Valley dudleya, *Dudleya setchellii* (PE)
Metcalf Canyon jewelflower, *Streptanthus albidus* ssp. *albidus* (PE)

Candidate Species

Fish

green sturgeon, *Acipenser medirostris* (2R)
longfin smelt, *Spirinchus thaleichthys* (2)

Santa Clara County continued

Amphibians

California tiger salamander, *Ambystoma californiense* (2■)
western spadefoot toad, *Scaphiopus hammondi hammondi* (2R)
foothill yellow-legged frog, *Rana boylei* (2)

Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (2)
southwestern pond turtle, *Clemmys marmorata pallida* (2)

Birds

ferruginous hawk, *Buteo regalis* (2)
tricolored blackbird, *Agelaius tricolor* (2)
California horned lark, *Eremophila alpestris actia* (2)
loggerhead shrike, *Lanius ludovicianus* (2)
salt marsh common yellowthroat, *Geothlypis trichas sinuosa* (2)
Alameda (South Bay) song sparrow, *Melospiza melodia pusillula* (2)

Mammals

salt marsh vagrant shrew, *Sorex vagrans halicoetes* (1)
riparian brush rabbit, *Sylvilagus bachmani riparius* (1)
San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (2)
Pacific western big-eared bat, *Plecotus townsendii townsendii* (2)
greater western mastiff-bat, *Eumops perotis californicus* (2)

Plants

Mt. Hamilton harebell, *Campanula sharsmithiae* (2)
Mt. Hamilton thistle, *Cirsium fontinale* var. *campylon* (1)
South Bay clarkia, *Clarkia concinna* ssp. *automixa* (2)
northcoast bird's-beak, *Cordylanthus maritimus* ssp. *palustris* (2)
Mt. Hamilton coreopsis, *Coreopsis hamiltonii* (2)
clustered lady's-slipper, *Cypripedium fasciculatum* (2)
interior California larkspur, *Delphinium californicum* ssp. *interius* (2)
Hoover's button-celery, *Eryngium aristulatum* var. *hooveri* (1R)
talus fritillary, *Fritillaria falcata* (2)
fragrant fritillary, *Fritillaria liliacea* (2)
Contra Costa goldfields, *Lasthenia conjugens* (1)
delta tule-pea, *Lathyrus jepsonii* ssp. *jepsonii* (2)
smooth lessingia, *Lessingia micradenia* var. *glabrata* (2)
Gairdner's yampah, *Perideridia gairdneri* ssp. *gairdneri* (2)
Mt. Diablo phacelia, *Phacelia phacelioides* (2)
hairless allocarya, *Plagiobothrys glaber* (2)
rock sanicle, *Sanicula saxatilis* (2)
most beautiful (uncommon) jewelflower, *Streptanthus albidus* ssp. *peramoenus* (1)
Mt. Hamilton jewelflower, *Streptanthus callistus* (2)
showy Indian clover, *Trifolium amoenum* (2*)
caper-fruited tropidocarpum, *Tropidocarpum capparideum* (2*)

Santa Clara County continued

- (E)--Endangered (T)--Threatened (P)--Proposed (CH)--Critical Habitat
- (1)--Category 1: Taxa for which the Fish and Wildlife Service has sufficient biological information to support a proposal to list as endangered or threatened.
- (2)--Category 2: Taxa for which existing information indicated may warrant listing, but for which substantial biological information to support a proposed rule is lacking.
- (1R)--Recommended for Category 1 status.
- (2R)--Recommended for Category 2 status.
- (■)--Listing petitioned.
- (*)--Possibly extinct.

ENCLOSURE B

The goal of the U.S. Fish and Wildlife Service is to conserve, protect and enhance fish, wildlife, and their habitats by timely and effective provision of fish and wildlife information and recommendations. To assist us in accomplishing this goal, we would like to see the items described below discussed in your environmental documents for the proposed project.

Project Description. The document should very clearly state the purposes of, and document the needs for, the proposed project so that the capabilities of the various alternatives to meet the purposes and needs can be readily determined.

A thorough description of all permanent and temporary facilities to be constructed and work to be done as a part of the project should be included. The document should identify any new access roads, equipment staging areas, and gravel processing facilities which are needed. Figures accurately depicting proposed project features in relation to natural features (such as streams, wetlands, riparian areas, and other habitat types) in the project area should be included.

Affected Environment. The document should show the location of, and describe, all vegetative cover types in the areas potentially affected by all project alternatives and associated activities. Tables with acreages of each cover type with and without the project for each alternative would also be appropriate. We recommend that all wetlands in the project area be delineated and described according to the classification system found in the Service's Classification of Wetlands and Deepwater Habitats of the United States (Cowardin 1979). The Service's National Wetland Inventory maps would be one starting point for this effort.

The document should present and analyze a full range of alternatives to the proposed project. At least one alternative should be designed to avoid all impacts to wetlands, including riparian areas. Similarly, within each alternative, measures to minimize or avoid impacts to wetlands should be included.

Lists of fish and wildlife species expected to occur in the project area should be in the document. The lists should also indicate for each species whether or not it is a resident or migrant, and the period(s) of the year it would be expected in the project area.

Environmental Consequences. The sections on impacts to fish and wildlife should discuss impacts from vegetation removal (both permanent and temporary), filling or degradation of wetlands, interruption of wildlife migration corridors, and disturbance from trucks and other machinery during construction and/or operation. These sections should also analyze possible impacts to streams from construction of outfall structures, pipeline crossings, and filling. Impacts on water quality, including nutrient loading, sedimentation, toxics, biological oxygen demand, and temperature in receiving waters should also be discussed in detail along with the resultant effects on fish and aquatic invertebrates. Discussion of indirect impacts to fish, wildlife, and

their habitats, including impacts from growth induced by the proposed project, should also be addressed in the document. The impacts of each alternative should be discussed in sufficient detail to allow comparison between the alternatives.

The cumulative impacts of the project, when viewed in conjunction with other past, existing, and foreseeable projects, need to be addressed. Cumulative impacts to fish, wildlife, wetlands and other habitats, and water quality should be included.

