

## 650 NORTH SAN PEDRO ROAD FINAL EIR

STATE CLEARINGHOUSE NUMBER: 2004062004



County of Marin | September 30, 2009



DESIGN, COMMUNITY & ENVIRONMENT





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## I INTRODUCTION

This Draft Environmental Impact Report (DEIR) provides an assessment of potential environmental consequences of the construction of the proposed 650 North San Pedro Road project. Marin County is the lead agency for the project. This EIR is intended to inform the Marin County decision-makers, other responsible agencies, and the public-at-large of the nature of the project. Additionally, the report identifies mitigation measures that, if followed, would reduce or avoid potentially significant impacts and examines alternatives to the proposed project. This DEIR has been prepared in accordance with the California Environmental Quality Act (CEQA) requirements.

### *A. Proposed Action*

The project application consists of a Master Plan, Precise Development Plan, Subdivision and Rezoning for the subdivision and development of a 14.8-acre property into 12 separate residential lots and the development of 12 single-family residences, and supporting infrastructure. Two of the units would include detached second units on the same lot as the primary unit. The proposed project site is located at 650 North San Pedro Road in an unincorporated area of Marin County. The site is approximately three miles northeast of downtown San Rafael. North San Pedro Road would be widened by approximately 7 feet for a distance of approximately 700 feet to provide a shoulder on the southern side of the road. A new road would be constructed that would access North San Pedro Road at approximately the same location as an existing driveway into the subject property.

The current proposal represents a revision to a previous project design. Under the prior application, the project consisted of a subdivision and rezoning of the property to a Planned District that would allow for 19 residential lots. Nineteen residence, including three affordable units, were proposed and eight acres of the property would be maintained as open space. An environmental constraints analysis was completed in 2005 to examine how this proposed development would affect sensitive resources on the site, such as the wetland and ephemeral creek. The analysis also identified areas of the site less suited

to development due to geotechnical constraints. Based on the outcome of the constraints analysis, it was determined that the project would have potentially significant impacts in relation to several issues, including Biological Resources, Geology and Soils, and Hydrology and Water Quality. Subsequently, the project was redesigned and a new project application was submitted to the County. The project proposed under this application is the focus of the analysis in this EIR.

## ***B. Report Organization***

This report is organized into the following chapters:

- ◆ *Chapter 1: Introduction.* Provides an introduction and overview of the DEIR document.
- ◆ *Chapter 2: Report Summary.* Provides a synopsis of the environmental impacts from the proposed project, describes recommended mitigation measures, and indicates the level of significance of impacts before and after mitigation.
- ◆ *Chapter 3: Project Description.* Describes the proposed project in detail, including the location, background information, primary objectives, and structural and technical characteristics.
- ◆ *Chapter 4: Environmental Evaluation.* Provides an analysis of the potential environmental impacts of the proposed project and presents recommended mitigation measures to reduce their significance.
- ◆ *Chapter 5: Alternatives to the Proposed Project.* Considers three alternatives to the proposed project, including the CEQA-required “No Project Alternative.”
- ◆ *Chapter 6: CEQA-Required Assessment Conclusions.* Briefly explains why the project would not have impacts related to other environmental issues included under CEQA’s purview.

- ◆ *Chapter 7: Includes Master Responses that address comments made by several different parties either in comment letters or at the public hearing on the project. The chapter also includes all comment letters received, the meeting minutes from the public hearing, and responses to all substantive comments received on the content or adequacy of the DEIR.*
- ◆ *Chapter 78: Report Preparation.* Identifies the preparers of the DEIR.
- ◆ *Chapter 89: References.* Source material used in preparation of the DEIR.

### *C. Key Issues*

This EIR will focus on the following environmental topics: Land Use, Geology and Soils, Biological Resources, Hydrology and Water Quality, Air quality, Traffic and Circulation, Public Services and Recreation, Aesthetics, Cultural Resources, Noise, Hazards and Hazardous Materials, Energy Conservation, Population and Housing, Utilities and Policy Consistency. Agricultural and Mineral Resources will not be analyzed in detail in the EIR. Based on an evaluation of known land uses on the site and recognized land use designations in the County General Plan, the site has not historically been nor is it currently used for agricultural or mineral extraction purposes.

### *D. Environmental Review Process*

This DEIR will be available for review by the public and interested parties, agencies and organizations for a 45-day comment period. During this period, the public is invited to submit written comments to Marin County.

Marin County will also hold a public hearing on the DEIR during the review period. The public is invited to attend the hearing to offer oral comments on this DEIR. Comments on the DEIR may also be submitted in writing to:

Mr. Tim Haddad  
Environmental Planning Coordinator  
Marin County Community Development Agency  
3501 Civic Center Drive, Room 308  
San Rafael, CA 94903-4157

Following the close of the 45-day comment period, a Final Environmental Impact Report (FEIR) will be prepared to respond to all substantive comments received on the DEIR related to environmental issues surrounding the project. The FEIR will be evaluated for a two-week public review period prior to consideration by the Marin County Planning Commission, for recommendation to the Board of Supervisors for certification of the FEIR.

Once the Planning Commission makes its recommendation to the Board of Supervisors for certification of the FEIR, the Commission will also consider its recommendation to the Board of Supervisors on the merits of the project itself, which may be recommended for approval or denial. If the project is recommended for approval, the Commission may require mitigation measures specified in this EIR as conditions of project approval. Alternatively, the Commission could require other mitigation measures deemed to be effective mitigations for the identified impacts, or it could find that the mitigation measures cannot be feasibly implemented. For any identified significant impacts for which no mitigation measure is feasible, the Commission will recommend that the Board of Supervisors adopt a finding that the mitigation measures are outside the jurisdiction of the County, or that the impacts are considered acceptable because specific overriding considerations indicate that the project's benefits outweigh the impacts in question. In each such case, a finding of a significant and unavoidable impact would be made.

## 2 REPORT SUMMARY

This summary section presents an overview of the analysis contained in Chapter 4.0, Environmental Evaluation. In accordance with CEQA Guidelines 15123(a), “[a]n EIR shall contain a brief summary of the proposed actions and its consequences. The language of the summary should be as clear and simple as reasonably practical.” State CEQA Guidelines Section 15123(b) states, “[t]he summary shall identify: (1) each significant effect with proposed mitigation measures and alternatives that would reduce or avoid that effect; (2) areas of controversy known to the Lead Agency including issues raised by agencies and the public; and (3) issues to be resolved including the choice among alternatives and whether or how to mitigate the significant effects.” Accordingly, this summary includes a brief synopsis of the project and project alternatives, environmental impacts and mitigations, cumulative effects and mitigation, areas of known controversy, and issues to be resolved in the environmental impact report (EIR). Table 2-1 presents a summary of project alternatives. Table 2-2 presents the summary of potential environmental impacts, their level of significance before mitigation, mitigation measures and levels of significance with mitigation.

### *A. Summary of Project Description*

This EIR provides an assessment of the potential environmental consequences of a Master Plan, Development Plan, Subdivision and Rezoning for the subdivision and development of a 14.8-acre property into 12 separate residential lots and the development of 12 single-family residences, and supporting infrastructure at 650 North San Pedro Road in unincorporated Marin County. Two the residences would include detached second units on the same lot as the primary unit. The proposed project would require Master Plan, Development Plan, Subdivision, and Rezoning approval by Marin County Board of Supervisors.

*B. Summary of Significant Unavoidable Adverse Impacts*

This EIR identifies ~~33~~ 25 adverse impacts that would result from development of the proposed project. In each case of potentially significant impacts resulting from the proposed project, this EIR presents mitigation measures that would eliminate or reduce those impacts to a less-than-significant level. As such, this EIR concludes that the project would not result in any significant and unavoidable impacts. If the Board of Supervisors does not include the required mitigation measures for their respective significant impacts, as recommended within this EIR, or alternate feasible mitigations determined by the Board of Supervisors to be equal or more effective, those impacts would also be judged as remaining significant adverse impacts.

During the public review process, the Board of Supervisors has the authority to determine that any of the impacts identified in this EIR are significant despite the recommended mitigations measures.

*C. Summary of Growth-Inducing Impacts*

Growth-inducing impacts of the proposed project are discussed in Chapter 6 of this EIR. The discussion concluded that, due to the surrounding land uses, including protected public land, the project would not have significant growth-inducing impacts.

*D. Summary of Cumulative Impacts*

Chapter 4.0 of this EIR discusses short- and long-term environmental impacts the proposed project in combination with projects within the San Rafael area and countywide. The project's cumulative impacts in relation to relevant topic areas are examined in Sections 4.1 – 4.14 of this EIR. The project plus other development listed in Chapter 4.0 would have the following cumulative impacts:

- ◆ **Land Use Impacts.** As concluded in Section 4.1, the project, in combination with other projects in Marin County, would not contribute to land use conflicts in the surrounding area, nor would it contribute to a shift in the character of the area, which would continue to be low-density, single-family detached residential. Therefore, the project contribution to cumulative land use impacts would be *less than significant*.
- ◆ **Geology and Soils Impacts.** As described in Section 4.2, the project would, in combination with other projects, increase the amount of people exposed to risks (e.g. slope failure) associated with regional seismic events. Collectively, more people would be occupying more homes that would be subject to partial or complete failure during a seismic event. In addition, the project, which would involve excavation and grading has the potential to contribute to cumulative soil erosion. Through the inclusion of mitigation measures that require adherence to relevant safety provisions of the Uniform Building Code and the California Building Code, and a Storm Water Pollution Prevention Plan (SWPPP) that would identify Best Management Practices (BMPs), cumulative impacts would be *less than significant*.
- ◆ **Biological Resources Impacts.** As stated in Section 4.3 of this EIR, continued development throughout Marin County, which includes the proposed project, has the potential to cause a substantial adverse change to significant biological resources. However, as this development occurs, it would be consistently subject to policies in the Countywide Plan, as well as Federal, State and local laws established to protect biological resources. Based on compliance with this regulatory framework, this project, in combination with other County projects, would have a *less-than-significant* cumulative impact on biological resources.
- ◆ **Hydrology and Water Quality Impacts.** As discussed in Section 4.4 of this EIR, the project, in combination with other projects would increase the amount of impervious surface area within the Gallinas Creek watershed and would result in an increase in the overall volume of storm water runoff. These impacts would be reduced to a less-than-significant level as

Marin County requires that post-development peak discharges be reduced to at or below pre-development level for any individual development.

Construction activities associated with cumulative development projects would increase sedimentation and the generation of urban Non-Point Source (NPS) pollutants. Required compliance with National Pollutant Discharge Elimination System (NPDES) and Regional Water Quality Control Board (RWQCB) regulations would ensure that the project would result in a *less-than-significant* cumulative impact on water quality.

- ◆ **Air Emissions from Construction Activities.** Construction-period emissions associated with this project, in combination with others, could have a significant, temporary cumulative effect on air quality. As concluded in Section 4.5 of this EIR, construction of the new homes could generate temporary emissions of PM<sub>10</sub> that could cause localized exceedances of ambient air quality standards and contribute to regional violations of the ambient air quality standards. However, through implementation of Mitigation Measure 4.5-A.1, the project would not make a significant contribution to temporary, cumulative emissions. A *less-than-significant* impact would occur.
- ◆ **Air Emissions from Traffic.** As concluded in Section 4.5 of this EIR, emissions from operation of the project, which includes project-generated vehicle trips, would be well below the BAAQMD thresholds for regional criteria pollutants and have a less-than-significant impact on regional air quality. As a result, the project's contribution to cumulative, regional air quality impacts would be *less than significant*.
- ◆ **Greenhouse Gas Emissions.** As concluded in Section 4.5 of this EIR, construction and operation of the project would contribute to greenhouse gas emissions in combination with other projects occurring in the County. However, based on the nature and scope of this project in relation to the amount of other cumulative development in the County and at a larger scale (e.g. state-wide or nationally), and the inclusion of energy-efficiency components, the analysis determined that the project would have a *less-than-significant* cumulative impact on greenhouse gas emissions and global climate change.



- ◆ **Traffic Impacts.** As concluded in the traffic analysis in Section 4.5 of this EIR, cumulative traffic volumes would not change level of service from existing conditions at any of the study intersections. In some cases, intersections would operate more efficiently under cumulative traffic loads. In no case would the average delay be increased by more than 0.3 seconds per vehicle. Therefore, the project would have a *less-than-significant* impact on intersection level of service.
- ◆ **Impact on Fire and Emergency Services.** As concluded in Section 4.7 of this EIR, the proposed project and other projects considered in the cumulative analysis are likely to result in increased demand for fire prevention and response services throughout Marin County. However, this project would not require the addition of staff or facilities in order to ensure adequate fire and emergency response. As a result, it would have a *less-than-significant* impact on cumulative demand.
- ◆ **Impact on Police Services.** As concluded in Section 4.7 of this EIR, the proposed project and other projects considered in the cumulative analysis are likely to result in increased demand for fire prevention and response services throughout Marin County. According to Marin County Sheriff Department, the proposed project would not trigger a need for new or expanded police facilities. The estimated increase in 2 to 3 service calls to the Department per year would not impact staffing, response time or equipment needs. As a result, the project would have a *less-than-significant* impact on cumulative demand.
- ◆ **Impact on Parks and Recreation Facilities.** As concluded in Section 4.7 of this EIR, there is an existing deficiency of parkland within Marin County based on the County's recommended standard. The proposed project, in combination with other cumulative projects, would likely increase the population experiencing a parkland deficit. However, the project's contribution to cumulative demand for parkland is not considered significant. As explained in Section 4.7, not all of the 29.9 projected future residents of the project are expected to frequently use Marin County parkland. In addition, it is expected that some of the project's future residents already live within the County and uses its parkland and recrea-

tional facilities. Lastly, the applicant would be required to pay the County a fee in lieu of an on-site parkland dedication, which can be used to finance improvements to existing parks and recreational facilities or the purchase of additional land for the purposes. As a result, the project would have a *less-than-significant* cumulative impact on parks and recreational facilities.

- ◆ **Impacts on Schools.** The project, in combination with other projects, has the potential to generate new students, which could have a significant impact on schools within the San Rafael Elementary and High School Districts. These schools are all near capacity. As mitigation, developer fees would be collected from this project and other cumulative projects and be applied to the expansion of existing schools or construction of new schools, as necessary. Through the payment of developer fees that would be used, in part, to help provide additional school capacity, the project would have a *less-than-significant* cumulative impact.
- ◆ **Impacts on Visual Setting.** As discussed in Section 4.8 of this EIR, growth envisioned under the Countywide Plan area would allow for some cumulative visual change. However, development of the project site, when combined with other foreseeable projects in the vicinity, would not contribute to an overall shift in the visual character of the existing surrounding area. Furthermore, the Countywide Plan includes goals and policies to ensure that new development is well designed, attractive, and compatible with nearby, existing development. These measures would ensure that cumulative development, including the proposed project, does not have a significant cumulative impact.
- ◆ **Cultural Resource Impacts.** As concluded in Section 4.9 of this EIR, continued development throughout Marin County, including the proposed project, has the potential to cause a substantial adverse change to significant historic or archaeological resources or to destroy significant paleontological resources. However, as this development occurs, it would be consistently subject to policies in the Countywide Plan, as well as Federal, State and local laws established to protect cultural resources. Based on compliance with this regulatory framework, this project, in

combination with other County projects, would have a *less-than-significant* cumulative impact on cultural resources.

- ◆ **Noise Impacts.** As concluded in Section 4.10 of this EIR, there are no other projects currently proposed or under construction within the near vicinity (¼-mile) of the project site. As a result, construction period noise generated by this project would not have significant cumulative impacts in combination with noise generated by other projects being constructed concurrently.

During the operation period, the one source of noise that would potentially have significant cumulative impacts is new vehicle trips to and from the site. However, the traffic volumes associated with this project would be insubstantial in relation to existing traffic loads. Because the traffic for this project would only result in a negligible increase in noise levels experienced along San Pedro Road and roads to the north of the site that connect to San Pedro Road (e.g. Pt. Gallinas Road and Upper Road), it would not significantly contribute to a cumulative impact. A *less-than-significant* impact would occur.

- ◆ **Hazardous Materials and Hazards Impacts.** As concluded in Section 4.11 of this EIR, neither the proposed project nor any of the reasonably foreseeable development would involve the transport, use or disposal of significant amounts of hazardous materials that would not be closely monitored and regulated. As a result, the project would not result in a significant cumulative impact related to hazardous materials. Any potential impacts that could arise from developing on sites that are already contaminated would be adequately addressed under each individual project through remediation protocols established by the Department of Toxic Substances Control or the RWQCB. Thus, there would be no cumulative impact from hazards or hazardous materials associated with project construction and likely development in the area.
- ◆ **Wildfire Hazard.** As discussed in Section 4.11 of this EIR, the project, in combination with other projects constructed in similar settings, would increase the exposure of property and residents to wildland fires. However, the project has been designed in accordance with a Fire Hazard

Management Plan that would minimize the risks associated with wild-land fires. Due to the inclusion of the Fire Management Plan as part of the project, the project would have a *less-than-significant* cumulative impact in regards to wildfire hazard risk.

- ◆ **Energy Consumption.** As stated in Section 4.12 of this EIR, short-term and long-term cumulative development is expected to result in an increase in the demand for energy sources throughout the County. It is anticipated that existing energy resources would be sufficient to meet the combined demand of cumulative development. The energy consumed by the project (e.g. electricity, oil, and natural gas), along with other cumulative projects, would be insignificant in relation to regional energy consumption and available energy supply. Furthermore, there are several County programs and policies, and PG&E initiatives that will serve to reduce total energy demand among cumulative projects. Due to the Project's relatively small size and the County's policy framework related to energy conservation, the Project's contribution to cumulative demands on energy resources and services would be negligible and would represent a *less-than-significant* cumulative impact.
- ◆ **Population and Housing Impacts.** As concluded in Section 4.13 of this EIR, the increase in housing units and population that would result from the project has been anticipated in the 2007 Countywide Plan. The project would not create substantial unanticipated population or housing growth, or other adverse cumulative impacts related to population or housing. Furthermore, the project would not result in the displacement of people or require the construction of replacement housing elsewhere. Therefore, the project would result in a *less-than-significant* cumulative impact.
- ◆ **Impacts on Water Supplies.** As concluded in Section 4.14 of this EIR, water supply is currently adequate to serve the proposed project, by itself. The project, in conjunction with other projects within the Marin Municipal Water District would increase demand and contribute to cumulative impacts on the availability of a long-term water supply. The District's peak period demand is currently in a deficit mode, which is due

to a combination of conveyance (pipeline) restrictions from the supply source in Sonoma County, and marginally increasing demand. The project's demand for water supply would be negligible in relation to combined cumulative demand. Therefore, the increase in long-term demand due to 12+ additional housing units is considered to be *less than significant*.

- ◆ **Impacts on Sanitary Sewer.** As concluded in Section 4.14 of this EIR, the project would contribute to a cumulative increase in the demand for transport and treatment of sanitary sewer throughout the County. Sewer from the project would be treated at the Las Gallinas Valley Sanitary District (LGVSD) Plant, which is currently operating within capacity. Although the project would add to the volumes requiring transport and treatment at the plant, the addition from the project would be negligible and therefore result in a *less-than-significant* cumulative impact.
- ◆ **Impacts on Solid Waste Services.** As concluded in Section 4.14, in relation to existing demand, the project would cause a negligible increase in the demand for solid waste transport and disposal. In addition, the volume of solid waste generated by the project would not be such that the estimated closure dates of receiving landfills would be affected. Therefore, while the project and other cumulative projects would increase demand on the services of Marin Sanitary Service and the capacity of the three landfills MSS utilizes, the project's contribution to that increased, cumulative demand would be *less-than-significant*.

#### *E. Significant Irreversible Environmental Changes of the Project as Proposed*

The CEQA Guidelines (Section 15126.2[c]) require that an EIR discuss irreversible environmental changes that would occur if the project were approved.

Development of the proposed project would require the irreversible commitment of financial resources, energy, raw materials, and labor. Nonrenew-

able resources utilized during the construction and operation of the project would be irreversible since commitment of them would preclude their availability from future use. Furthermore, the proposed use of such resources and the implementation of the project would generally commit future generations to similar uses.

The following list summarizes significant resources that would be irreversibly committed as a result of the project as well as environmental changes that are anticipated to be irreversible.

**1. Resource Extraction**

Aggregates, such as sand and stone, will be extracted prior to construction and then used during construction within foundations, driveways, and retaining walls. While the project would not directly involve the extraction of such resources, it would increase demand for extraction and processing of them.

**2. Wildlife Habitat**

Site preparation and home construction would result in the loss of habitat for wildlife resources and possibly occurrences of certain species.

**3. Aesthetics**

The heavily wooded appearance of the site would be somewhat diminished through the introduction of 12 homes, two secondary units, and supporting infrastructure.

**4. Topography**

The natural topography of the site, which generally slopes upward from north to south, would be altered due to the project grading plan. In general, the grade profile of the site would remain as is, however portions of the proposed development area would be made more gradual to accommodate construction of homes and supporting roadways.

#### **5. Hydrology and Water Quality**

The project would increase the amount of impervious surface area within the Gallinas Creek watershed and would result in an increase in the overall volume of storm water runoff and non-point source pollution sources affecting the watershed.

#### **6. Traffic and Transportation**

There would be an increase in traffic volumes during and after construction. Increased traffic would occur primarily on San Pedro Road, but could also occur on side streets connecting to San Pedro Road.

#### **7. Energy Consumption**

There would be an increased demand for energy during and after construction.

#### **8. Public Services**

Demand for public services would increase following construction, including fire, police, parks and recreational facilities, and schools.

#### **9. Utilities and Service Systems**

Demand on utility and services systems would increase during and after construction, including water supply, sanitary sewer, and solid waste disposal and recycling.

#### **10. Noise and Air Quality**

Although increases would be negligible, project construction and operation would result in increased noise levels and emissions of air pollutants.

These changes are assessed in detail in the Sections 4.1 through 4.14 of this EIR.

*F. Summary of Plan and Policy Consistency*

Section 4.1, Land Use, of this EIR presents an evaluation of the project's consistency with the Marin Countywide Plan, the Marin County Development Code (Zoning and Subdivision Regulations), Marin County Code Title 18 (Sewers) and Local Agency Formation Commission (LAFCo) Sphere of Influence policies, and Marin County Code Title 24 (Development Standards).

That analysis concludes that the proposed project would be consistent with applicable policies and regulations (see Section 4.1 for details). Furthermore, since mitigation measures included in this EIR would reduce all physical impacts to a less-than-significant level, the project would be consistent with all environmental protection policies. The County decision-makers would need to review the project to determine whether the final project design is consistent with all policies and whether changes to the project would be required in order to provide the required consistency (see the subsequent discussion in Section K regarding Issues to Be Resolved for further discussion of these potential inconsistencies).

**1. Marin Countywide Plan (2007)**

As determined in the policy consistency analysis in Chapter 4.1, the project would be consistent with relevant goals and policies from the Countywide Plan.

*G. Effects Found Not to be Significant*

This section summarizes issues for which the project would result in *no impact* based on a determination that the project would neither have an effect or be affected in relation to a threshold of significance. Impacts that were determined to be *less than significant* include those for which the project would have an impact, but the level or degree of impact would be less than significant. These impacts are discussed in detail in Sections 4.1 through 4.14 of this EIR.



### 1. Land Use and Policy Consistency

Based on the location and nature of the project in relation to the surrounding physical environment, including existing land uses, the project would not result in the physical division of a community. The site is not subject to any existing habitat conservation plans or natural community conservation plans. No agricultural uses currently occur on the site and the site is not considered prime agricultural land. No impact would occur in regards to these issues. As determined through the Policy Consistency analysis in Section 4.1 of this EIR, the project would be consistent with applicable policies from the Countywide Plan.

### 2. Geology and Soils

The project would not include on-site wastewater disposal and septic tanks are not required or proposed. The project does not have a history of mining operations and no groundwater will be used for this project. Furthermore, the project site does not contain karst topography,<sup>1</sup> typified by subsurface limestone or dolomite. The site does not lie in close proximity to a large lake or the ocean and is therefore not subject to tsunamis or a seiche. No impact would occur in regards to these issues.

### 3. Biological Resources

No State- or federally-listed plants or animals have been identified as occurring on or in the vicinity of the property.<sup>2</sup> The project site is not subject to the provisions of a Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. No impact would occur in regards to these issues.

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<sup>1</sup> Karst Topography is formed by the dissolution of soluble rocks, including limestone and dolomite. Karst regions contain aquifers that are capable of providing large supplies of water. United States Geological Survey website, <http://water.usgs.gov/ogw/karst/>, accessed on June 10, 2008.

<sup>2</sup> Garcia and Associates (GANDA), 2005a. *Biological Resources Technical Report for the San Pedro Court Project, Marin County, California*. Prepared for DC&E, June 1.

#### **4. Hydrology and Water Quality**

The project would not involve the construction of homes or other structures inside a 100-year flood zone. As a result, the project would not affect flood flows. The project is not susceptible to a tsunami based on its location in relation to San Pablo Bay. The project site is not in close enough proximity to a large body of enclosed water, such as a reservoir, to be susceptible to a seiche. The potential for a mudflow to occur on site or in nearby areas is minimal because it is not anticipated that soils would achieve the necessary degree of saturation during a storm event for such a phenomenon to occur. No impact would occur in regards to these issues.

#### **5. Transportation**

The project would not result in changes to existing air traffic patterns. The project would not conflict with emergency access either during or after construction. The project's parking plan meets County code requirements. The project would include adequate provisions for pedestrian and bicycle circulations and bicycle and motorcycle parking and security. No impact would occur in regards to these issues.

#### **6. Public Services**

The project would not require added personnel or an expansion of facilities to adequately provide fire and police services. No impact would occur in regards to these services.

#### **7. Aesthetics**

There are no officially designated state scenic highways in the vicinity of the project site. No impact would occur in regards to this issue.

#### **8. Cultural Resources**

No architectural resources or landmarks of local/cultural historical importance exist on the project site or in the immediate vicinity. No impacts would occur on such resources.

## 9. Noise

The project site does not overlap with any area designated or planned under a public airport land use plan. There are no private airstrips in the vicinity of the project site. No impact would occur in regards to these issues.

## 10. Hazards and Hazardous Materials

There are no existing schools located within ¼-mile of the project site. The project site is not included on the Cortese list of hazards materials sites compiled pursuant to Government Code Section 65962.5 by the DTSC. No flight paths cross the project site and the project site does not overlap any airport land use plans. The project would not conflict with an emergency response or evacuation plan. No impact would occur in regards to these issues.

## 11. Utilities

During and after construction, solid waste from the project would be transported to landfills with sufficient capacity, thus no impact would occur in regards to this issue.

## *H. Summary of Alternatives Analysis*

In accordance with CEQA Guidelines, Chapter 5 of this EIR includes an evaluation of a reasonable range of alternatives to the proposed project that would meet most of the project objectives while altogether avoiding or substantially reducing any significant impacts identified in Sections 4.1 to 4.14. Chapter 5 provides a qualitative analysis of how the alternatives compare to each other and identifies the environmentally superior alternative, as required under CEQA. This alternative is described at the end of this sub-section.

The alternatives analysis does not include an off-site alternative; however an off-site option was examined earlier in the CEQA review process. The property of interest, which was located at 70 Oxford Drive in the Santa Venetia neighborhood, has not been included because it was sold prior to completion of the analysis and therefore no longer considered a reasonable option. Furthermore, due to various development constraints, there are currently no

feasible off-site locations in Marin County where the project objectives could be achieved. Furthermore, it is not required under CEQA that an off-site alternative be considered.

## **1. No Project Alternative**

### **a. Description**

This alternative, which is illustrated on Figure 5-1 in Section 5, would include five market rate units on existing, legal lots. Under this alternative, the property owner would sell the five legal lots of record that comprise the property to separate individuals, who would then develop the lots with single family residences and appurtenant structures. Where necessary, access and utility easements would be created on the lots to facilitate development, but no Lot Line Adjustments would occur. It is expected that development on APNs 180-291-04 and 180-231-07 would be subject to individual Design Reviews pursuant to Marin County Code section 22.42.30 (Design Review for Development along Paper Streets and for Specific Driveways) because of the length of the driveways that would need to be constructed to access these properties. Tree removal associated with this development would be addressed in those individual Design Reviews.

Due to their size and location, it is evident that the other three lots (APNs 180-231—09, 180-231-09<sup>5</sup>, 180-231-06) could be developed in conformance with the height, setback, floor area and other development standards of the governing R-E:B-3 zoning district. Therefore, it is not anticipated that these lots would require Design Review, Tree Removal Permits or any other type of discretionary approval for development. Since no discretionary approval would be required, Wetland Conservation Areas (WCAs) as established through policies set forth in the Countywide Plan would not be applicable. The eucalyptus tree containing the existing heron nest would be taken down during non-nesting season because it is a hazard to the occupants of the property.

As discussed in Master Response 6 in Chapter 7 of this FEIR, it is possible that the existing five, legal lots could be resubdivided, which would permit a

level of development more intense than the five units considered under the No Project scenario. However, on the basis that five legal lots currently exist on the site and could be transferred to new ownership through direct sale, without further review associated with resubdivision, the County maintains that a five unit scenario provides a reasonably foreseeable level of development and therefore complies with Section 15 15126.6(a) of the CEQA Guidelines; reasonable range of alternative.

b. Conclusions

Future development on three of the five legal lots would constitute a ministerial action that would not be subject to discretionary review and approval by the County. Accordingly, development on these lots would not be subject to County policies related to protection of biological resources or otherwise. Encroachment into the wetland conservation area (WCA), creek corridor, and removal of the rookery tree would not be subject to County review. As a result, this would be an environmentally inferior alternative. Furthermore, this alternative would not meet any of the project objectives because the site would retain its current use until an application for its development was pursued at an unknown time in the future.

**2. Alternate Use Alternative**

a. Description

This alternative, which is illustrated in Figure 5-2 in Section 5, would include 12 residential units of various types. Eight units would be attached, but would be divided by lot lines resulting in independent single family residences on eight separate legal lots. The other four lots would be developed with detached single family residences. Six units would be below market rate and the other six units would be market-rate. The four detached and two of the attached units would be the market rate units. The remaining six attached units would be the below market rate units.