Mitigation Planning. Under provisions of the Fish and Wildlife Coordination Act, the Service advises the U.S. Army Corps of Engineers on projects involving dredge and fill activities in "waters of the United States", of which wetlands and some riparian habitats are subcategories. Since portions of this proposal may ultimately require a Corps permit, the Service will subsequently be involved under the Coordination Act. Therefore, if you have not done so already, we suggest that you or your representative consult the Corps regarding onsite wetlands and related habitats that may fall under their jurisdiction, and include this information in the draft document. When reviewing Corps public notices, the Service generally does not object to projects meeting the following criteria:

1. They are ecologically sound;
2. The least environmentally damaging reasonable alternative is selected;
3. Every reasonable effort is made to avoid or minimize damage or loss of fish and wildlife resources and uses;
4. All important recommended means and measures have been adopted, with guaranteed implementation to satisfactorily compensate for unavoidable damage or loss consistent with the appropriate mitigation goal; and
5. For wetlands and shallow water habitats, the proposed activity is clearly water dependent and there is a demonstrated public need.

The Service may recommend the "no project" alternative for those projects which do not meet all of the above criteria, and where there is likely to be a significant fish and wildlife resource loss.

When projects impacting waterways or wetlands are deemed acceptable to the Service, we recommend full mitigation for any impacts to fish and wildlife. The Council of Environmental Quality regulations for implementing the National Environmental Policy Act define mitigation to include: 1) avoiding the impact; 2) minimizing the impact; 3) rectifying the impact; 4) reducing or eliminating the impact over time; and 5) compensating for impacts. The Service supports and adopts this definition of mitigation and considers the specific elements to represent the desirable sequence of steps in the mitigation planning process. Accordingly, we maintain that the best way to mitigate for adverse biological impacts is to avoid them altogether.

The document should describe all measures proposed to avoid, minimize, or compensate for impacts to fish and wildlife and their habitats. The measures should be presented in as much detail as possible to allow us to evaluate their probable effectiveness.

Because of their very high value to migratory birds, and their ever-increasing scarcity in California, our mitigation goal for wetlands (including riparian and riverine wetlands) is no net loss of in-kind habitat value or acreage (whichever is greater).

For unavoidable impacts, to determine the mitigation credits available for a given mitigation project, we evaluate what conditions would exist on the mitigation site in the future in the absence of the mitigation actions, and compare those conditions to the conditions we would expect to develop on the site with implementation of the mitigation plan.

Mitigation habitat should be equal to or exceed the quality of the habitat to be affected by the project. Baseline information would need to be gathered at the impact site to be able to quantify this goal in terms of plant species diversity, shrub and tree canopy cover, stems/acre, tree height, etc. The ultimate success of the project should be judged according to these same measurements at the mitigation site.

Criteria should be developed for assessing the progress of the project during its developmental stages as well. Assessment criteria should include rates of plant growth, plant health, and evidence of natural reproduction. Success criteria should be geared toward equaling or exceeding the quality of the highest quality habitat to be affected. In other words, the mitigation effort would be deemed a success in relation to this goal if the mitigation site met or exceeded habitat measurements at a "model" site (plant cover, density, species diversity, etc.).

The plan should present the proposed ground elevations at the mitigation site, along with elevations in the adjacent areas. A comparison of the soils of the proposed mitigation and adjacent areas should also be included in the plan, and a determination made as to the suitability of the soils to support habitats consistent with the mitigation goals.

Because wetland ecosystems are driven by suitable hydrological conditions, additional information must be developed on the predicted hydrology of the mitigation site. The plan should describe the depth of the water table, and the frequency, duration, areal extent, and depth of flooding which would occur on the site. The hydrologic information should include an analysis of extreme conditions (drought, flooding) as well as typical conditions.

The plan must include a time frame for implementing the mitigation in relation to the proposed project. We recommend that mitigation be initiated prior to the onset of construction. If there will be a substantial time lag between project construction and completion of the mitigation, a net loss of habitat values would result, and more mitigation would be required to offset this loss.

Generally, monitoring of the mitigation site should occur annually for at least the first five years, semi-annually for years 6 through 11, and every five years thereafter until the mitigation has met all success criteria. The monitoring period should begin again if success criteria are not met during the first five years. Some projects will require monitoring throughout the life of the project. Reports should be prepared after each monitoring session.

The plan should require the preparation of "as-built" plans. Such plans provide valuable information, especially if the mitigation effort fails. Similarly, a "time-zero" report should be mandated. This report would describe exactly what was done during the construction of the mitigation project, what problems were encountered, and what corrections or modifications to the plans were undertaken.

The plan should detail how the site is to be maintained during the mitigation establishment period, and how long the establishment period will be. It will also be important to note what entity will perform the maintenance activities, and what entity will ultimately own and manage the site. In addition, a mechanism to fund the maintenance and management of the site should be established and identified. A permanent easement should be placed on the property used for the mitigation that would preclude incompatible activities on the site in perpetuity.

Finally, in some cases, a performance bond may be required as part of the mitigation plan. The amount of the bond should be sufficient to cover the costs of designing and implementing an adequate mitigation plan (and purchasing land if needed) should the proposed plan not succeed.

Reference

- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. FWS/OBS-79/31. U.S. Fish and Wildlife Service, Washington, D.C. 103 pp.

DEPARTMENT OF FISH AND GAME

POST OFFICE BOX 47
YOUNTVILLE, CALIFORNIA 94599
(707) 944-5500



April 20, 1994

Ms. Jaunell Waldo
County of Santa Clara
70 West Hedding Street
San Jose, California 95110

Dear Ms. Waldo:

Lion's Gate Project, File #4039-67-28-93
Notice of Preparation (NOP) of a
Draft Environmental Impact Report (DEIR)

Department of Fish and Game personnel have reviewed the NOP of a DEIR for the proposed Lion's Gate project. The project involves creation of 55 residential lots and a golf course on a 1200-acre parcel south of Morgan Hill. We believe the following issues need to be addressed in the DEIR.

The DEIR should address potential impacts to biotic resources and mitigation measures, as well as alternatives which would avoid impacts. Particular attention needs to be paid to State- and Federally-listed and candidate species, and unlisted species whose status is of regional concern. We request that subsequent documents related to this project be submitted for our review.

Specific measures to adequately mitigate unavoidable impacts need to be incorporated into project design prior to certification of the EIR. The Department recommends the following overall measures to lessen or minimize impacts.

1. Avoidance or minimization of impacts to important plant and wildlife habitats.
2. Revegetation using native species.
3. Conformance with the Department's Wetland Policy which requires no net loss of either wetland acreage or habitat value for unavoidable impacts.
4. Require a 100-foot setback from the edge of riparian vegetation to protect riparian habitat.

The Department has direct jurisdiction under Fish and Game Code sections 1601-03 in regard to any proposed activities that would divert or obstruct the natural flow or change the bed, channel, or bank of any stream. We recommend early consultation since modification of the proposed project may be required to avoid

Ms. Jaunell Waldo
April 20, 1994
Page Two

impacts to fish and wildlife resources. Formal notification under Fish and Game Code Section 1603 should be made after all other permits and certifications have been obtained. Work cannot be initiated until a streambed alteration agreement is executed.