Development under this alternative would occur in the portion of the site that is already disturbed as a result of the existing residence and related improvements. All homes under this alternative would be constructed outside

the WCA and the 20-foot creek setback. The eucalyptus tree containing the existing heron nest would be taken down during non-nesting season because it is a hazard to the occupants of the property.

b. Conclusions

This alternative would achieve the project residential density objectives through the construction of 12 residential units, and would exceed affordability objectives with an increase in the number of affordable units from the proposed 2 affordable units to 6 units being below market rate. This alternative would have fewer potentially significant impacts and be environmentally superior to the proposed project. It is not expected that this alternative would result in any impacts that could not be mitigated to a less-than-significant level. This alternative would position all dwelling units outside the 100-foot WCA setback area and likely require less tree removal due to unit clustering on the northwestern portion of the property. Furthermore, due to a decreased area of disturbance, there would be reduced potential for erosion and sedimentation in receiving water bodies during construction. During the operational phase of the project, a reduced amount of impermeable surface area would occur due to unit clustering and result in less stormwater runoff volume.

**3. Reduced Density Alternative**

a. Description

As illustrated in Figure 5-3 in Section 5, this alternative would consist of nine residential units, seven of which would be priced as market rate units, while the remaining two would be affordable. Lots 9, 10, and 11 would be removed from the project to reduce impacts to environmentally sensitive areas. As a result, the driveway to Lot 8 could be reconfigured to access the lot from the lower portion of the slope, avoiding the necessity of constructing a longer driveway with a fire turnaround. Aside from removal of these three units and modification of this driveway, this alternative would retain the nine remaining units in their proposed location, as well as roadways and driveways. The eucalyptus tree containing the existing heron nest would be taken down

during non-nesting season because it is a hazard to the occupants of the property.

b. Conclusions

This alternative would involve the construction of three fewer residential units than the proposed project. This alternative would not meet all of the project residential density objectives, but it would increase Marin County's affordable housing stock similar to the proposed project, improve the visual quality of the project site, and expand the County's "green" housing supply. The visual quality of the project site will also be improved under this alternative.

Due to the construction of three fewer units and the relation between the specific units to be withdrawn (Lots 9, 10, and 11) and sensitive resources on the site, this alternative would have fewer potentially significant impacts and be environmentally superior to the proposed project. It is not expected that this alternative would result in any impacts that could not be mitigated to a less-than-significant level.

**4. Mitigated Alternative**

a. Description

As illustrated in Figure 5-4 in Section 5, this alternative would consist of a redesign of the proposed site plan. Although the proposed number of units would remain the same (12), primary access to and from Lots 1-11 would be from a driveway south of the current driveway and the proposed location of Bay Creek Drive. This existing driveway would be gated off and restricted to use by emergency vehicles only. As a result, the reconfigured, primary driveway would be outside the WCA and all units would be located outside of the WCA and the 20-foot creek setback. The eucalyptus tree containing the existing heron nest would be taken down during non-nesting season because it is a hazard to the occupants of the property.

This alternative would include all mitigation measures recommended in the EIR, and other features to more fully support the goals and objectives of the

Countywide Plan. One such feature would be formal rezoning of the proposed conservation area to Open Space.

b. Conclusions

This alternative would accomplish all of the project objectives, including increasing Marin County's affordable housing stock, improving the visual quality of the project site, and expanding the County's "green" housing supply. Additionally, through mitigation measures discussed in this EIR, this alternative would improve the safety of the site by improving driveways, providing a deceleration shoulder on North San Pedro Road, and reducing the level of risk associated with wildfire hazard.

This alternative would have fewer potentially significant impacts than the proposed project in relation to WCA encroachment. As shown on Figure 5-4, none of the dwelling units would encroach into the setback area. Similarly, due to the relocation of the primary driveway, it would not encroach into the WCA. However, in relocating the dwelling unit on Lot 12 further east from its proposed location, there would be an increased impact on native grassland habitat beyond what would occur under the proposed project. The impact to grasslands could be reduced to a less-than-significant level through on-site and/ or off-site native grassland habitat enhancement programs.

Therefore, this alternative is superior to the proposed project in relation to the WCA, but inferior in relation to potential impacts on native grassland habitat. On balance, it is expected that this alternative would have a similar level of impact to the proposed projects.

**5. Revised Project Alternative**

a. Introduction

This alternative, not originally considered in the DEIR, was presented by the applicant following the public review period for consideration by the EIR consultant and the County. The alternative was accompanied by information requested in several of the comment letters included in Chapter 7 of the



FEIR. In chapter 5 of this FEIR, the alternative has been analyzed at the same level of detail as the alternatives examined in the Draft EIR.

Consistent with Section 15088.5 of the CEQA Guidelines, the inclusion of the Revised Project Alternative in the FEIR does not result in the need for recirculation of the DEIR or any portions thereof. As this section of the Guidelines states:

*“A lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review under Section 15087 but before certification. Significant new information requiring recirculation including, for example, a disclosure showing that:*

- (1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.*
- (2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.*
- (3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the significant environmental impacts of the project, but the project’s proponents decline to adopt it.*
- (4) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.*

Based on these criteria, the Revised Project Alternative does not constitute new significant information that requires recirculation.

b. Description

As illustrated in Figure 5-5, this alternative would encompass twelve primary units and two secondary units, as would the proposed project. However the locations of buildings on Lots 8-12 and the driveways serving Lots 8-11 have

been modified. As Figure 5-5 shows, driveways for homes on Lots 8-11 would be provided from a shortened Bay Creek Court. As a result, the currently proposed driveway to Lot 11 off of Bay Creek Drive would be eliminated and the proposed driveway lengths to homes on Lots 8-10 would be reduced. The home on Lot 9 would be relocated down slope to the approximate location of the currently proposed Lot 10 unit. The home on Lot 10 would be moved downslope to the southwest so that the primary home and secondary unit on Lot 11 could be moved upslope from the pond area and delineated wetland. Lastly, the secondary unit on Lot 12 would be moved across the site to Lot 6.

The eucalyptus tree containing the existing heron nest would be taken down during non-nesting season because it is a hazard to the occupants of the property.

This alternative would include all mitigation measures recommended in the EIR.

c. Conclusions

This alternative would accomplish all of the project objectives, including increasing Marin County's affordable housing stock, improving the visual quality of the project site, and expanding the County's "green" housing supply. Additionally, through mitigation measures discussed in this EIR, this alternative would improve the safety of the site by improving driveways, providing a deceleration shoulder on North San Pedro Road, and reducing the level of risk associated with wildfire hazard.

This alternative would have a reduced degree of impact in relation to WCA encroachment by increasing the minimum distance between edge of wetland and the nearest structure from 20 to 40 feet. Furthermore, the area of site disturbance under this alternative would be reduced by approximately 25 percent due to a reconfiguration of homes on lots 8-11 and a reduction in the dimensions of Bay Creek Court. The Bay Creek Court reduction would re-

sult in approximately 8,800 square feet less of impermeable surface area on the site and reduce the required amount of tree removal.

For these reasons, this alternative is considered environmentally superior to the proposed project.

## **6. Environmentally Superior Alternative**

In accordance with CEQA, the alternative analysis has identified the environmentally superior alternative. The project and alternatives under consideration include the four discussed above and the project as currently proposed. Table 2-1 presents a qualitative comparison of the four alternatives to the project and in relation to each other.

### ***I. Areas of Controversy***

There are issues and concerns that have been raised by agencies, local organizations, and individual members of the public in regards to the proposed project. As part of the environmental review process, County decision makers will need to weigh these issues and concerns in reaching a final decision on the project.

County staff released a Notice of Preparation (NOP) on June 2, 2004 to notify agencies and interested members of the public that an EIR was being prepared for the project. A second NOP was released on May 14, 2007 to notify agencies and the public of the revised project concept. During the scoping period, County staff held a public scoping meeting on the project June 7, 2007. During both the scoping period and at the scoping meeting, interested stakeholders were invited to submit their comments on issues that should be included in the scope of the EIR analysis. A summary of comments received during the 30-day scoping period and at the June 7 meeting are included in Appendix A of this EIR.

TABLE 2-1 COMPARISON OF ALTERNATIVES TO THE PROPOSED PROJECT

Alternative 1 – No Project	Alternative 2 – Alternate Use Alternative	Alternative 3 – Reduced Density Alternative
Description	Description	Description
<ul style="list-style-type: none"> <li>Development of five market rate units on existing, legal lots</li> </ul> <p>The eucalyptus tree containing the existing heron nest would be taken down during non-nesting season because it is a hazard to the occupants of the property</p>	<ul style="list-style-type: none"> <li>Construction of 12 units and the two secondary units</li> <li>Eight units would be constructed to zero lot line and four would be constructed according to existing lot lines</li> <li>Six units would be market rate units and six would be below market rate.</li> </ul>	<ul style="list-style-type: none"> <li>Develop nine residential units</li> <li>Seven units would be market rate and two would be affordable</li> <li>Residential units, roadways, and driveways could be reconfigured</li> <li>Include all mitigation measures recommended in the EIR</li> </ul>
Results of Analysis	Results of Analysis	Results of Analysis
<u>Advantages</u> <ul style="list-style-type: none"> <li>Reduces vehicle trips related to construction and operation of project site</li> <li>No update to zoning code required</li> </ul> <u>Disadvantages</u> <ul style="list-style-type: none"> <li>No addition to county Affordable Housing Stock</li> <li>Wetland Conservation Areas and creek setbacks, as established through policies set forth in the County-wide Plan would not be applicable</li> <li>Development on three lots would not require Design Review, Tree Removal Permits or any other type of discretionary approval for development</li> </ul>	<u>Advantages</u> <ul style="list-style-type: none"> <li>Reduce amount of impermeable surface, resulting in less stormwater runoff volume</li> <li>Increase of affordable housing units</li> <li>All units located outside WCA setback area.</li> <li>All units located in portion of site already disturbed by development</li> </ul> <u>Disadvantages</u> <ul style="list-style-type: none"> <li>Zero lot line not compatible with surrounding uses and not consistent with all project objectives</li> </ul>	<u>Advantages</u> <ul style="list-style-type: none"> <li>Three units would be removed to reduce potential impacts on biological resources and sensitive habitat</li> <li>Reduce amount of impermeable surface, resulting in less stormwater runoff volume</li> <li>Reduce encroachment into WCA setback area</li> </ul> <u>Disadvantages</u> <ul style="list-style-type: none"> <li>No disadvantages to environmental resources when compared to the project as proposed</li> </ul>
Conclusions	Conclusions	Conclusions
<ul style="list-style-type: none"> <li>Second most environmentally superior alternative that would not meet any project objectives.</li> <li>Does not meet any project objectives</li> </ul>	<ul style="list-style-type: none"> <li><del>Most</del> Third most environmentally superior alternative that <del>that</del>.</li> <li><del>Would</del> meet most project objectives</li> </ul>	<ul style="list-style-type: none"> <li><del>Most environmentally superior alternative that would not meet all project objectives</del></li> <li><u>Environmentally Superior Alternative</u></li> <li><u>Would not meet all project objectives</u></li> </ul>

TABLE 2-1 COMPARISON OF ALTERNATIVES TO THE PROPOSED PROJECT (CONTINUED)

Alternative 4 – Mitigated Alternative	Proposed Project (with EIR Mitigations Included)	Revised Project Alternative (with EIR Mitigations Included)
Description	Description	Description
<ul style="list-style-type: none"> <li>◆ Develop 12 units</li> <li>◆ Ten units would be market rate and two would be below market rate</li> <li>◆ The 12 lots and primary driveway would be reconfigured to eliminate any encroachment into the WCA</li> <li>◆ Areas within project site would be formally re-zoned as open space</li> <li>◆ Include all mitigation measures recommended in the EIR</li> </ul>	<ul style="list-style-type: none"> <li>◆ Develop 12 residential units and two second units (BMR)</li> <li>◆ Ten units would be market rate and two would be below market rate</li> <li>◆ Include all mitigation measures recommended in the EIR</li> </ul>	<ul style="list-style-type: none"> <li>◆ Develop 12 residential units and two second units (BMR)</li> <li>◆ Ten units would be market rate and two would be below market rate</li> <li>◆ Reposition units on Lots 8-11 to shorten and reduce surface area of Bay Creek Court. Reduces site disturbance and impermeable surface area.</li> <li>◆ Reposition units on Lot 11 to increase (to 40-feet) distance between edge of delineated wetland and closest residence.</li> </ul>
Results of Analysis	Results of Analysis	Results of Analysis
<u>Advantages</u> <ul style="list-style-type: none"> <li>◆ Reduces impact to biological resources</li> <li>◆ Eliminates any encroachment into the WCA</li> </ul> <u>Disadvantages</u> <ul style="list-style-type: none"> <li>◆ Additional encroachment into native grassland habitat</li> </ul>	<u>Advantages</u> <ul style="list-style-type: none"> <li>◆ Reduces impacts to environmental resources to less-than-significant levels</li> </ul> <u>Disadvantages</u> <ul style="list-style-type: none"> <li>◆ Does not reduce significant impacts as much as the Mitigated Alternative</li> </ul>	<u>Advantages</u> <ul style="list-style-type: none"> <li>◆ Reduces encroachment inside the WCA.</li> <li>◆ Reduces area of site disturbance and impermeable surface area.</li> <li>◆ Lower elevation for highest unit (on Lot 9)</li> </ul> <u>Disadvantages</u> <ul style="list-style-type: none"> <li>◆ No disadvantages to environmental resources when compared to the project as proposed</li> </ul>
Conclusions	Conclusions	Conclusions
<ul style="list-style-type: none"> <li>◆ <del>Second</del> Fourth most environmentally superior <del>that</del></li> <li>◆ <del>W</del>ould meet all project objectives</li> </ul>	<ul style="list-style-type: none"> <li>◆ Not environmentally superior</li> <li>◆ Meets the project objectives</li> </ul>	<ul style="list-style-type: none"> <li>◆ Second most environmentally superior alternative</li> <li>◆ Would meet all project objectives</li> </ul>

The main issues of concern and controversy related to the project as proposed include the following:

- ◆ Treatment of the eucalyptus tree within the proposed area of development that contains an active heron rookery.
- ◆ Preservation of oak trees on-site.
- ◆ The aesthetic effects of new lighting and glare sources and tree removal.
- ◆ Air quality and noise impacts due to increased traffic on San Pedro Road.
- ◆ Effects on stability of soils within development area and in upslope areas due to proposed excavation and grading.
- ◆ Increased traffic volumes on San Pedro Road and its effect on safety and existing congestion points.
- ◆ Constructing new homes in an area susceptible to wildfire.
- ◆ Short and long-term effects on drainage patterns, stormwater volumes, and water quality within on-site pond and downstream waterbodies.
- ◆ Consistency with existing land use and zoning designations for the property.
- ◆ Provision of public access to open space areas on-site.
- ◆ Increased demand on water supply and the adequacy of sanitary sewer infrastructure.

The heron rookery and the removal of oak trees are addressed in Section 4.3, Biological Resources. Visual effects of the project are discussed in Section 4.8, Aesthetics. Air Quality and Noise impacts are addressed in Sections 4.5 and 4.10, respectively. Geotechnical issues are addressed in Section 4.2, Geology, Soils, and Seismicity. Traffic-related impacts are addressed in Section 4.6, Traffic and Transportation. Risks related to potential wildfires are discussed in Section 4.11, Hazards and Hazardous materials. Hydrology and water quality issues are discussed and analyzed in Section 4.4, Hydrology and Water Quality. Land Use issues are covered in Section 4.1, Land Use and Public Policy. Potential impacts related to water supply and sanitary sewer capacity are discussed in Section 4.14, Utilities.

### *J. Summary of Major Conclusions*

The following is a summary of the major conclusions set forth in the EIR analysis.