The U. S. Army Corps of Engineers also has jurisdiction over the discharge of fill to streams and wetlands under Section 404 of the Clean Water Act. We recommend that the Corps be contacted to determine if they have jurisdiction and require a permit.

If you have any questions regarding our comments, please contact Jeannine M. DeWald, Associate Wildlife Biologist, at (408) 429-9252.

Sincerely,

Ken Aasen
for

Brian Hunter
Regional Manager
Region 3

STATE OF CALIFORNIA - THE RESOURCES AGENCY

PETE WILSON, Governor

DEPARTMENT OF CONSERVATION

DIVISION OF ADMINISTRATION
DIVISION OF MINES AND GEOLOGY
DIVISION OF OIL AND GAS
DIVISION OF RECYCLING



801 K Street
SACRAMENTO, CA 95814-3514

May 11, 1994

Telecommunications
Device for the Deaf
(916) 324-2555
Correspondence Telephone
(916) 443-8733
Fax
(916) 324-0048

Jaunell Waldo
Santa Clara County Advanced Planning
Environmental Planning Section
Gov. Center, East Wing, 7th floor
70 W. Hedding Street
San Jose, CA 95110

Dear Jaunell Waldo:

Subject: Notice of Preparation (NOP) of a Draft Environmental
Impact Report (DEIR) for the Lion's Gate project.
SCH# 94043016

The Department of Conservation (Department) has reviewed the County of Santa Clara's DEIR for the project referenced above. The Department monitors farmland conversion on a statewide basis and administers the California Land Conservation (Williamson) Act. No Williamson Act lands have been identified on or directly adjacent to the proposed project site. Since the project could have environmental impacts on other agricultural lands, however, the Department offers the following comments.

The project proposes to develop a residential cluster of up to 55 two-acre lots plus open space on approximately 1200 acres of non-prime land with 90% of the cluster area retained as open space. The project also includes construction of an 18-hole public daily fee championship golf course and a small 5,000 square-foot clubhouse on approximately 200 acres. In addition, five (5) parcels at 20 acres each will be created on that portion of the site designated for medium scale agriculture.

The DEIR should provide information on the number of acres of agricultural land to be developed, the potential agricultural value of the site, the impacts of farmland conversion, and possible mitigation actions. Specifically, we recommend that the DEIR contain the following information to ensure the adequate assessment of impacts in these areas.

- o The agricultural character of the planning area, including:
 - Types and relative yields of crops grown.
 - Agricultural potential of the area's soils, as defined by the Department's Important Farmland series mapping.

Jaunell Waldo
May 11, 1994
Page Two

o **Impacts related to soil erosion:**

The Department recommends development of a control plan for soil erosion and sedimentation at the project by a Certified Professional Erosion and Sediment Control (CPESC) Specialist. That plan should outline specific strategies for long term control of soil erosion within the site. The Department also recommends that the following information be included regarding the project site:

- Soil types and inherent erodibilities (water/wind) maps
- Slopes and slope lengths, before and after grading.
- Vegetative cover, before and after development.
- Wind speeds, as well as duration and distance of exposure in direction of prevailing winds.
- Estimates of water and wind induced soil erosion likely to result from land disturbances due to site development.

o **Farmland Conversion Impacts:**

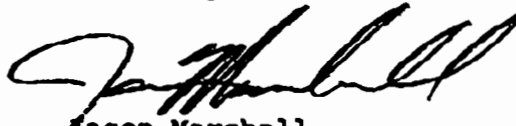
- Type, amount and location of farmland conversion expected to result from implementation of the specific plan.
- Impacts on current and future agricultural operations.
- Cumulative and growth-inducing impacts of the plan.

o **Mitigation measures/alternatives to lessen conversion impacts:**
Public Resource Code 21081.6 requires public agencies to adopt reporting or monitoring programs for project changes which mitigate or avoid significant environmental impacts. Possibilities include:

- Protecting other, existing farmland of equivalent, or better, quality through planning policy that relies on an active and strategic use of the Williamson Act.
- Establishing setbacks, berms, greenbelts and open space buffer areas to separate farmland from urban uses.
- Implementing right-to-farm ordinances to diminish nuisance impacts of urban uses on neighboring agricultural operations, and vice-versa.
- Adopting a farmland protection program utilizing planning tools such as transfer of development rights, purchase of development rights or conservation easements, and trusts.

The Department appreciates the opportunity to comment on the NOP. If I can be of further assistance, please feel free to call me at (916) 455-8733.

Sincerely,



Jason Marshall
Environmental Analyst

cc: Kenneth F. Trott
Office of Land Conservation

Loma Prieta Resource Conservation District

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD —
CENTRAL COAST REGION**

81 HIGUERA STREET, SUITE 200
SAN LUIS OBISPO, CA 93401-5427
(805) 549-3147



April 15, 1994

Jaunell Waldo
Santa Clara County
Advance Planning Office
County Government Center, East Wing, 7th Floor
70 West Hedding Street
San Jose, CA 95110

Dear Ms. Waldo:

RESPONSE TO NOTICE OF PREPARATION, LION'S GATE, SANTA CLARA COUNTY (SCH # NA)

Thank you for the opportunity to review your March 25, 1994 initial study regarding the proposed project. The project proponent may be required to address the following issues:

1. For construction projects with land disturbance activities greater than five acres which discharge storm water to surface waters, a National Pollutant Discharge Elimination System storm water permit is required.
2. If any part of the project is conducted below the ordinary high water mark, resulting in the discharge of dredge or fill material under permit from the U.S. Army Corps of Engineers, then a recommendation of water quality certification or waiver will be required from this office. The proponent will be required to mitigate project impacts to beneficial uses and ensure that water quality standards are maintained.

Your agency should address potential impacts and required permitting regarding the above issues.

If you have any questions, please contact Adam White (805) 549-3694 between the hours of 8--10 a.m. and 1--5 p.m. Monday through Friday.

Sincerely,

A handwritten signature in black ink, appearing to read "Roger W. Briggs", is positioned above the printed name.

ROGER W. BRIGGS
Executive Officer

AW/III:lion.ltr

c: State Clearinghouse
1400 Tenth Street
Sacramento, CA 95814



MEMORANDUM

DATE: April 28, 1994

TO: ✓ Jaunell Waldo
Advance Planning Office

FROM: Ashok Vyas
T/A Land Development

SUBJECT: Notice of Preparation (NOP) of a Draft Environmental Impact Report
Lion's Gate - Watsonville Road

Your March 25, 1994 NOP along with the attachments has been reviewed. Our comments are as follows:

- (1) The Draft EIR should include a traffic analysis addressing the traffic impacts of the potential traffic generated due to the project. The traffic report should include the necessary mitigation measures and also identify the funding source of the required mitigation.
- (2) At the time of the site development, the developer will be required to meet the County's standard dedication and improvement policies as related to County maintained road ways adjacent to the project.
- (3) The site is located in a drainage/flooding problem area. At the time of the development, the developer will be responsible to show that the surface runoff from the site is carried to an acceptable outfall of adequate capacity.
- (4) A County encroachment permit should be obtained prior to the beginning of any work within the County's right-of-way.
- (5) We may have additional comments at the time of future reviews.
- (6) On April 21, 1994 the Transportation Consultants have faxed us trip distribution assumptions for the proposed project. We will respond to the consultants after we have completed our review.

Please call me at X4208 if you have questions.

Thank you for the opportunity to review this matter.

cc: HK, AKC, MA, File

County of Santa Clara

Environmental Resources Agency
Department of Environmental Health

Central Office
2220 Moorpark Avenue, East Wing, Room 100
San Jose, California 95128-2690
(408) 299-6060 FAX 298-6261



MEMORANDUM

Date: April 27, 1994

To: Juanell Waldo

From: Art Kaupert *AK*
Sr. Environmental Health Specialist

Re: File # 4039: EIR Notice of Preparation

This Department has reviewed the referenced notice of preparation, and suggests that the following items be addressed in the EIR.

1. The additional nitrate loading on the ground water, from the proposed septic systems, should be discussed.
2. Soils analysis and percolation testing done to evaluate the suitability of the site for septic systems, and the size of those systems, must be accomplished under supervision of the Department of Environmental Health.
3. A geotechnical report will be required where septic systems are proposed to be installed on slopes in excess of 20%. The Department of Environmental Health should be contacted for details.
4. The anticipated use of the clubhouse should be discussed, including any adjacent swimming pool, snack bar, etc.
5. Any site assessment for hazardous materials contamination must be coordinated through the Department of Environmental Health.
6. The temporary handling and storage of any construction related hazardous materials should be discussed: Submission and approval of a plan, etc.

County of Santa Clara

Environmental Resources Agency
Parks and Recreation Department

298 Garden Hill Drive
Los Gatos, California 95030
(408) 358-3741 ~~FAX 358-3751~~



April 26, 1994

Juanell Waldo, Associate Planner
Advance Planning Office
County of Santa Clara
70 W. Hedding St., 7th Floor
San Jose, CA 95110

re: File #4039-67-28-93

Dear Juanell,

Santa Clara County Parks and Recreation Department has received and reviewed the Notice of Preparation of a Draft Environmental Impact Report for the Lion's Gate project in Hayes Valley, South Santa Clara County. The Notice of Preparation concerns the proposed development of a residential cluster subdivision, 18 hole golf course, 20 acre agricultural lots and 1200 acres of dedicated open space.

The Draft EIR should address the following items regarding Parks, Recreation and Open Space;

- The Regional Parks, Trails, and Scenic Highways element of the County General Plan indicates a regional trail along Watsonville Road. The standard trail easement dedication is 25 feet wide. This alignment should take into account future widening of Watsonville Road. The trail will be multi use, i.e., equestrian, pedestrian and bicycling.
- The Regional Parks, Trails, and Scenic Highways element of the County General Plan designate Watsonville Road as a state scenic route.
- The Report of the Preservation 2020 Task Force regarding the Hayes Valley area designates Watershed, Viewshed and Buffer values as resources to be protected.
- Responsibility for the management of the dedicated Open Space area should be addressed. Additionally, the DEIR should evaluate the potential for inclusion of the open space within the Santa Clara County Open Space Authority.

Santa Clara County Parks and Recreation appreciates the opportunity to review and comment on the subject NOP. Please forward a copy of the DEIR to our offices when the document becomes available.

Sincerely,

Mark Frederick
Park Planner

cc: David Pierce
file:CPO:4039-93:Hayes

H:\MFmf\CPO\4039



Board of Supervisors: Michael M. Honda, Zoe Lofgren, Ron Gonzales, Rod Diridon, Dianne McKenna

County of Santa Clara

Environmental Resources Agency

Integrated Waste Management Program (408) 441-1198
Pollution Prevention Program (408) 441-1195
1735 North First Street, Suite 275
San Jose, California 95112
FAX (408) 441-0365



TO: Jaunell Waldo
Advance Planning Office

FROM: Michael Perry *MP*
Integrated Waste Management Program

DATE: April 19, 1994

SUBJECT: Preparation of Draft EIR for Lion's Gate Project

Post-It™ brand fax transmittal memo 7671 # of pages • 1	
To <i>Jaunell Waldo</i>	From <i>Michael Perry</i>
Co.	Co.
Dept.	Phone # <i>441-1198</i>
Fax # <i>279-8537</i>	Fax # <i>441-0365</i>

The scope and content of environmental information related to the Integrated Waste Management Program which should be included in the Draft EIR is as follows:

During the planning stage of the project:

- What will be the impact of this construction project on solid waste generation?
- How can solid waste generation be minimized during construction of this project? For solid waste that is generated, how can the impact on landfill capacity be mitigated through recycling and yard waste collection programs?
- What can be designed into the project to minimize solid waste generation by Lion's Gate residents, the golf course, and the clubhouse once the area is inhabited? What can be designed into the project to aid recycling and yard waste collection once the area is inhabited?
- Adequate storage space for recycling containers is required by County ordinance in all new development projects. Provisions should be made to comply with this ordinance.

Once construction is completed:

- Garbage collection/recycling service is mandatory for unincorporated area residences and businesses. Provisions should be made to ensure that upon occupancy of each single family residence (upon close of escrow?) and upon the commencement of business at the golf course and clubhouse, South Valley Disposal and Recycling, Incorporated (the franchised residential and commercial garbage hauler) is notified of new service addresses so service can be initiated.
- Golf course and clubhouse management should make provisions for recycling collection and either on-site composting or collection and transportation of green waste generated by the golf course to a compost processing facility.