- ◆ The EIR identified a total of ~~33~~ 25 project impacts, including one cumulative impact, as significant or potentially significant. As identified in Table 2-2 later in this section, feasible mitigation is available to reduce all of these impacts to a *less-than-significant level*.
- ◆ Portions of the site are underlain by colluvium soil and fills consisting of unstable geologic materials. Liquefaction and other seismic hazards have the potential to occur during seismic shaking. Mitigation measures identified in Section 4.2 would reduce potential impacts to a *less-than-significant level*.
- ◆ Site preparation and construction would result in the removal of 200 trees on-site. This count includes ~~all~~ native species greater than 6 inches in diameter at breast height (dbh) and blue gum eucalyptus larger than 12 inches dbh. Fifty-three of these trees are protected and non-exempt under Marin County tree ordinances. Mitigation measures are recommended in Section 4.3 of the EIR to minimize tree loss and provide for replacement of trees that are removed. Mitigations include installation of fencing to clearly delineate the boundary of construction, permanent preservation of 4.5 acres of mixed oak forest in the open space portion of the site, replanting native species at a 3:1 replacement ratio, and implementation of a Tree Protection Plan. Taken together, these mitigations would reduce the impact of tree loss to a *less-than-significant level*.
- ◆ As discussed in Section 4.3, there is a blue gum eucalyptus tree on-site that contains a heron nest. The tree containing the rookery is generally located near the center of the proposed development area. In July 2008, the project arborist confirmed his assessment of the tree's condition, as documented in the 2007 Tree Inventory and Evaluation Report, which is that the tree is impaired because it is marginal in both health and structural condition. The tree has root damage from installation of the driveway and is infested with the eucalyptus long-horn borer and the eucalypt-

tus tortoise beetle. Based on these factors, the arborist considers the nest tree to be a hazard with a short life-span.

In response to this hazard, the tree will be removed prior to construction, but outside the nesting season. As discussed in Section 4.1, Land Use and Policy Consistency, the tree's removal would mitigate an existing hazard on the site and would therefore be consistent with Policy CD-2.8 (Limit Development in Resource or Hazard Areas). Furthermore, Mitigation Measures 4.3-B.1 - 4.3-B.4 would reduce potential impacts to herons from loss of the nest to a *less-than-significant* level.

- ◆ Development of the site could adversely affect nesting birds and wildlife movement corridors on the site, especially the creek corridor that connects to the pond on-site. Mitigation measures in Section 4.3 recommend a 20-foot setback from the creek during construction, vegetation removal outside the nesting season, setback from identified nests, preservation of native grassland, incorporation of deed restrictions to preserve native trees, maintaining functional values of wetland, and cleaning of tools to prevent the spread of Sudden Oak Death. These mitigation measures would reduce potential impacts to birds and wildlife movement corridors to a *less-than-significant* level.
- ◆ Grading and excavation could lead to increased erosion of exposed areas during construction, which could, in turn, lead to downstream sedimentation in receiving water bodies. During the operational phase of the project, runoff from driveways and yards could increase non-point source pollution affecting water quality in the on-site pond and in downstream water bodies. Lastly, due to an increase in impervious surface area, the project has the potential to increase the volume of stormwater runoff leaving the site. Mitigation measures identified in Section 4.4 would reduce potential impacts to a *less-than-significant* level.
- ◆ Temporary, localized emissions of Particulate Matter<sub>10</sub> (PM<sub>10</sub>) during construction have the potential to exceed ambient air quality standards and contribute to regional violations of the ambient air quality standards. This potential impact would be reduced to a *less-than-significant* level through mitigation.



- ◆ If made during the AM or PM peak hours, truck trips on San Pedro Road during construction may be substantial in relation to existing traffic volumes. Implementation of a construction-period traffic management plan would reduce this impact to a less-than-significant level. A significant safety impact would occur if adequate site distance is not provided from the main project driveway, Bay Creek Drive, to the west. Mitigation identified in Section 4.6 would reduce this impact to a *less-than-significant* level.
- ◆ Construction activities such as excavation and grading could result in the inadvertent discovery of a previously unknown cultural resource, including an archaeological or paleontological resource, or human remains. Mitigation measures set forth in Section 4.9 would reduce potential impacts to a *less-than-significant* level.
- ◆ Construction-period noise could be perceived as a nuisance to nearby sensitive receptors, including existing residences to the north and west of the project site. Mitigation identified in Section 4.10 would reduce potential impacts to a *less-than-significant* level.
- ◆ Worker exposure to and airborne release of asbestos containing materials (ACMs) may occur due to demolition of the existing residence on-site and auxiliary buildings. Mitigation identified in Section 4.11 would reduce potential impacts to a *less-than-significant* level.
- ◆ The 6-inch diameter sanitary sewer line that the project would tie into may have subsided over time and lost the degree of grade necessary to allow for the adequate transfer of sanitary waste water. Mitigation identified in Section 4.14 would reduce potential impacts to a *less-than-significant* level.

#### ***K. Issues to be Resolved***

The primary issues to be resolved include the following:

- ◆ The Marin County Board of Supervisors will need to decide whether to adopt the project as proposed or one of the alternatives previously identi-

fied in this chapter, or some combination of elements from the project and the alternatives. Based on the alternatives analysis, the Reduced Density is the environmentally superior alternative, but it does not meet all project objectives. It only includes 9 units and one of the project objectives is to construct 12 residential units. Section 21159.26 of the CEQA Guidelines states that a public agency may not reduce the proposed number of housing units as a mitigation measure or project alternative for a particular significant effect on the environmental if it determines that there is another feasible specific mitigation measure or project alternative that would provide a comparable level of mitigation.

As explained in Chapter 5 (Alternatives), the removal of Lots 9,10, and 11 under this alternative would substantially reduce, more so than any other alternative, the proximity of improvements (i.e. graded lots, driveways, homes, yards, and fencing) to the delineated wetland on-site and the amount of encroachment into the 100-foot Wetland Conservation Area (WCA) buffer. Through the removal of Lot 9, this alternative would also eliminate the home proposed at the highest elevation on-site, which would result in a substantial aesthetic improvement. In addition, the reduced amount of grading and paving would reduce the degree of potentially significant effects on water quality during and after construction due to the reduced potential for sedimentation and decreased impermeable surface area. Therefore, a reduced unit alternative was considered due to the unique improvements it would offer in reducing impacts.

The Revised Project Alternative and the Alternate Use Alternative are environmentally superior to the proposed project, but inferior to the Reduced Density Alternative. The Alternate Use Alternative, which involves the construction of 12 units, would be more aligned with the project objectives than the Reduced Density Alternative. The Revised Project Alternative would meet all project objectives. ~~Alternate Use Alternative is the environmentally superior alternative and meets most of the project objectives. The Reduced Density Alternative is the most environmentally superior alternative that meets many of the project objec-~~

tives. In reaching its decision in support of an alternative, the Board of Supervisors will consider the analysis and conclusions in the EIR. The Board will also consider the mitigation measures proposed in the EIR as these measures can be adopted as conditions of project approval.

- ◆ Some of the mitigation measures recommended in the EIR call for modifications to the site design in order to reduce potentially significant impacts to a less-than-significant level. These mitigations, which are described in Section 4.6, Traffic and Transportation of this EIR, appear to be feasible. The applicant is responsible for considering these mitigation measures and determining whether they are ultimately feasible. Should the applicant conclude that the aforementioned measures are not feasible from a technical or planning perspective, they will need to supply Marin County Community Development Agency with documentation to substantiate that conclusion. This documentation, which would need to be submitted to the County during the 45-day public review period on the Draft EIR, and should present alternative mitigation that would reduce the applicable significant impacts to a less-than significant level.
- ◆ The applicant is seeking annexation of the project site into the Las Gallinas Valley Sanitary District. This process cannot be completed until after the project is approved by the County. The decision of whether to approve the proposed annexation will be made by the Local Agency Formation Commission (LAFCO).
- ◆ The project proposes to widen a section of approximately 700 feet of San Pedro Road along the northern frontage of the project site to provide a shoulder on the southern side of the road. The roadway would be widened by 7-feet. The Board of Supervisors will need to decide whether to approve the proposed widening.

*L. Summary Table of Impacts and Mitigations*

Table 2-2 presents a summary of impacts and mitigation measures identified in this report. It is organized to correspond with the environmental issues discussed in Chapter 4.

The table is arranged in four columns: 1) environmental impacts; 2) significance prior to mitigation; 3) mitigation measures; and 4) significance after mitigation. A series of mitigation measures is noted where more than one mitigation may be required to achieve a less-than-significant impact. For a complete description of potential impacts and suggested mitigation measures, please refer to the specific discussions in Sections 4.1 – 4.14. Additionally, this summary does not detail the timing of mitigation measures or the party responsible for implementation. This information is provided in the draft Mitigation Monitoring Program (MMP), which is included as Appendix B to this EIR. The MMP will be finalized and adopted after certification of the Final EIR, as part of the action on the project merits and conditions of approval. The MMP will be modified to reflect those actions.

TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES

	Impacts	Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
<b>4.1 LAND USE</b>					
4.1-A	The proposed project would physically divide an established community.	LTS			Page 4.1-6
4.1-B	The proposed project would conflict with applicable land use plans, policies, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect.	LTS			Page 4.1-7
4.1-C	The proposed project will conflict with an applicable habitat conservation plan or natural community conservation plan.	LTS			Page 4.1-68
4.1-D	The proposed project calls for land uses that would convert prime agricultural land to non-agricultural use or impair the productivity of prime agricultural land.	LTS			Page 4.1-68
4.1-E	The proposed project calls for land uses that would conflict with existing or proposed uses at the periphery of the project area or with other local land use plans.	LTS			Page 4.1-68
4.1-F	The proposed project would result in conversion of open space into urban or suburban scale development.	LTS			Page 4.1-69

LTS = Less Than Significant PS = Potentially Significant S = Significant SU = Significant Unavoidable Impact

TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

	Impacts	Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
4.1-G	The proposed project would conflict with local zoning.	LTS			Page 4.1-69
4.1-H	The proposed project would result in a nuisance impact as a result of incompatible land uses.	LTS			Page 4.1- 69
4.1-I	The proposed project, in combination with other development projects would result in cumulative land use changes.	LTS			Page 4.1-70
<b>4.2 GEOLOGY AND SOILS</b>					
4.2-A	Surface fault rupture.	LTS			Page 4.2-8
4.2-B	The project could result in the exposure of people, structures, and/or property to seismic ground shaking.	PS	4.2-B.1 The following seismic Best Management Practices (BMPs) should be employed: <ul style="list-style-type: none"> <li>♦ Structures should be designed in accordance with all building design requirements as established by the International Building Code (IBC) of 2000 and the California Building Code of 2007.</li> <li>♦ A State-licensed architect and civil engineer should design all structures.</li> <li>♦ All design may undergo a plan review by an independent Civil Engineer with structural expertise retained by the County at the applicant's expense.</li> <li>♦ Utilities should be designed to provide sufficient flexibility or rigidity to withstand the expected ground motions during an earthquake.</li> <li>♦ Water heaters and other fixtures should be secured in accordance with County guidelines.</li> </ul>	LTS	Page 4.2-8

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts	Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
4.2-C Seismic-related ground failure, including liquefaction.	PS	4.2-C.1 Adherence to the Association of Bay Area Government's Manual of Standards for Erosion and Sediment Control Measures during the design, construction and maintenance of the project would limit downhill movements. These standards and measures relate to structural control, vegetation control, soil loss prevention, and dust and wind erosion control.	LTS	Page 4.2-9
4.2-D Landslides.	PS	4.2-D.1 The mitigation measure recommended for Impact 4.2-C also applies to this impact.	LTS	Page 4.2-10
4.2-E Soil erosion and the loss of topsoil.	LTS			Page 4.2-11
4.2-F Unstable geologic units.	PS	4.2-F.1 All proposed structures in those areas identified should be founded in the underlying bedrock. In areas of significant cuts, foundations and retaining walls should be constructed to accommodate the lateral pressures of the upslope colluvium soil. Where necessary, colluvium should be removed to expose bedrock.	LTS	Page 4.2-12
4.2-G Expansive soils.	LTS			Page 4.2-13
4.2-H Soils incapable of supporting on-site wastewater disposal.	LTS			Page 4.2-13

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

	Impacts	Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
4.2-I	Alquist-Priolo Special Studies Zone, or contain a known active fault zone, or an area characterized by surface rupture that might be related to a fault.	LTS			Page 4.2-13
4.2-J	Soil collapse.	LTS			Page 4.2-14
4.2-K	Mineral Resource Zone identified by the California Department of Mines and Geology or within an area designated as important Farmland identified by the Soil Conservation Service.	LTS			Page 4.2-14
4.2-L	Be located next to a water body that might be subject to tsunamis or seiche waves.	LTS			Page 4.2-14
4.2-M	The proposed project, in combination with other development project would result in geotechnical impacts.	LTS			Page 4.2-15
4.2-N	The proposed project in combination with other projects would expose soils to wind and water erosion.	LTS			Page 4.2-16
<b>4.3 BIOLOGICAL RESOURCES</b>					
4.3-A	Adverse impacts to any endangered, rare, or threatened species either directly or through habitat modifications.	LTS			Page 4.3-28

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Significance Before Mitigation		Impacts	Significance With Mitigation		Supporting Data	
Mitigation			Mitigation			
4.3-B	Removal of tree on-site containing the heron nest prior to construction will impact an active great blue heron rookery.	PS	4.3-B.1	<p><u>Through direct consultation with a CDFG biologist, the applicant shall develop an off-site mitigation program that will improve the condition of an the existing heron rookery at West Marin Island or other location, if deemed more suitable by CDFG. A preference should be given to sites that have already been identified as potential habitat that would also benefit by further enhancement and protection in the opinion of CDFG. In developing the program and methods for its implementation, the applicant shall coordinate with Jeremy Sarrow, California Department of Fish and Game and officials responsible for monitoring the heron rookery at West Marin Island. Compensatory mitigation on West Marin Island should consider actions such as rat control, invasive weed control, and/or native plant restoration. The program, which would require CDFG approval prior to construction, would create or enhance habitat for great blue heron nesting and would adhere, at a minimum, to the following site specifications and performance standards:</u></p> <ul style="list-style-type: none"><li>◆ <u>Predators such as northern raccoons would be controlled so as not to threatened potential eggs and chicks.</u></li><li>◆ <u>Trees of suitable stature (&gt; 35 feet tall) and thermal qualities would be available for nesting habitat.</u></li><li>◆ <u>Human intrusion during the nesting season would be controlled.</u></li><li>◆ <u>The potential nest trees would not be closer than 100 feet to a built structure such as a house or road.</u></li><li>◆ <u>Suitable foraging areas would be within acceptable <del>the avoidance impact</del> distance (&lt;0.5 mile) from the nest habitat.</u></li><li>◆ <u>Native habitat values would be created or enhanced on the site, including but not limited to removal and control of non-native species.</u></li></ul>	LTS	Page 4.3-30