**County of Santa Clara
Environmental Resources Agency
Land Development Engineering & Surveying Office**

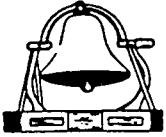


MEMORANDUM

Date: March 30, 1994
To: Jaunell Waldo
From: Muriel Fulford
Re: File # 4039-67-28-93 Lion's Gate. Scope of Wor

The section on Water Quality in the above referenced EIR should also contain an assessment of, and mitigations for, the pollution of stormwater that will be generated from the golf course once it is operational. The use of fertilizer, herbicides and pesticides is usually quite heavy in order to maintain a good golfing surface, and these chemicals can cause harm to wildlife and habitat when they are washed into the stormwater and into the receiving waters (in this case Monterey Bay, a wildlife refuge).

The regulating agency that issues National Pollutant Discharge Elimination System (NPDES) permits for the Hayes Valley area is the Central Coast Regional Water Quality Control Board, and a Stormwater Management Plan prepared in compliance with a General Construction Permit must contain measures to control post-construction pollution, as well as control measures to minimize pollution during the construction phase.



Gilroy Unified School District

Serving the Youth of Gilroy Since 1852

7810 Arroyo Circle • Gilroy, California 95020 • Telephone: (408) 847-2700 • Fax: (408) 842-1158

Kenneth A. Noonan, Superintendent

April 26, 1994

Jaunell Waldo
Associate Planner
Advance Planning Office
Environmental Planning Section
County of Santa Clara
East Wing, 7th Floor
70 W. Hedding Street
San Jose, California 95110

Subject: **Response to Notice of Preparation:
Lion's Gate Project, Hayes Valley**

Dear Ms. Waldo:

The Notice of Preparation indicates that school capacity impacts will be addressed as both project-specific public service impacts and as part of the project's cumulative impacts. We will closely review the EIR's analysis of these impacts.

The map provided with the Notice of Preparation did not clearly show whether the residential portions of the proposed project fall in the Gilroy or Morgan Hill school district. This issue should be addressed in much more clarity in the EIR.

The EIR should address the need for a paved bus pull-out or on-site turn around location for school buses.

For information on impacts to the Gilroy Unified School District, please contact me at (408) 847-2230.

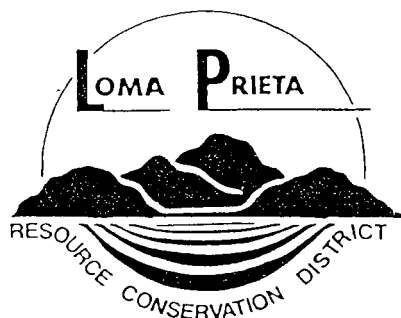
Thank you for the opportunity to respond on this project.

Sincerely,

Teresa M. Wenig
Director of Facilities & Planning

TMW/mh

Board of Education



8352 Church Street, Suite D
Gilroy, California 95020
(408) 847-4161

April 20, 1994

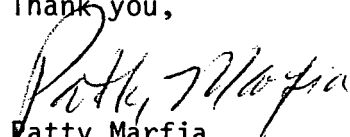
Jaunell Waldo
County of Santa Clara
Advance Planning Office
Environmental Planning Section
County Government Center
East Wing, 7th Floor
70 W. Hedding St.
San Jose, Ca. 95110

Dear Jaunell,

Thank you for the opportunity to respond to the Notice of Preparation for Hayes Valley Project.

The Board met April 19, for their regular monthly meeting. The preparation of the DEIR was reviewed. The only issue that did not seem to be addressed was the fact that; Some years back, the Gavilan Water District recognized that this site was the only feasible location for a future South County reservoir. We hope that this has been considered in the plan for development. Other than this important issue all other topics seem to be covered.

Thank you,


Patty Marfia,
District Clerk



SIERRA CLUB • LOMA PRIETA CHAPTER

San Mateo • Santa Clara • San Benito Counties

April 21, 1994

To: Jaunell Waldo, Associate Planner
From: Julia Bott/Loma Prieta Chapter, Sierra Club
Re: Lion's Gate Notice of Preparation (file # 4039-67-28-93)

Attached are the Loma Prieta Chapter's comments on the Scope of Work for the Draft Environmental Impact Report to be prepared for the Lion's Gate Project.

Hydrology and Flooding

We are very concerned that the project will also impact ground water levels (and also quality—see below). The Scoping document does not indicate that the project's impacts on ground water levels will be addressed. How will the potential impact of flooding be determined? What impact will the flood mitigation have on ground water? How will this mitigation plan be monitored? Will the funneling of run-off from the impervious surfaces to a storm drain system decrease the natural recharge of the aquifer? How will the potential for this impact be measures? Will all three components of the project be served by San Martin Water Company? Will there be any auxiliary or back-up wells? Will agricultural or residential wells be allowed? What impact will these have on the ground water level?

Water Quality

We are very concerned that the project will also impact the quality of the region's ground water. We do not believe it is adequate to base conclusions upon the statement "The project sponsor indicates....chemicals will be minimized..." The EIR should include an impact analysis of at least 3 detailed chemical management options (high, medium, minimized). What impact will the project have the nitrate problem found in the region's ground water?

We believe that subsurface flow and quality should be monitored as part of the EIR process so as to determine the current status. Further, a continued monitoring plan should be required as part of any mitigation monitoring plan.



Sierra Club • Loma Prieta Chapter
3921 East Bayshore Road, Suite 204
Palo Alto, CA 94303
415 390-8411
FAX 415 390-8497

Gretchen K. Koch

12835 Coolidge Avenue
San Martin, CA 95046

Telephone (408) 683-4799

Juanell Waldo, Associate Planner
County of Santa Clara, California
Advance Planning Office, Environmental Planning Section
County Government Center, East Wing, 7th Floor
70 West Hedding Street
San Jose, Ca 95110

April 20, 1994

Dear Juanell:

As a neighbor of the projected Lions Gate Project, file # 4039-67-28-93
proposed project. I am requesting that my concerns be included in the draft environment impact report. My
concerns are as follows:

VEGETATION AND WILDLIFE:

1. There will be a loss of the riparian corridor which links Little Llagas Creek (which is not shown on the map I received) to Llagas Creek. The creekbed is lined with native plants, oaks, willow and provides a water source and wildlife corridor. I am also concerned that this major drainage creek will become contaminated with chemical runoff from the golf course lining its banks. Not only will this contaminate the wildlife drinking water it will also eventually drain into the underground Llagas Aquifer which provides water for South County and add tremendously to the ever-increasing nitrate level.

2. The springs shown on the map are critical to the survival of the wildlife in Hayes Valley and should not include housing development /club house/golf course. They should be protected during all phases of the development so there will not be a loss of wildlife. It would appear that no water sources will be available for wildlife and that houses or golf course are planned in all the water areas.