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts	Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
		4.3-B.2 Removal and any trimming of the tree containing the rookery shall occur only during the non-nesting season, from September 1 to January 31.		Page 4.3-30
		4.3-B.3 The applicant shall revegetate the edges of the wetland on-site with a cluster of tall-growing, riparian tree species; <del>which could provide a location for a future rookery site.</del>		Page 4.3-30
		4.3-B.4 <del>When managing vegetation for fire control</del> Prior to occupancy and during implementation of the project Vegetation Management Plan, the applicant shall contract a certified arborist to conduct a site visit with the appointed fire prevention specialist. During the site visit, the fire prevention specialist and arborist will collaborate to identify tall trees within the extent of the open space area that could be preserved, provided they do not present a fire risk and are in a good state of health. Prior to occupancy, the applicant shall present the outcome of this collaboration to the County CDA, including a list of tree species within the open space to be preserved, approximate location within the open space, and approximate dbh. <del>health property owners shall maintain large trees in the areas designated as open space, so as to provide potential future rookery sites.</del>		Page 4.3-30
4.3-C Development could impact the channel, bed or banks of the ephemeral creek on-site.	PS	4.3-C.1 Throughout construction, install and maintain temporary fencing or exclusion-zone signs at least 20 feet from the ephemeral stream to ensure consistency with County setback policies.	LTS	Page 4.3-31

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts		Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
4.3-D	Development could affect native grassland habitat, which CDFG tracks because it is declining statewide and provides high value for native plants and wildlife.	PS	4.3-D.1 Preserve at least 0.6-acre of the existing native grassland on the property in the open space reserve to the east of Lot 12. This preserve shall be beyond the lot line for Lot 12.	LTS	Page 4.3-32
4.3-E	Development would remove mixed oak forest and mature trees.	PS	4.3-E.1 Avoid tree removal and minimize impacts to individual trees and oak forest through the following measures. Install fencing at the drip lines of trees to be retained, or other distances approved by a qualified arborist, and avoid operating equipment and vehicles within those buffers. Install fencing along the boundary between proposed private open space and areas to be developed and restrict equipment and vehicles from the areas of proposed private open space.	LTS	Page 4.3-33
		4.3-E.2 Compensate for the loss of 1.5 acres of oak forest by maintaining at least 4.5 acres (3:1 ratio) of mixed oak forest within the 8.6 acres of <del>the</del> open space on the site. Each of the private open space areas shall have deed restrictions on the lots relating to the use and maintenance of the private open space. The deed restrictions will ban the building of any structures or fencing in those areas and require that the areas be maintained in their natural state. The deed restrictions would be permanent and be applicable to future owners.			Page 4.3-34

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts		Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
4.3-F	Substantial adverse effect on federally protected wetlands.	PS	<p>4.3-F.1 Direct impacts to jurisdictional waters associated with installation of the new weir outlet structure in the pond shall be mitigated by providing replacement habitat around the perimeter of the feature. The weir outlet structure would result in approximately 10 cubic feet of fill in the wetland, decreasing the size of the pond and its value for water storage. A minimum of 375 square feet of additional wetland habitat shall be created as replacement habitat by grading to appropriate elevations and establishing native wetland plants. This wetland mitigation shall be accomplished as part of the overall Wetland Mitigation and Enhancement Plan, called for in Mitigation Measure 4.3-F.3.</p>	LTS	Page 4.3-37
4.3-F.2 A detailed Wetland Mitigation and Enhancement Plan (WMEP) shall be prepared by a qualified wetland specialist to mitigate project fill in the jurisdictional wetlands and address potential impacts stemming from the proximity between the wetland boundary and the limits of development. The WMEP shall be approved by regulatory agencies and the County Community Development Agency prior to approval of the final map. The WMEP shall include the following information and provisions:			<ul style="list-style-type: none"> <li>♦ <u>The applicant shall provide evidence to the County Community Development Agency that they have secured appropriate authorizations from CDFG, Army Corps and RWQCB prior to issuance of a grading or building permit for the project. This shall ensure that all appropriate authorizations have been secured, and that the applicant is responsible for addressing any and all additional concerns and conditions of the regulatory</u></li> </ul>		Page 4.3-37

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts	Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
		agencies.		
		♦ The total area of jurisdictional wetlands affected by proposed improvements (10 cubic feet from installation of the weir outlet structure).		
		♦ The wetland type to be affected (seasonal pond).		
		♦ Mitigation ratios for each wetland type, and the total area of wetlands and adjacent uplands to be created, restored, or enhanced. It is expected that wetlands shall be replaced on-site at a minimum 2:1 ratio consistent with Countywide Policy BIO-3.2. For this project, this shall be achieved through the creation of at least 375 square feet of wetland habitat on the eastern side of and immediately contiguous with the existing, delineated wetland area, surrounded by an upland parcel of at least 0.33 acre.		
		♦ A timeline for creation of the mitigation wetlands, and installation of plantings and other improvements. The additional wetland shall be created by grading within 1 year of starting project construction.		
		♦ Specific performance criteria, maintenance and long-term management responsibilities, monitoring requirements, and contingency measures. A timeline for the monitoring requirements, performance criteria, and associated reports shall also be specified. Monitoring shall be conducted by the consulting wetland specialist for five years; annual monitoring reports shall be submitted to the County until these criteria are met.		
		♦ Performance criteria shall include both the area of the created wetlands, and be based on functional parameters		

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts	Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
		<p>such as the presence of wetland hydrology and hydrophytic vegetation. The area of the created wetlands will be determined by a standard wetland delineation (using methods presented by the Army Corps of Engineers) with the understanding that hydric soil indicators may not develop within the monitoring timeframe. Functional performance criteria shall include dominance of hydrophytic vegetation, and hydrological functioning as a wetland. It is expected that adequately functioning created wetlands would support an average absolute percent cover of wetland indicator species equal to at least 80 percent of the average percent cover in the existing wetland, with a similar composition and cover of native species; created wetlands would also exhibit similar wetland hydrology. If the final success criteria have not been met within the five-year timeframe, remedial actions will be implemented and monitoring will continue until the criteria are achieved.</p>		
		<p>♦ A comprehensive program to remove invasive exotics and provide enhancement plantings of native wetland indicator, transitional and upland species to improve the overall habitat functions and values of the area surrounding the existing wetlands. <u>The WMEP will specify undesirable invasive weeds and noxious plants species; these plants shall be initially removed within one year of wetland creation. Native species shall be planted in the wetland and transition area immediately following the removal of these species. The monitoring plan will include monitoring and subsequent management of these undesirable species.</u></p>		
		<p>♦ For the three proposed storm drains that would be</p>		

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts	Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
		directed toward the pond, energy dissipaters and biofiltration structures shall be constructed at the outlet of each drain to treat the water before it enters the pond.		
		<ul style="list-style-type: none"> <li>♦ <u>The surrounding upland space shall be managed to maintain and enhance the functions and values of the wetland. The WMEP will specify monitoring of this surrounding upland, including issues such as presence of exotics, and general upkeep (e.g. trash, human disturbance, etc).</u></li> <li>♦ <u>The WMEP shall specify procedures and responsible parties for implementing any remedial or corrective actions needed for the wetland or upland area throughout the monitoring period. The WMEP shall specify long-term maintenance and monitoring provisions to be managed and funded by the Homeowner's Association.</u></li> <li>♦ <u>The total area of wetlands and adjacent uplands to be created, restored, or enhanced as part of the wetland. Any replacement wetlands shall be consolidated to improve existing habitat values, and be replaced on-site at a minimum 2:1 ratio consistent with Countywide Policy BJO 3-2. For this project, this shall be achieved through the creation of 375 square feet of wetland habitat on the eastern side of and immediately contiguous with the existing, delineated wetland area.</u></li> <li>♦ <u>Performance criteria, maintenance and long-term management responsibilities, monitoring requirements, and contingency measures. Monitoring</u></li> </ul>		

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts	Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
4.3-G Construction could impact nesting birds and bats.	PS	4.3-G.1 Clear and grub vegetation and remove structures in the non-nesting season (September 1 to January 15). If vegetation or buildings that provide potential nesting sites for birds <del>or bats</del> must be removed between January 15 and August 31, a qualified wildlife biologist shall conduct pre-construction surveys within one week of planned clearing. If an active nest is found, the species shall be identified and the approximate distance from the closest work site to the nest estimated. No additional measures need be implemented if active nests are more than the following distances from the nearest work site: (a) 300 feet for raptors; or (b) 75 feet for other non-special-status bird <del>and</del> <del>bats</del> species. These protection zones may be modified on a site-specific basis as determined by a qualified biologist or in coordination with CDFG. Active nests within the project area would be monitored for signs of disturbance. If the biological monitor determines that a disturbance is occurring, construction shall be halted. Disturbance of active nests shall be avoided until it is determined that nesting is complete and the young have fledged.	LTS	Page 4.3-41

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts	Significance Before Mitigation		Mitigation	Significance With Mitigation		Supporting Data
	PS	4.3-H.1		LTS	Page 4.3-43	
4.3-H Site preparation would remove large trees native to Marin County.	PS	4.3-H.1 To mitigate the loss of 53 protected trees, replant on site with native tree species at a minimum 3:1 ratio (at least 159 trees). Native tree species should include black oak, California buckeye, coast live oak, Oregon white oak and valley oak and will range in size from 4 <del>40 feet</del> to 16 feet when planted, reaching 20 feet to 40 feet when mature. Conduct monitoring for three years following planting.		LTS	Page 4.3-43	
4.3-H.2 Develop a Tree Protection Plan that details procedures to maximize tree survivability by implementing all of the guidelines recommended in the 2007 Tree Inventory and Evaluation. The plan shall include, at a minimum, the following topics:						
<ul style="list-style-type: none"> <li>◆ Developing a Tree Protection Zone (TPZ) around trees to be protected.</li> <li>◆ Construction observation and supervision by a certified arborist, or County designated representative.</li> <li>◆ Installation for tree protection fencing around TPZs.</li> <li>◆ Requirements for demolition and/or site clearing near TPZs.</li> <li>◆ Requirements for site grading, trenching, and root pruning.</li> <li>◆ Requirements for foundation and wall Construction within the TPZ.</li> <li>◆ Requirements for site drainage.</li> <li>◆ Standard requirements for pruning and cabling.</li> <li>◆ Tree damage mitigation requirements.</li> <li>◆ Post-construction recommendations.</li> </ul>						

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts		Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
4.3-J	Trimming and removing vegetation and operating track equipment in SOD-infected areas would spread the disease to unaffected areas.	PS	4.3-I.1 Minimize the risk of spreading SOD to unaffected areas through the following measures. Retain vegetation on site or haul it to a permitted recycling center in Marin County. Prior to arrival and departure from the project area, all vehicles, equipment, tools and clothing shall be cleaned of vegetation and mud.	LTS	Page 4.3-44
4.3-J	Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.	LTS			Page 4.3-45
4.3-K	The proposed project, in combination with other development project would result in a cumulative impact on biological resources.	LTS			Page 4.3-46
4.4 HYDROLOGY AND WATER QUALITY					
4.4-A	Post development nonpoint source pollution.	PS	4.4-A.1 The final drainage plan for the project should incorporate the following Best Management Practices (BMPs) to ensure that project development does not result in an increase in NPS pollutants to on-site and off-site wetlands, to lower Gallinas Creek, and ultimately, to San Pablo Bay.	LTS	Page 4.4-18 Page 4.4-21
			<ul style="list-style-type: none"> <li>The existing pond within Drainage Area 1 of the site has been designated as a wetland. The runoff from Drainage Area 1 needs to be treated before it reaches the pond, or it</li> </ul>		

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts	Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
		might potentially pollute the wetland. This is also true for the off-site wetland across North San Pedro Road. The runoff from Drainage Area 2 of the site goes into a culvert under North San Pedro Road and then into the off-site wetland. To avoid the potential of pollutants entering the pond, <del>all</del> stormwater should be treated for water quality before it reaches any wetland. The current drainage design needs to be revised to incorporate permanent BMPs for meeting the County's LID standards. This may require more substantial changes to the landscape design. Permanent BMPs for meeting the County's LID standards may include but are not limited to site and drainage design features that route runoff from roofs and paved surfaces to landscaped areas, engineered bioretention facilities, roofs over areas where vehicles are washed or repaired, facilities for cleaning equipment such as mats used in restaurant kitchens, use of permeable concrete and asphalt surfaces for driveways and roads, and construction of a drainage swale along the west side of the new two-way driveway.		
		Permanent BMPs for treating the stormwater runoff before it reaches the reconfigured pond and the off-site wetland may include but are not limited to: installation of one continuous deflective separation (CDS) unit to remove silt and pollutants from stormwater at each of the three storm drain pipes discharging to the reconfigured pond and at the fire turn around for the storm drain that discharges to the roadside ditch adjacent to North San Pedro Road. The MCSTOPPP's Stormwater Quality Manual for Development Projects in Marin County contains specific guidance applicable to the project category		
		<ul style="list-style-type: none"> <li>♦ The applicant should prepare a Stormwater Control Plan that consists of all the information identified in the</li> </ul>		

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts	Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
		Stormwater Control Plan checklist in the MCSTOPPP's Stormwater Quality Manual for Development Projects in Marin County. This requires calculations for different Drainage Management Areas, a report, and an exhibit, which the applicant would be required to provide as a mitigation measure. The acceptable methods of achieving consistency with the County's LID standards are also discussed in this Manual. The Manual encourages the incorporation of LID approach into the project design.		
		<ul style="list-style-type: none"> <li>◆ The applicant should prepare an operation and maintenance plan of stormwater facilities and identify how and what entity would operate and maintain the storm pond.</li> <li>◆ The applicant should prepare informational literature and guidance on residential BMPs to minimize pollutant contributions from the proposed development. This information should be distributed to future employees and residences at the project site. At a minimum the information should cover: (1) Proper disposal of household and commercial chemicals; (2) Proper use of landscaping chemicals; (3) Clean-up and appropriate disposal of yard cuttings and leaf litter; and (4) Prohibition of any washing and dumping of materials and chemicals into storm drains.</li> </ul>		Page 4.4-23
4.4-B Degradation of water quality.	LTS			Page 4.4-23
4.4-C Groundwater supply and recharge.	LTS			Page 4.4-24
4.4-D Construction-related erosion and siltation	PS	4.4-D.1 The project applicant is required to comply with all	LTS	

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts	Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
and water quality impact.		NPDES Permit requirements for the construction period. Under the NPDES program, the applicant is required to submit a Notice of Intent (NOI) with the State Water Resource Control Board's (SWRCB) Division of Water Quality. The NOI includes general information on the types of construction activities that will occur on the site. The applicant will also be required to prepare a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP will include a description of appropriate BMPs to minimize the discharge of pollutants from the site. BMPs appropriate for construction activities can be organized into four major categories:		
		<ol style="list-style-type: none"> <li>1) Erosion Control: Measures that prevent erosion and keep soil particles from entering stormwater, lessening the eroded sediment that must be trapped, both during and at completion of construction.</li> <li>2) Sediment Control: Feasible methods of trapping eroded sediments so as to prevent a net increase in sediment load in stormwater discharges from the site.</li> <li>3) Site Management: Methods to manage the construction site and construction activities in a manner that prevents pollutants from entering stormwater, drainage systems or receiving waters.</li> <li>4) Materials and Waste Management: Methods to manage construction materials and waste that prevent their entry into stormwater, drainage systems or receiving waters.</li> </ol>		
		The SWPPP shall fully comply with RWQCB		