3. When the greens are built the sandy damp soil will encourage grubs, worms, etc. Wildlife will attempt to dig up these greens in search of food. Many golf courses trap or kill the animals in order to protect their major investment. Because this is a remote and rural area there is much wildlife-what will be done to protect them?

4. There are golden eagles on the property (and many varieties of raptors in addition to Western Bluebirds, Meadowlarks, Orioles, woodpeckers, flickers, herons, warblers, goldfinches, owls, and other varieties of songbirds). The original research done was not adequate. A pair of golden eagles was observed last fall by Mr. Hix, his associates, and members of the Audoban Society, Sierra Club, the Native Plant Society and the Live Oaks Association. The eagles were perched on the power lines running close to where the club house is planned - an older bird and an young bird.

In addition, there are many Acorn Woodpeckers near the projected clubhouse area nesting along Little Llagas Creek. There is a huge dead oak tree located near the dirt road that crosses the creek at the West end. A representative of Hix development indicated that they would be removing that tree. That tree is full of thousands of acorns and is a "warehouse" tree for the woodpecker. Its removal could mean the loss of most of the woodpeckers food supply. I would hope this tree could be protected in some manner - it could be of interest to people who visit the area.

5. There are large areas full of oaks that must be at least 200-300 years old. They are located in the area where the golf course is planned. They will not survive the extensive watering of the course and cannot be replaced by seedlings (even though I know Mr. Hix has a "thousand acorns planted in coffee cans just waiting to be planted.") This is the developers idea of mitigating the removal of this old oak forest - it is not appropriate.

6. The valley floor is impassable all winter and much of spring due to large concentrations of water in the soil - it is very much a wetland area.

ZONING

1. It seems that some reassessment of the lands has been done recently and that the land is being viewed as several separate parcels rather than as a whole - 200 acres agriculture and the remaining lands hillside/ranchland.

It is very misleading to refer to lands as agriculture zoned, hillside/ranchlands zoned and then to allow a commercial non ag. development to occur. The impact to San Martin citizens who have repeatedly said again and again that want to remain a rural area will be immense. This is a large scale commercial development. This golf course is solely intended to draw large numbers of individuals into this rural area forever. The golf course cannot be considered as open space for it will be filled from dawn to dusk with hundreds of golf carts, golfers and lawn mowers not to mention thousands in attendance at tournaments. The valley and hillsides will be graded and forever change the natural topography of this pristine valley.

Perhaps a golf course is appropriately considered Open Space (or greenbelt) in an urban setting but it certainly cannot be considered either when it is built in a remote and rural area that is already "Open" such as the Hayes Valley. This is last wild and natural valley left in South County and the area is currently open space with very limited mowing of wild oats and a very small herd of cattle (35-40) - allowing this valley to become a public or private golf course will set a precedent for all of Santa Clara County. Ranchers and farmers who are anxious to sell will leap on the "golf course" bandwagon and Santa Clara County will have no rural lands left.

2. It is the impression of my neighbors that zoning of parcels in San Martin was restricted to 5 acres or more because it was discovered by the county that homes on smaller parcels did not have enough land mass to adequately handle the septic lines necessary for sewage. It would seem appropriate that all new construction be expected to conform to what all others have done. Again, a precedence will be built to allow for smaller (and smaller and smaller) parcels.

3. Who will be responsible for the Open Space? Will this be publicly held? What will it cost in terms of monitoring, etc. and who will pay? Will it be open for all public use? What type of use?

4. All useable lands appear to be scheduled for development -this certainly stretches the term "cluster". The homes are stretched along 200 acres - hardly clustered. In addition, the 100 + acres currently referred to as 5 "20 acre parcels" seems misleading. As a neighbor and Co-Chairman of C.A.R.E.S. I am concerned that these remaining acres will be resubdivided again and again at some future date depending upon who is elected County Supervisor in the future. Since the developer is not planning to request a General Plan Amendment it would seem prudent to bring all remaining lands into a county controlled open space area, so the issue of rezoning this parcel is not raised again. It would also seem more appropriate to build houses and the golf course at the Watsonville end of the valley. This area has no riparian corridor but is generally a flat wild oat field.

- Introduction of this golf course will forever urbanize all of West San Martin.

FIRE/POLICE/SAFETY

1. They are planning to build houses around the golf course and up into the hillsides. This is a major fire area, the west hillsides having burned 3 times in the last 13 years. The addition of thousands of golfers and tournament viewers with access to the dry lands will increase the fire danger tremendously. There appears to be only one public exit off Highland Ave - this is not adequate should a fire burn again in the Turlock/Highland area. Lives could be lost.

2. I do not believe the county or state has adequate manpower or equipment to protect the 55 planned homes or the golfers. Can you imagine someone tossing a cigarette out onto the dry hillsides on a windy day with the wind blowing from the South. The only exit would be for all the homeowners, golfers, staff to try and exit onto Highland Ave. while fire personnel are trying to enter at the same point. The steep valley hillsides will not allow escape by vehicle. Will the developer provide for additional manpower and equipment necessary to contain a fire of any magnitude in this valley.

3. There is very limited sheriff/highway patrol manpower available now. The addition of thousands of cars and people into this rural area will certainly increase crime, traffic problems, and accidents. Who will provide increased protection/ traffic management/fire safety & inspection - we need more safety officers now, we need safe places for our children to walk while they are going to and from the bus stop, we need safe places for bicyclists and horsebackriders. Coolidge and Highland were safe "pedestrian areas until Santa Teresa was cut through - There must be some plan for additional protection without further cost to a county and state already under a heavy burden. Will this create the necessity of widening and extension of Santa Teresa Blvd? This will create a whole new set of problems for local residents.

WATER/CONTAMINATION

1. Whose small wells will dry up when the golf course draws down the water from the Llagas Aquifer?
2. What will prevent contamination of the watershed/creek/underground aquifer?
3. Those of us who receive our water from the West San Martin Water Company have only 2" pipes connecting to our homes - not considered adequate for fire safety. Will we have loss of pressure if larger pipes are connected to the present system? Will we have loss of pressure when they are watering the course?
4. In the drought years we were never asked to conserve our water (although we certainly did). If a golf course is allowed with its massive water use will all be expected to cut back on current water use?
5. Citizens of Gilroy had to use alternate days to water and were expected to conserve water during these drought years. Many were fined and the city had a "water patrol". Since the golf course will be drawing water from the same source that Gilroy draws its water how will the citizens be affected? Since approval of the golf course would indicate that there is ample water will county officials make sure Gilroy citizens are no longer fined or expected to conserve? Who will monitor water use?
6. The current owner/builder may promise that there will be protection of the water system for small well owners, others connected to the W. San Martin Water Co. system, Gilroy citizens, etc. but what protection will be in place when he sells? Who will monitor this?
7. It is my understanding that the county has a study in progress to try and determine the cause and sources of all the nitrate contamination in South County and in particular the Llagas underground aquifer.. Since this golf course will not only draw vast amounts of water from it but will also constantly contaminate it (a very vicious circle) - it would seem prudent that this project be delayed until the nitrate contamination study is completed.

TRAFFIC

1. Assuming that this course will draw as many players as San Jose Muni or Santa Teresa Golf course the traffic would be horrendous! Both San Jose Muni and Santa Teresa have approximately 105,000 rounds of golf played on each course per year. Most golfers "meet" at the course to play. It appears that the course/development has been designed so all traffic enters at Highland & Turlock - there needs to be access from Watsonville Road also. How many 10's of thousands of trips per day will be added to this little rural road. Compared to the traffic Highland and Turlock have now (and Coolidge also) what percentage increase can we expect for traffic/accidents/etc. The widening of Coolidge will only create greater risk for those who must walk in its ditches. Most of us living here have had many near misses since Santa Teresa was cut through. There is constant speeding and the Highway Patrol does not have enough manpower to monitor the area except on rare occasions.

INDIAN BURIAL GROUNDS

1. It is my understanding that local residents have been finding human bones washed down Little Llagas Creek for years. In addition, pottery and Indian artifacts have also been found. I believe there are Indians buried all along the riparian corridor. I do not believe the Indian Community has been notified of this and feel they should be included in this process.

I would hope the riparian corridor and old oak forest and all springs and water sources could be part of the Open Space, publically held and protected forever.

Thank You.

April 21, 1994

Julia Bott/Loma Prieta Chapter, Sierra Club

Lion's Gate Notice of Preparation (file # 4039-67-28-93)

Vegetation and Wildlife

What protocol and other study parameters were used? We request that these be included in the EIR. What does "focused" surveys mean? Have studies occurred in all 4 seasons? Have studies occurred over more than one year? Have local residents been contacted for their wildlife observations? Have any wildlife corridors been identified? Will the studies include migratory habits of the region's animals?

Traffic

The traffic study should analyze impacts from all approaches (i.e. off Watsonville Rd and off Highland). Review should include assessing the impacts of each of the above as both primary and secondary approaches. How will number of car trips be determined?

Air Quality

What does project generated traffic mean? Does it include all maintenance vehicles for the course?

Noise

Ambient (before project) noise levels should be measured. The project should be compared to this as well as to "adopted County standards for maximum acceptable noise levels."

Hazardous Materials and Safety

What are the management, storage and clean-up contingency plans for the course chemicals? What storm water run-off mitigations will be in place to reduce non-point source pollution?

Public Utilities and Services

Has the water supply of the San Martin Water Company been proven adequate to back up the statement "Water supply... is expected to be provided by the San Martin Water Company." Is there a contract on file? What plans are proposed for contingency or auxiliary wells?

In addition to the impacts on public services "response time," what are the potential increased demands on the County's budget?

April 21, 1994

Julia Bott/Loma Prieta Chapter, Sierra Club

Lion's Gate Notice of Preparation (file # 4039-67-28-93)

CEQA

Project Alternatives -- In addition to the 5 categories listed as project alternatives, we believe that discussion on impacts should be broken down by each of the three components: residential cluster; golf course; agriculture parcels.

Cumulative Impacts -- Will the potential for future developments be included the cumulative impacts analyses?

Growth Inducement -- It is too early to conclude that "this discussion will likely conclude that the project would not cause significant growth inducement." What methods will be used to determine the growth inducing impacts?



April 27, 1994

Juanell Waldo
Associate Planner
Santa Clara County Advance Planning
70 W. Hedding
San Jose, CA 95110

Dear Juanell:

Greenbelt Alliance has the following comments on the Scope of Work for the Lion's Gate Environmental Impact Report.

Growth inducing impacts:

Golf course developments have often resulted in significant residential and commercial development over time. Golf courses draw a large number of players throughout the year and areas directly surrounding golf courses are highly desirable for residential development. Without a permanent conservation easement on the golf course property, the potential for further development is significant. Even if the original use permit for the golf course includes only a few ancillary buildings, the owner can clearly ask for changes to the use permit at a future date. Without a permanent conservation easement, the odds are not good that the golf course, over the long run, will remain as a low-intensity, low-impact use. This proposal also has the clear potential to induce growth on neighboring parcels.

We therefore respectfully disagree with the statement in the Draft Scope of Work which states that "Since the project would be in conformance with all County General Plan policies, and would occur in a virtually enclosed valley, this discussion would likely conclude that the project would not cause significant growth inducement."

On-site environmental impacts:

Hayes Valley is an environmentally sensitive and aesthetically beautiful area. A golf course and housing development in the Valley and a portion of the hillside area very likely will pose major environmental impacts. Of particular concern are:

- impact on the overall watershed system including Llagas creek and the riparian corridor, the natural spring and underground water quality
- impact on the water supply locally as we are headed into another dry year
- impact on wildlife corridors and habitat areas

In addition, this proposal should also comply with the recommend new policy in the County General Plan which states that:

"Privately-owned recreational land uses and facilities within rural unincorporated areas, including but not limited to golf courses...should not be approved unless compatible with
continued

page 2

the landscape and resources in the areas in which they are proposed. Potentially significant environmental impacts often associated with such land uses should be avoided or reduced to less than significant levels, including:

- a. water supply demand;
- b. traffic generation;
- c. waste water generation and disposal;
- d. alteration of natural topography, drainage patterns, habitat or vegetative cover;
- e. application of harmful chemicals, such as pesticides and herbicides;
- f. riparian area or heritage resources impacts; and
- g. loss of prime soils or other significant impacts upon the viability of local agriculture."

This new policy provides extra assurance than golf courses are environmentally sound and appropriate to the area in which it is proposed.

Thank you for the opportunity to provide our comments. We would like to receive a copy of the draft EIR when it is completed.