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts	Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
		requirements and shall contain specific BMPs to be implemented during project construction to reduce erosion and sedimentation to the maximum extent practical. Typical BMPs to be required on-site during construction include, but are not limited to, the following:		
		<ul style="list-style-type: none"> <li>◆ Performing major vehicle maintenance, repair jobs, and equipment washing at appropriate off-site locations;</li> <li>◆ Maintaining all vehicles and heavy equipment and frequently inspecting for leaks;</li> <li>◆ Designating one area of the construction site, well away from streams or storm drain inlets, for auto and equipment parking and routine vehicle and equipment maintenance;</li> <li>◆ Cleaning-up spilled dry materials immediately. Spills are not to be “washed away” with water or buried;</li> <li>◆ Using the minimum amount of water necessary for dust control;</li> <li>◆ Cleaning-up liquid spills on paved or impermeable surfaces using “dry” cleanup methods (e.g. absorbent materials such as cat litter, and/or rags);</li> <li>◆ Cleaning-up spills on dirt areas by removing and properly disposing of the contaminated soil;</li> <li>◆ Storing stockpiled materials, wastes, containers and dumpsters under a temporary roof or secured plastic sheeting;</li> <li>◆ Properly storing containers of paints, chemicals, solvents, and other hazardous materials in garages or sheds with double containment during rainy periods;</li> </ul>		

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts	Significance Before Mitigation		Mitigation	Significance With Mitigation		Supporting Data
4.4-E Increased peak runoff and changes in drainage pattern.	PS	4.4-E.1	<ul style="list-style-type: none"> <li>♦ Applying concrete, asphalt, and seal coat during dry weather. Keeping contaminants from fresh concrete and asphalt out of the storm drains and creeks by scheduling paving jobs during periods of dry weather and allowing new pavement to cure before storm water flows across it;</li> <li>♦ Covering catch basins and manholes when applying seal coat, slurry seal and fog seal.</li> </ul>	LTS	Page 4.4-27	
4.4-F Stormwater drainage system capacities.	LTS				Page 4.4-32	
4.4-G Housing within a 100-year flood hazard zone.	LTS				Page 4.4-33	

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

	Impacts	Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
4.4-H	Risk of loss, injury or death from flooding, including as a result of the failure of a levee or dam.	LTS			Page 4.4-33
4.4-I	Inundation by seiche, tsunami, or mudflow.	LTS			Page 4.4-35
4.4-J	The proposed project, in combination with other development project would increase the impervious surface area throughout the watershed.	LTS			Page 4.4-35
4.4-K	The proposed project, in combination with other development project would potentially increase sedimentation and nonpoint source pollution.	LTS			Page 4.4-36
4.5 AIR QUALITY					
4.5-A	Construction of the new homes could generate temporary emissions of PM <sub>10</sub> that could cause localized exceedances of ambient air quality standards and contribute to regional violations of the ambient air quality standards.	PS	4.5-A.1 During construction, the developer should implement all of the following measures that are feasible to control dust and PM <sub>10</sub> from construction activities: <ul style="list-style-type: none"> <li>♦ Water all active construction areas at least twice daily and more often during windy periods. Active areas adjacent to residences should be kept damp at all times.</li> <li>♦ Cover all hauling trucks or maintain at least 2 feet of freeboard. Dust-proof chutes should be used as appropriate to load debris onto trucks during demolition.</li> <li>♦ Pave, apply water at least twice daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas.</li> </ul>	LTS	Page 4.5-7

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts	Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
		<ul style="list-style-type: none"> <li>◆ Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas and sweep streets daily (with water sweepers) if visible soil material is deposited onto the adjacent roads.</li> <li>◆ Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously-graded areas that are inactive for ten days or more).</li> <li>◆ Enclose, cover, water twice daily, or apply (non-toxic) soil binders to exposed stockpiles.</li> <li>◆ Limit traffic speeds on any unpaved roads to 15 mph.</li> <li>◆ Replant vegetation in disturbed areas as quickly as possible.</li> <li>◆ Opacity is an indicator of exhaust particulate emissions from off-road diesel powered equipment. The project should ensure that emissions from all construction diesel powered equipment used on the project site do not exceed 40 percent opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately</li> <li>◆ The contractor shall install temporary electrical service as soon as possible to avoid the need for independently powered equipment (e.g. diesel-powered compressors).</li> <li>◆ Diesel equipment standing idle for more than three minutes shall be turned off. This would include trucks waiting to deliver or receive soil, aggregate or other bulk materials. Rotating drum concrete trucks could keep their engines running continuously as long as they</li> </ul>		

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts	Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
4.5-B Vehicle trips to and from the project site on local roadways could result in an increase in levels of carbon monoxide.	LTS	were on-site and away from residences. ♦ Properly tune and maintain equipment for low emissions.		Page 4.5-10
4.5-C The project would contribute to ozone precursor emissions within the region.	LTS			Page 4.5-11
4.5-D Objectionable odors may be created on the site during project construction.	LTS			Page 4.5-12
4.5-E The operation of diesel-powered construction equipment would generate toxic air contaminants.	LTS			Page 4.5-13
4.5-F Emissions from development of the project are not expected to exceed BAAQMD thresholds.	LTS			Page 4.5-14
4.5-G Emissions from the project and other development in the County would generate greenhouse gases that would contribute to global warming.	LTS			Page 4.5-19
<b>4.6 TRAFFIC AND CIRCULATION</b>				
4.6-A During the AM or PM peak hour, the volume of truck trips required could result in a substantial, temporary increase of truck trip volumes on San Pedro Road in relation to existing conditions. The increase, although temporary, would be	PS	4.6-A.1 The applicant should be required to develop a traffic management plan that includes the following provisions: ♦ Truck trips to and from the site for purposes of transporting fill would be prohibited during AM and PM peak hours;	LTS	Page 4.6-10

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts	Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
notable in relation to the existing traffic load.		<ul style="list-style-type: none"> <li>◆ No more than two trucks would be allowed to receive soil from the project site at one time;</li> <li>◆ In the event of lane closures in front of the project site for purposes of truck parking, an adequate number of flaggers and the appropriate signage would be required to ensure the safe passage of vehicles, bicyclists, and pedestrians.</li> <li>◆ If construction activity, equipment, vehicles and/r material delivery and storage cause damage to any existing facility (e.g. pavement, curb, gutter, sidewalk, landscaping) beyond normal wear and tear, and determined by the agency, then the permitted shall be responsible for the repair of the same. In order to ensure repair, the agency may require cash deposits prior to issuance of permits or may place holds on interim or final inspections.</li> <li>◆ The applicant should identify locations for contractor parking on site for the duration of the construction period so that spillover parking does not occur along North San Pedro Road or on adjacent streets (e.g. Pt. Gallinas Road).</li> <li>◆ Trucks that would be used to haul earthen material away from the site should be used to transport replacement trees to the site.</li> <li>◆ The applicant should be required to use trucks with a capacity of at least 20 cubic yards (cy) in order to limit the amount of truck trips.</li> </ul>		

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts	Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
4.6-B The project would increase existing traffic load.	LTS			Page 4.6-14
4.6-C Increase of service on existing roadways.	LTS			Page 4.6-14
4.6-D Air traffic patterns.	LTS			Page 4.6-16
4.6-E Failure to provide the required 250 feet of sight distance at the project driveway, Bay Creek Drive, to the west is considered a <i>significant</i> impact.	PS	4.6-E.1 <del>Project Lot 1 should be redesigned to allow</del> <u>The rear yard fence of Project Lot 1 should be relocated to approximately 10 feet south of the location currently shown on the Grading and Drainage Plan. If necessary, the footprint of the proposed residence on Lot 1 should also be redesigned.</u>	LTS	Page 4.6-16
4.6-F Result in inadequate emergency access.	LTS	Prior to grading activity for road and driveway construction being undertaken, the applicant shall submit for review and approval of the DPW traffic engineer, detailed engineering cross sections of the roadway frontage and detailed plan specifications with traffic engineering graphic data that more specifically depicts driveway configurations and site distance from driveway exit points. <u>Confirmation of adequate sight distance would be required prior to occupancy of any proposed units.</u>		Page 4.6-21
4.6-G Result in inadequate parking capacity.	LTS			Page 4.6-21
4.6-H Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).	LTS			Page 4.6-22
4.6-I Internal circulation capacity.	LTS			Page 4.6-22

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

	Impacts	Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
4.6-J	Provisions for pedestrian and bicycle circulation.	LTS			Page 4.6-23
4.6-K	The proposed project, in combination with other development project would increase vehicle trip generation.	LTS			Page 4.6-23
<b>4.7 PUBLIC SERVICES</b>					
4.7-A	Result in substantial adverse physical impacts which could cause significant environmental impacts.	LTS			Page 4.7-4
4.7-B	Require additional fire staff, facilities or equipment to maintain an acceptable level of service (e.g. response time, rating, other).	LTS			Page 4.7-4
4.7-C	The proposed project would combine with other development project to result in cumulative impacts to fire and emergency services.	LTS			Page 4.7-4
4.7-D	Result in substantial adverse physical impacts which could cause significant environmental impacts.	LTS			Page 4.7-8
4.7-E	Require additional police/sheriff staffing, facilities or equipment to maintain acceptable service ratios.	LTS			Page 4.7-9
4.7-F	The proposed project and development of other projects would result in a cumulative increase in police services.	LTS			Page 4.7-9

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

	Impacts	Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
4.7-G	Result in substantial adverse physical impacts which could cause significant environmental impacts in maintaining acceptable service ratios for park and recreational services.	LTS			Page 4.7-15
4.7-H	Require designation of additional parkland to remain in conformance with locally acceptable or adopted park standards.	LTS			Page 4.7-17
4.7-I	The proposed project and other development projects would result in a cumulative impact to park and recreational facilities.	LTS			Page 4.7-17
4.7-J	Result in substantial adverse physical impacts which could cause significant environmental impacts in maintaining acceptable service ratios for school services.	LTS			Page 4.7-21
4.7-K	Require additional school capacity or facilities.	LTS			Page 4.7-21
4.7-L	The proposed project and other development projects would result in a cumulative increase in school demand.	LTS			Page 4.7-22
<b>4.8 AESTHETICS</b>					
4.8-A	Substantial adverse effect on a scenic vista.	LTS			Page 4.8-14

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**TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)**

	<b>Impacts</b>	<b>Significance Before Mitigation</b>	<b>Mitigation</b>	<b>Significance With Mitigation</b>	<b>Supporting Data</b>
4.8-B	Damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway.	LTS			Page 4.8-16
4.8-C	Substantial degradation of existing visual character or quality of the site and its surroundings.	LTS			Page 4.8-16
4.8-D	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	LTS			Page 4.8-18
4.8-E	Conflict with County goals and policies related to visual quality.	LTS			Page 4.8-18
4.8-F	Significant alteration to the existing natural viewsheds, including changes in natural terrain or vegetation.	LTS			Page 4.8-19
4.8-G	Significant change to the existing visual quality of the region.	LTS			Page 4.8-20
4.8-H	Significant reduction in sunlight or introduction of shadows in areas used extensively by the public.	LTS			Page 4.8-20
4.8-I	The proposed project, in combination with other development projects would contribute to change in visual character of the area.	LTS			Page 4.8-21

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts		Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
<b>4.9 CULTURAL RESOURCES</b>					
4.9-A	An archaeological site or sites may be adversely impacted or destroyed by construction activities.	PS	4.9-A.1 In the event that unique historical, archeological, paleontological or geologic features are discovered during ground disturbing activities, work on the site should stop immediately until a State-registered professional archeologist, paleontologist, or geologist can assess the nature and importance of the find and recommend appropriate treatment.	LTS	Page 4.9-9
			4.9-A.2 In the event that the project site is identified as an archeological, paleontological, or geologic resource, development should be situated or designed to avoid impacts on the archeological resources. This may be accomplished through one or more of the following methods: <ul style="list-style-type: none"> <li>◆ Siting buildings to completely avoid the archeological site.</li> <li>◆ Covering the site with a layer of soil, also known as “capping”.</li> <li>◆ Deeding the site as a permanent conservation easement.</li> </ul>		Page 4.9-10
4.9-B	The significance of no historical resources will be adversely impacted.	LTS			Page 4.9-11

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts	Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
4.9-C A unique paleontological resource or geologic feature could potentially be impacted by construction activity.	PS	4.9-C.1 In the event that unique historical, archeological, paleontological or geologic features are discovered during ground disturbing activities, work on the site should stop immediately until a State-registered professional archeologist, paleontologist, or geologist can assess the nature and importance of the find and recommend appropriate treatment.	LTS	Page 4.9-11
		4.9-C.2 In the event that the project site is identified as an archeological, paleontological, or geologic resource, development should be situated or designed to avoid impacts on the archeological resources. This may be accomplished through one or more of the following methods: <ul style="list-style-type: none"> <li>◆ Siting buildings to completely avoid the archeological site.</li> <li>◆ Covering the site with a layer of soil, also known as “capping”.</li> <li>◆ Deeding the site as a permanent conservation easement.</li> </ul>		Page 4.9-11
4.9-D Human remains may potentially be disturbed by construction activity.	PS	4.9-D.1 If previously unknown human remains are encountered during construction, the County Coroner and an appropriate representative of the Native American Heritage Commission should be informed and consulted, as required by State law and in accordance with the provisions of Section 7050.5 of the Health and Safety Code, Section 15064.5 (c) of the CEQA Guidelines, and Section 5097.98 of the Public Resources Code.	LTS	Page 4.9-12

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts		Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
4.9-E	The proposed project, in combination with other development projects, would impact cultural resources in the project area.	LTS			Page 4.9-13
<b>4.10 NOISE</b>					
4.10-A	Noise produced by construction activities would be audible and would intermittently exceed existing noise levels during the construction period at residences to the north and west of the site, would raise the Ldn by more than 5 dBA or exceed the “normally acceptable” standard (60 dBA), as established by the Marin Countywide Plan.	PS	4.10-A.1 Consistent with Sections 6.70.030(5) and 6.70.040 of the Marin County Development Code, the applicant should develop a construction noise reduction plan prior to construction to establish allowable hours of operation for construction-related activities and to designate a noise disturbance coordinator at the construction site to implement the provisions of the plan. The noise disturbance coordinator should be responsible for responding to any local complaints about construction noise. In the event of complaints, the coordinator should determine the cause of the complaint (e.g. starting too early, bad muffler, etc.) and would require that reasonable measures warranted to correct the problem be implemented.  Provisions that should be included in the plan include, but are not necessarily limited to, the following:  ♦ Limit construction activities, deliveries of materials or equipment to the site, to the hours between 9:00 a.m. and 6:00 p.m. Monday through Saturday, <del>and 10:00 a.m. to 6:00 p.m. Sundays and all holidays recognized by Marin County.</del>  ♦ <u>Prohibit construction on all Sundays and holidays recognized by Marin County.</u>	LTS	Page 4.10-7

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts	Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
		<ul style="list-style-type: none"> <li>◆ Do not allow start up of construction related machinery or equipment prior to 8:00 a.m. Monday through Friday, 9:00 a.m. Saturday, and 10:00 a.m. on Sunday and holidays.</li> <li>◆ Select quiet construction equipment, particularly air compressors, whenever possible.</li> <li>◆ Properly muffle and maintain all construction equipment powered by internal combustion engines.</li> <li>◆ Prohibit unnecessary idling of internal combustion engines. Equipment should be turned off when not in use.</li> <li>◆ Do not allow machinery to be cleaned or serviced past 6:00 p.m. Monday through Friday, 6:00 p.m. on Saturdays, and 6:00 p.m. on Sundays and holidays.</li> <li>◆ Locate all stationary noise-generating construction equipment such as air compressors as far as practical from existing nearby residences and other noise-sensitive land uses. Acoustically shield such equipment.</li> <li>◆ Notify adjacent residents to the project site of the construction schedule in writing.</li> <li>◆ Control noise from construction workers' radios so they are not audible at existing residences that border the project site.</li> <li>◆ Conspicuously post a telephone number for the noise disturbance coordinator at the construction site and include it in the written notice sent to neighbors regarding the construction schedule.</li> </ul>		

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts	Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
4.10-B Generation of excessive groundborne vibration or groundborne noise levels.	LTS			Page 4.10-9
4.10-C A substantial permanent increase in ambient noise levels in the project vicinity above levels without the project. (A substantial increase in noise levels would occur if the proposed project resulted in an increase of 3 dBA or greater at noise-sensitive land uses where noise levels already exceed “normally acceptable” levels, or an increase in noise levels of 6 dBA regardless of the noise and land use compatibility standards).	LTS			Page 4.10-10
4.10-D A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. (Including construction-related noise levels sufficiently high to interfere with speech, sleep or normal activities, i.e. construction-related hourly average noise levels received at noise-sensitive land uses above 60 dBA during the daytime or 55 dBA at night.)	LTS			Page 4.10-13

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts	Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
4.10-E Exposure of people residing or working in the project area to excessive noise levels within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport.	LTS			Page 4.10-17
4.10-F For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.	LTS			Page 4.10-18
4.10-G Generation of noise that would conflict with Countywide noise standards or other state or local noise standards.	LTS			Page 4.10-18
4.10-H Land uses that substantially increase noise levels in areas of sensitive receptors.	LTS			Page 4.10-18
4.10-I Land use is not compatible with the baseline noise levels.	LTS			Page 4.10-19
4.10-J The proposed project, in combination with other development projects, would result in a traffic noise impact.	LTS			Page 4.10-19
<b>4.11 HAZARDS AND HAZARDOUS MATERIALS</b>				
4.11-A The project would create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials.	LTS			Page 4.11-9

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Significance Before		Significance With Mitigation		Supporting Data
Impacts	Mitigation	Mitigation		
4.11-B Demolition of the existing dwelling unit and auxiliary buildings may result in worker exposure to asbestos containing materials (ACMs) and the release of airborne asbestos.	PS	4.11-B.1 Prior to demolition of the dwelling unit and auxiliary buildings located on the project site, the applicant should coordinate with the Bay Area Air Quality Management District (BAAQMD) to arrange for an inspection of structures to be demolished. If asbestos is detected in either structure, the demolition and removal of asbestos-containing building materials will be subject to applicable BAAQMD Regulations and the applicant would be required to obtain a Job Number from the BAAQMD. The applicant would be required to present the Job Number to the County Building Department before demolition could commence.	LTS	Page 4.11-10
4.11-C The project would create a significant hazard to the public or the environment through accidental release from project uses.	LTS			Page 4.11-11
4.11-D The project would emit hazardous emissions or handle hazardous materials, substances or waste within one-quarter mile of an existing or proposed school.	LTS			Page 4.11-11
4.11-E The project would be located on a site which is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result create a significant hazard to the public or the environment.	LTS			Page 4.11-12

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts	Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
4.11-F The project would expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.	LTS			Page 4.11-12
4.11-G The project would result in a safety hazard for people living or working in the project area that is within an airport land use plan where such a plan has not been adopted, within 2 miles of a public airport or public use airport.	LTS			Page 4.11-13
4.11-H The project would result in a safety hazard for people living or working within the vicinity of a private airstrip.	LTS			Page 4.11-13
4.11-I The project would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LTS			Page 4.11-13
4.11-J The potential fall of the mature, blue gum eucalyptus tree located near the center of the site is an existing safety hazard.	PS	4.11-J.1 The applicant shall contract a service to remove the tree prior to construction to ensure the safety of contractors during the construction period and future residents of the development.	LTS	Page 4.11-14
4.11-K The proposed project, in combination with other development projects would result in environmental impacts.	LTS			Page 4.11-15

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts		Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
<b>4.12 ENERGY CONSERVATION</b>					
4.12-A	The project would not utilize energy, oil or natural gas in an inefficient manner.	LTS			Page 4.12-9
4.12-B	The project is not expected to encourage activities that would result in the use of large amounts of energy, oil or natural gas.	LTS			Page 4.12-9
4.12-C	The project will not substantially increase energy usage or use supplies not planned for or beyond the capacity of the project's energy supplier.				Page 4.12-10
4.12-D	The project will not require the development of new energy resources.	LTS			Page 4.12-11
4.12-E	The proposed project's energy service demands would not result in the need for new or physically altered facilities, the construction of which could cause significant environmental impacts.	LTS			Page 4.12-12
<b>4.13 POPULATION AND HOUSING</b>					
4.13-A	The proposed project would not induce substantial population growth either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).	LTS			Page 4.13-4

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts	Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
4.13-B The proposed project would not displace substantial numbers of existing housing, thus necessitating the construction of replacement housing elsewhere.	LTS			Page 4.13-5
4.13-C The proposed project would not displace substantial numbers of people and necessitate the construction of replacement housing elsewhere.	LTS			Page 4.13-5
4.13-D The proposed project would not induce substantial growth or concentration of population.	LTS			Page 4.13-6
4.13-E The proposed project would not conflict with the housing and population projections and policies as set forth in the Countywide Plan.	LTS			Page 4.13-6
<b>4.14 UTILITIES</b>				
4.14-A Construction of new water treatment facilities or expansion of existing facilities.	LTS			Page 4.14-3
4.14-B Have sufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements needed.	LTS			Page 4.14-4
4.14-C Propose a significant increase in the consumption of potable water.	LTS			Page 4.14-4
4.14-D Require substantial expansion of water supply, treatment or distribution facilities.	LTS			Page 4.14-5

LTS = Less Than Significant PS = Potentially Significant S = Significant SU = Significant Unavoidable Impact

TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)

Impacts	Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
4.14E Water supply.	LTS			Page 4.14-5
4.14F Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.	LTS			Page 4.14-9
4.14G Require or result in the construction of wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	LTS			Page 4.14-10
4.14H The 6-inch diameter sewer line that the project would tie into may have subsided over time and lost the degree of grade necessary to allow for the adequate transfer of sanitary wastewater.	PS	4.14-H.1 Prior to issuance of a building permit, the applicant shall contract a qualified technician to probe the existing, 6-inch sanitary sewer line located along the northern edge of San Pedro Road. The probe shall be conducted downstream between Point Gallinas Road and the intersection with Vendola Drive to determine if this section has sufficient grade. Results of the probe shall be submitted to the Las Gallinas Valley Sanitary District (LGVSD) for review and based on the outcome, the applicant shall pay necessary fees to LGVSD for improvements to the pipe that would ensure adequate capacity for the project.	LTS	Page 4.14-10
4.14I Require the expansion of wastewater treatment or distribution facilities.	LTS			Page 4.14-11
4.14-J The proposed project in combination with other development projects would result in a cumulative increase in wastewater treatment.	LTS			Page 4.14-12

LTS = Less Than Significant PS = Potentially Significant S = Significant SU = Significant Unavoidable Impact

TABLE 2-2 **SUMMARY OF IMPACTS AND MITIGATION MEASURES (CONTINUED)**

	Impacts	Significance Before Mitigation	Mitigation	Significance With Mitigation	Supporting Data
4.14-K	Project to be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.	LTS			Page 4.14-16
4.14-L	Federal, State, and local statutes and regulation related to solid waste.	LTS			Page 4.14-18
4.14-M	Utilize a landfill with insufficient capacity to accommodate the proposed project.	LTS			Page 4.14-18
4.14-N	The proposed project in combination with other development projects would result in an increase in demand for solid waste disposal.	LTS			Page 4.14-18

LTS = Less Than Significant PS = Potentially Significant S = Significant SU = Significant Unavoidable Impact

COUNTY OF MARIN  
650 NORTH SAN PEDRO ROAD EIR  
REPORT SUMMARY

COUNTY OF MARIN  
650 NORTH SAN PEDRO ROAD EIR  
REPORT SUMMARY

### 3 PROJECT DESCRIPTION

This EIR was prepared for the County of Marin to evaluate potential environmental impacts resulting from the proposed residential development project at 650 North San Pedro Road in Marin County, California. The project application includes a Rezoning of five existing single-family estate parcels from standard district zoning R-E:B-3 (Residential Estates District 20,000-square-foot minimum lot size) to planned district RSIP (Residential Single-Family Planned 0.81 dwelling units per acre). The application proposes a Master Plan and Precise Development Plan and Re-Subdivision of a 14.8-acre property (five existing parcels) into 12 single-family lots with supporting infrastructure. The plan proposes development of 12 new single-family residences and two detached second units, one each on Lots 11 and 12.

#### *A. Regional and Local Setting*

The proposed project site is located at 650 North San Pedro Road in an unincorporated area of Marin County. The site is approximately 3 miles northeast of downtown San Rafael. The City of San Rafael is located southwest of San Pablo Bay and north of the cities of Mill Valley and Sausalito, approximately 15 miles north of San Francisco. The project site is near China Camp State Park and San Pedro Mountain Preserve on its southern and eastern edges, and residential development to the west and north. The site is in the Santa Venetia neighborhood southeast of the intersection of North San Pedro Road and Point Gallinas Road. The project site's regional and local locations are illustrated in Figures 3-1 and 3-2, respectively. An aerial view of the project area and the footprint of proposed development is illustrated in Figure 3-3.

#### *B. Existing Site Character*

The proposed project site, which is privately owned, currently consists of five Assessor's Parcels including 180-231-05, -06, -07, -09 and 180-291-04. These parcels are shown on Figure 3-4.