Sincerely,



Vicki Moore
South Bay Field Director



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
Sacramento Field Office
2800 Cottage Way, Room E-1823
Sacramento, California 95825-1846

In Reply Refer To:
1-1-94-TA-865
PPN 1493

April 19, 1994

Ms. Juanell Waldo
Advance Planning Office
Planning Department
County Government Center, East Wing
70 West Hedding Street
San Jose, California 95110

Subject: Notice of Preparation for Lion's Gate Project, Santa Clara
County, California (SCL number 4039-67-28-93)

Dear Ms. Waldo:

This responds to the Notice of Preparation for the proposed Lions Gate project (NOP), Santa Clara County, California. It is our understanding that the site is located in Hayes Valley on the east side of Watsonville Road between the towns of Morgan Hill and Gilroy. The U.S. Fish and Wildlife Service is concerned about the potential impacts of this project on the threatened bay checkerspot butterfly (*Euphydryas editha bayensis*), several proposed and candidate plant and animal species, and wetlands. The butterfly is fully protected under the Endangered Species Act of 1973, as amended (Act). The comments and recommendations in this letter are based on the NOP, dated March 25, 1994, which was received on March 31, 1994.

It is our understanding that the proposed project consists of a residential development on the approximately 1200-acre site. The project also includes an 18-hole golf course and five 20-acre parcels that will be designated for medium scale agriculture. The habitats occurring at the project site include serpentine and annual grasslands, woodlands, and wetlands.

Regarding fish and wildlife resources, the draft environmental impact report (DEIR) should assess fully the impacts of the proposal and its alternatives on species populations and their habitats, with emphasis on wetlands and endangered, threatened, or candidate species. The DEIR should state clearly the purposes of, and document the needs for the proposed project so that the capabilities of the various alternatives to meet those purposes and needs can be determined readily. The DEIR should include a thorough description of all the facilities to be constructed as part of the proposal. Figures accurately depicting proposed project features in relation to natural features in the project areas also should be included.

Section 9 of the Act prohibits the "take" of any federally listed species by any person subject to the jurisdiction of the United States. As defined in the Act, take means to "...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." "Harm" has been further defined to include habitat destruction when it kills or injures a listed-species by interfering with essential behavioral patterns, such as breeding, foraging or resting. Indirect adverse impacts, such as construction of buildings, roads or fences, that interrupt or prohibit the movement patterns of a listed butterfly species could be considered "take" by the Service. The term person is defined as "an individual, corporation, partnership, trust, association, or any other private entity; or any officer, employee, agent, department, or instrumentality of the Federal government, of any State, municipality, or political subdivision of a State, or any other entity subject to the jurisdiction of the United States."

Take incidental to an otherwise lawful activity may be authorized by one of two procedures. If a Federal agency is involved with the permitting, funding, or carrying out of the project, then initiation of formal consultation between that agency and the Service pursuant to section 7 of the Act is required if it is determined that the proposed project may affect a federally listed species. Such consultation would result in a biological opinion that addresses the anticipated effects of the project to the listed species and may authorize a limited level of incidental take. If a Federal agency is not involved with the project, and a federally listed species may be taken as part of the project, then an incidental take permit pursuant to section 10(a) of the Act would need to be obtained. The Service may issue such a permit upon completion of a satisfactory conservation plan for the listed species that would be affected by the project.

The larvae of the bay checkerspot butterfly feed on *Plantago erecta* and *Orthocarpus* species. The adults feed on the nectar of a number of flowering plant species. Populations of the bay checkerspot butterfly are found in the project area. The Service recommends that all serpentine grassland be mapped accurately, along with the locations and approximate numbers of the foodplants of the larvae and adult nectar sources of the threatened bay checkerspot butterfly. In addition, a qualified entomologist should conduct an adequate survey for the butterfly during its activity period. The scope of work should be reviewed and approved by the Service. The Service recommends avoidance of destruction or damage to any areas containing suitable habitat and potential movement corridors. If the project does not avoid adverse impacts to this species and its habitat, authorization for incidental take of the bay checkerspot butterfly should be obtained under section 7 or 10(a).

The Service is especially concerned about potential impacts of proposed projects on the California tiger salamander (*Ambystoma californiese*). This Federal candidate species is reported to inhabit the project site. The Service has been petitioned to list this amphibian as an endangered species. A 90-day finding has been made that indicates substantial information exists indicating the petitioned action may be warranted. We anticipate making a 12-month finding in the near future. Mitigation for the California tiger salamander must take into account the different biological and ecological requirements of the aquatic early stages and largely terrestrial adults.

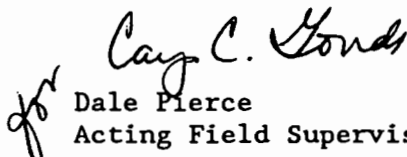
Failure to adequately consider either of these life history stages may lead to elimination or a reduction of population of these animals. Mitigation for these animals should also be evaluated in a larger regional context that will ensure the long-term viability of salamander populations throughout southern Santa Clara County and surrounding areas even with future projects, including residential development.

Potential adverse impacts to candidate species for future Federal listing should be addressed adequately in the environmental document. Further information should be provided on the status of all of these species that may be found at the project site. We have included a list of listed, proposed, and candidate species that may be found in the project area with this letter. Although candidate species are not protected, the 1988 amendments to the Act require the Service to monitor their status. If any of these candidates decline precipitously, they could be listed under an emergency basis. The Service recommends that adequate surveys be conducted during the proper flowering or activity period. The findings of the surveys and measures that will be taken to avoid/mitigate any adverse impacts to these species should be included in the environmental documents. In addition, as part of a settlement agreement for a lawsuit brought by environmental groups, the Service will be issuing proposed rules in the near future to list a number of category-1 candidate animal and plant species, including some or all of those in the project area.

The Service also is concerned about the impacts of this proposed project on the burrowing owl (*Athene canicularia*). The owl is a State listed Species of Special Concern with protection under the Migratory Bird Treaty Act. We recommend the project site be surveyed using California Department of Fish and Game protocol by a qualified biologist for this species. The findings of the survey and measures that will be taken to avoid/mitigate any adverse impacts to the burrowing owl should be included in the environmental documents.

Please contact Chris Nagano at the letterhead address or at 916/978-4866 if you have any questions.

Sincerely,


Dale Pierce
Acting Field Supervisor

attachment

cc: COE, San Francisco, CA (Attn: S. Mooreland)
CWQCB, Oakland, CA (Attn: W. Bruhns)
CDFG, Sacramento, CA (Attn: D. Warenycia)
CDFG, Yountville, CA (Attn: J. DeWald)
CDFG, Yountville, CA (Attn: C. Bean)
DOI, SOL, San Francisco, CA (Attn: R. Kohn Glazer)
FWS: LE, Chico, CA (Attn: Special Agent J.G. Mendoza)