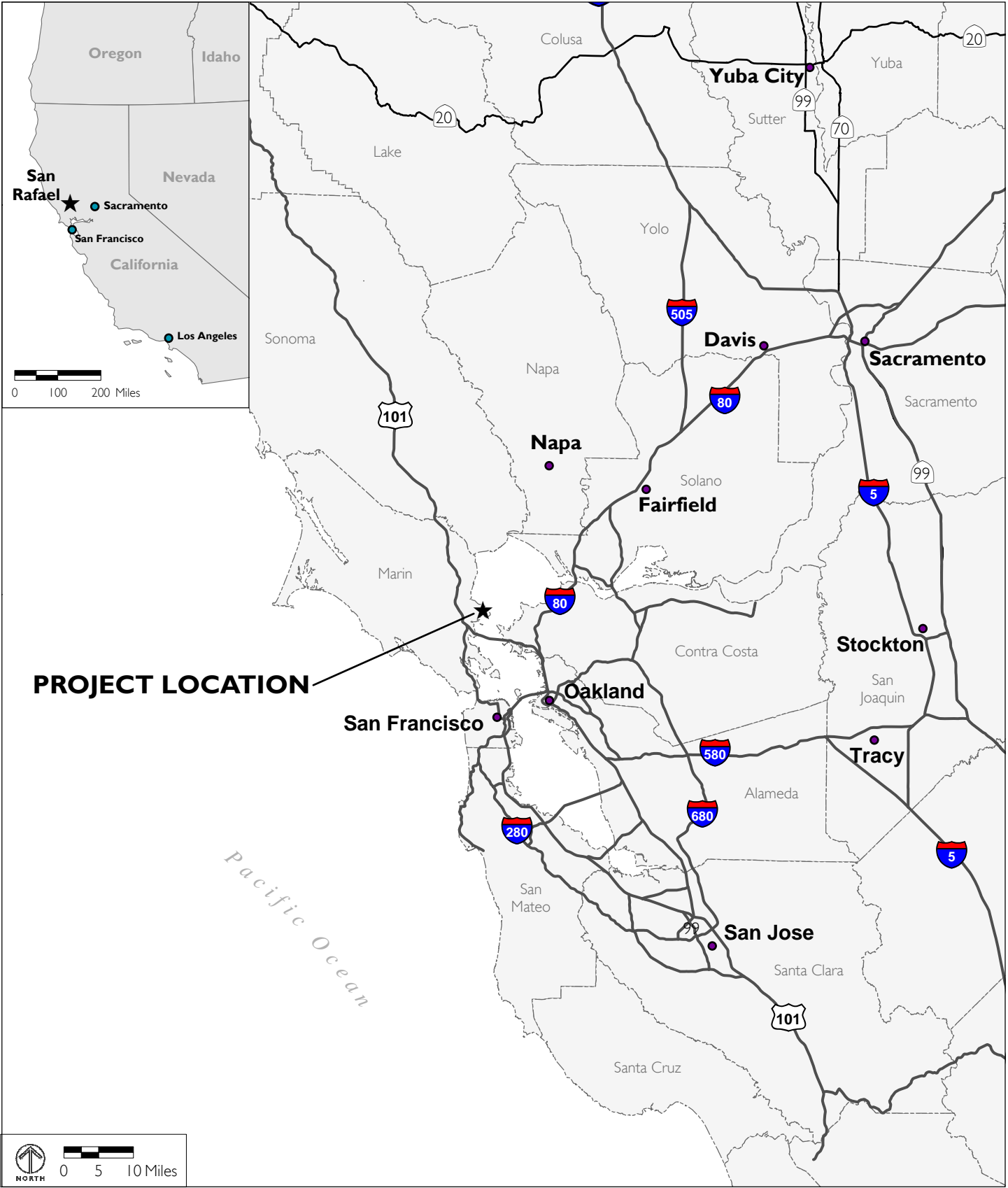


FIGURE 3-1  
REGIONAL LOCATION

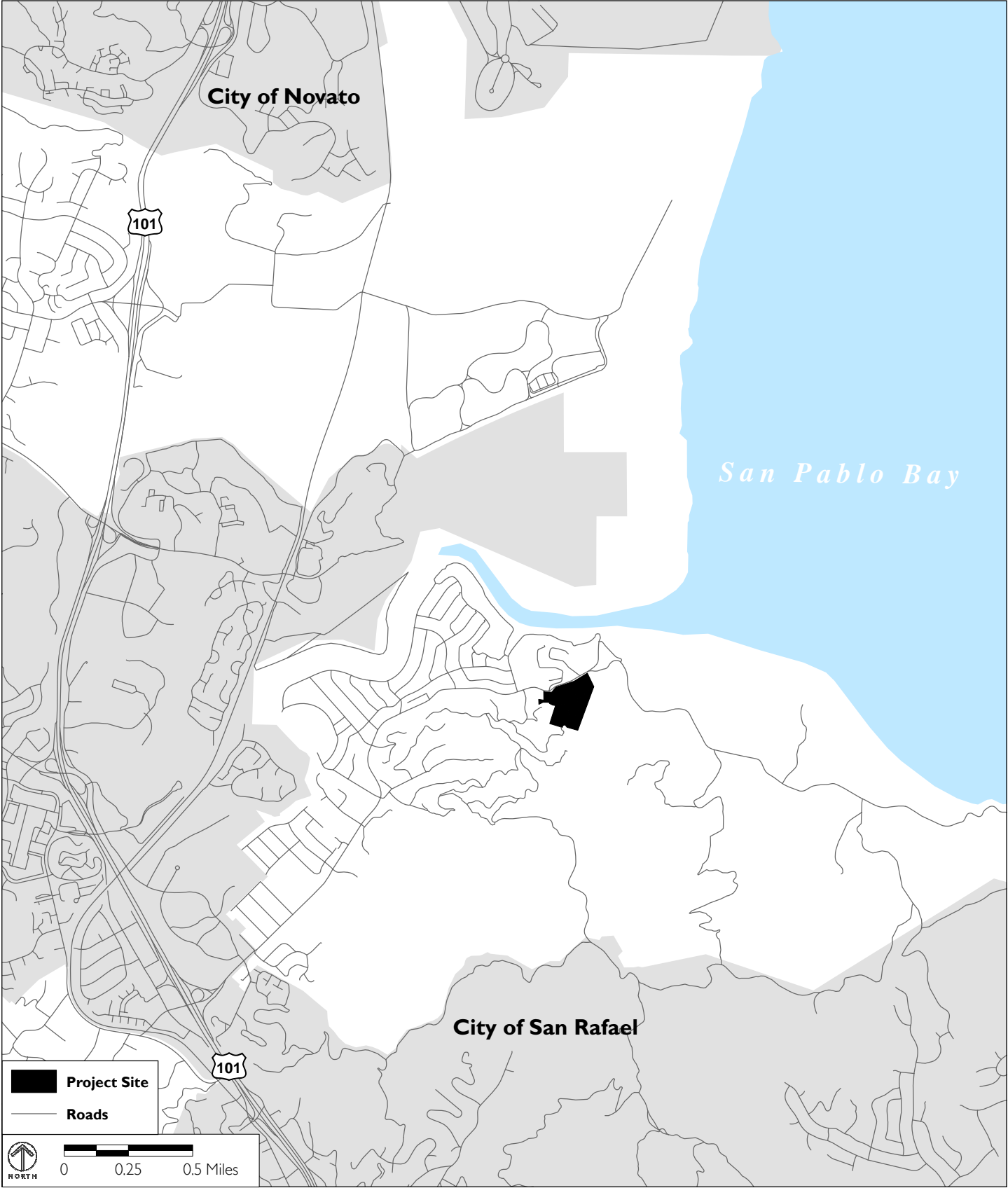
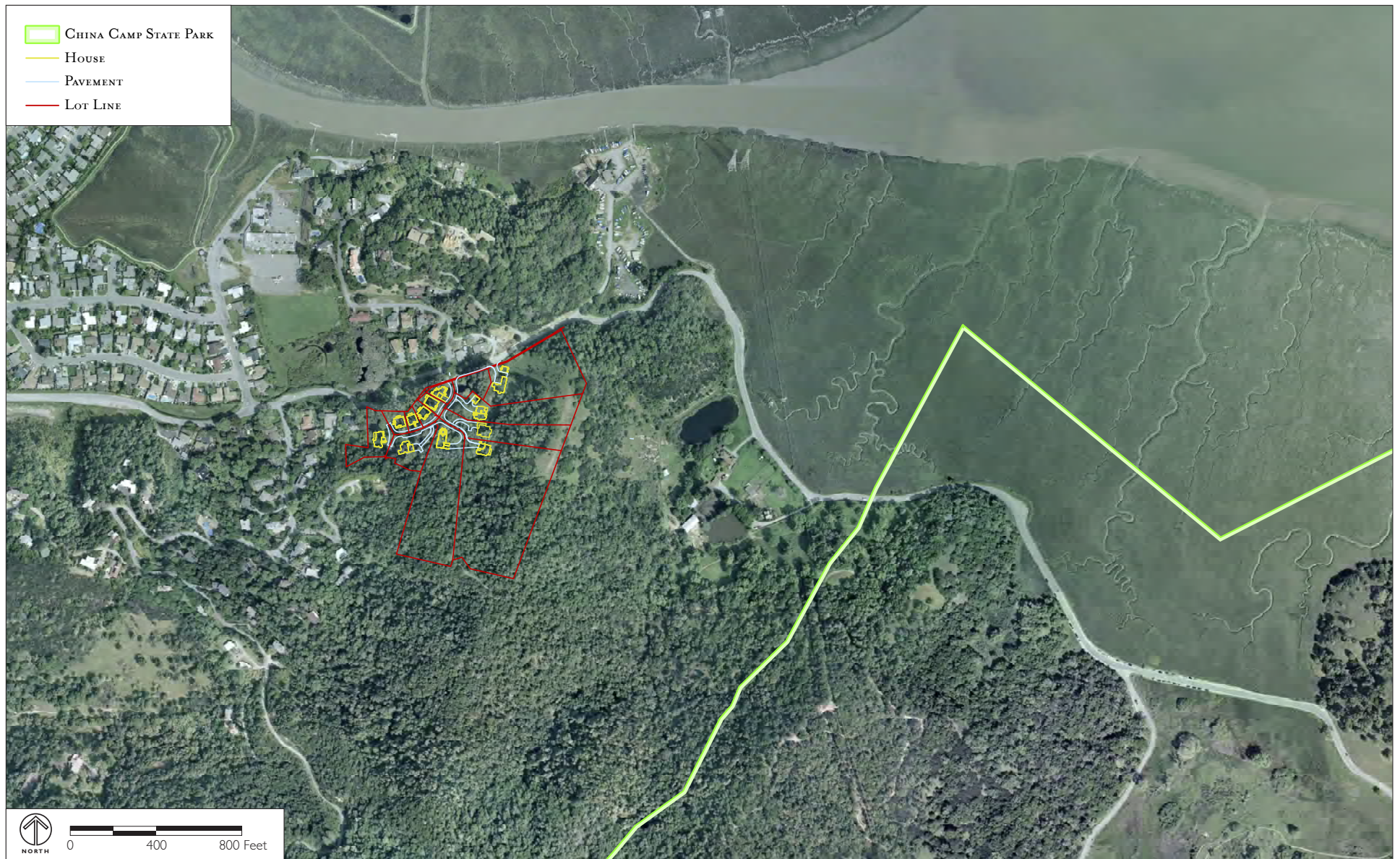


FIGURE 3-2  
PROJECT LOCATION





Source: LSA, Associates, Inc.

FIGURE 3-3  
AERIAL VIEW OF PROJECT





Source: ILS Associates, Inc.

FIGURE 3-4 - REVISED  
**EXISTING PARCELS ON PROJECT SITE**

There is a one-way, single access driveway onto the site from North San Pedro Road. There is an occupied single-family residence on the site and some auxiliary structures that are generally in poor condition. A relatively small portion of the site is fenced.

The majority of the site is undeveloped and consists of mature vegetation and unpaved, internal access roads. Existing vegetation and habitat types include mixed oak woodland, Eucalyptus trees and French broom, other landscaping, grasslands, an ephemeral pond and associated wetlands. The ephemeral pond, which is most likely human-created or enhanced, is located in the northeastern portion of the site adjacent to North San Pedro Road. The ephemeral creek that feeds the pond runs approximately 195 feet from the southeastern end of the property to the pond area. The site, which is steep in portions, generally slopes downhill from south to north toward North San Pedro Road.

### *C. Policy Setting*

The County's General Plan and Development Code provide a policy framework to ensure that future development in the County is consistent with its priorities and goals.

#### **1. Marin Countywide Plan**

The Marin Countywide Plan was adopted in November 2007. The land use designation for the project site is SF4 (single-family, 1 to 2 units per acre maximum density). The range allows for 14.8 to 29.6 dwelling units on the site.

#### **2. Zoning Ordinance**

The current zoning designation for the site is R-E:B-3 (Residential Estates District, 20,000-square-foot minimum lot size). Although the existing zoning is consistent with the land use designation for the site, the applicant proposes to rezone the property to a Residential Single-Family Planned zoning district. The rezoning would allow for certain types of land uses to occur on the

site, but it does not in itself propose or constitute those uses. The proposed rezoning would also be consistent with the SF4 land use designation, as specified in the Countywide Plan.

### **3. Marin County Code**

The project is subject to the regulations of the Marin County Code, including Title 22 (Development Code, Title 23 (Natural Resources), and Title 24 (Development Standards).

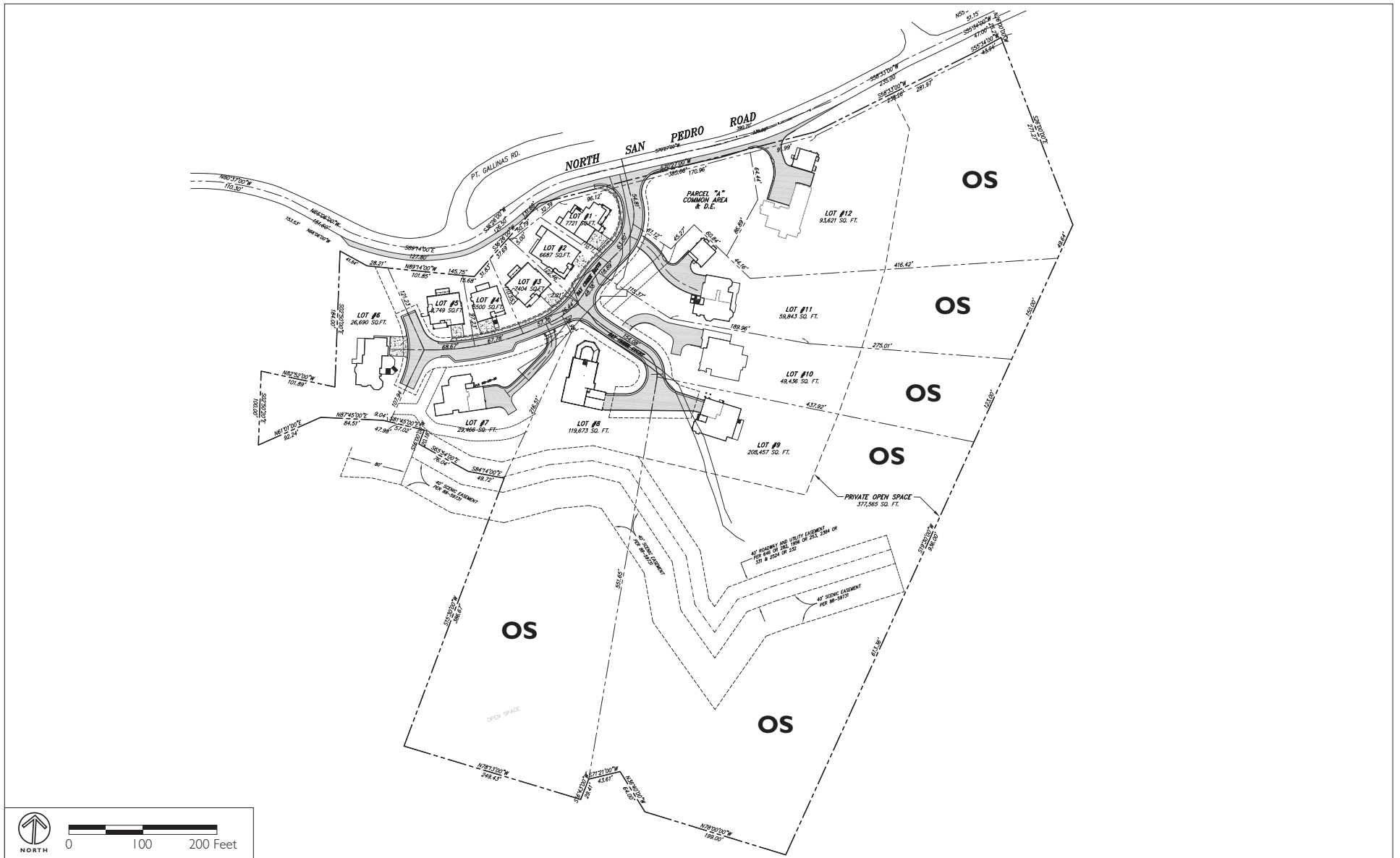
#### ***D. Project Characteristics***

##### **1. Residential**

The property is currently developed with one estate residential dwelling and various accessory buildings located on five existing parcels. The proposed project would assemble five existing parcels (14.8 acres) and re-subdivide the property into 12 new lots, a net gain of seven new parcels. The resulting lots would range in size from 5,500 square feet to 208,457 square feet. The proposed lot plan is shown on Figure 3-5. The conceptual site plan including lot numbers and locations is illustrated in Figure 3-6.

The proposed project includes removal of one existing estate dwelling and accessory buildings and development of 12 new single-family homes, for a net gain of 11 new homes. As shown in Table 3-1, the new residences would be single-family residences ranging in size from 2,221 square feet to 3,598 square feet. Each new residence would include a garage.

In accordance with County Development Code Title 22.22.020(b), which requires 20 percent of the new housing development to be affordable (11 new units x 20 = 2.2 units), the applicant proposes residential units on two lots. Lots 1 and 4, for sale to “moderate” income households in accordance with County published income limits. Secondly, pursuant to CWP Goal HS-3.24, two of the lots (Lots 11 and 12) in addition to a primary dwelling units would



Source: ILS Associates, Inc.

FIGURE 3-5  
LOT PLAN





Source: Donald L. Blayney & Associates Landscape Architecture & Planning

FIGURE 3-6  
CONCEPTUAL SITE PLAN



TABLE 3-1 **SUMMARY OF PROJECT COMPONENTS: RESIDENTIAL UNITS**

Lot Number	Lot Area (Sq.Ft.)	Unit (Sq.Ft.)
1 (Below Market Rate)	7,721	2,315
2	6,687	2,862
3	7,404	3,016
4 (Below Market Rate)	5,500	2,221
5	8,749	3,016
6	26,690	3,032
7	29,466	3,486
8	119,673	3,598
9	208,457	2,798
10	49,436	3,162
11	59,843	2,661 + 696 Second Unit
12	93,621	3,078 + 696 Second Unit

also include a 696-square-foot detached second dwelling unit to provide for workforce and special needs housing.

a. Rezoning

The applicant seeks a rezoning to avoid the strict application of the residential estate zoning (R-E) that requires one (1) acre minimum lot size and standard setbacks. The proposed subdivision layout reduces lot sizes, setbacks and clusters homes to permit open space easements on resource areas and avoid or

mitigate environmental impacts while preserving a housing opportunity specified in the CWP.

## **2. Open Space**

As shown in Table 3-2, the project would include 377,565 square feet (8.6 acres) of private open space, which would be divided among, but entirely encompassed within, the lot lines of Lots 8-12 (see Figure 3-4). Each of the five open space areas would be maintained by the owners of Lots 8-12. In addition to this private open space, the area surrounding the pond would be a common parcel that would encompass 15,377 square feet. The common landscaping and common areas of the site, which would include the pond and a wetlands detention facility, would be maintained by a Homeowners' Association.

Each of the five private open space areas of Lots 8-12 will have deed restrictions on the lots relating to the use and maintenance of the private open space. These "scenic easements" will prevent the building of any structures or fencing in those areas and require that the areas be maintained in their natural state. The deed restrictions would be permanent and be applicable to future owners. The owners of Lots 8-12 would be responsible for proper maintenance of the areas.

## **3. Roadway Improvements**

North San Pedro Road would be widened by approximately 7 feet for a distance of approximately 700 feet along the northern frontage of the project site to provide a shoulder on the southern (Bay Creek Drive) side of the road as well as provide a Class II bike lane. This would provide a deceleration shoulder area for vehicles entering the project driveways from the west. A new two-way driveway would be constructed that would access North San Pedro Road at approximately the same location as the existing driveway. As shown in Figure 3-5, the driveway would divide into two cul-de-sacs from which access would be provided to Lots 1-11. Access to Lot 12 would be provided via a driveway directly connected North San Pedro Road. Bay Creek Drive and Bay Creek Court would be the two main roads into the site from North San



TABLE 3-2 **SUMMARY OF PROJECT COMPONENTS: OPEN SPACE**

<b>Project Component</b>	<b>Area (Sq.Ft.)</b>
Common Area	15,377
Private Open Space	377,565
Total	392,942

Source: 650 North San Pedro Road Lot Map. ILS Associates, Inc..

Pedro Road. Both roads would terminate in a cul-de-sac. The total square footages required for Bay Creek Drive and Bay Creek Court would be 11,712 and 6,170, respectively.

a. Roadway Dedication

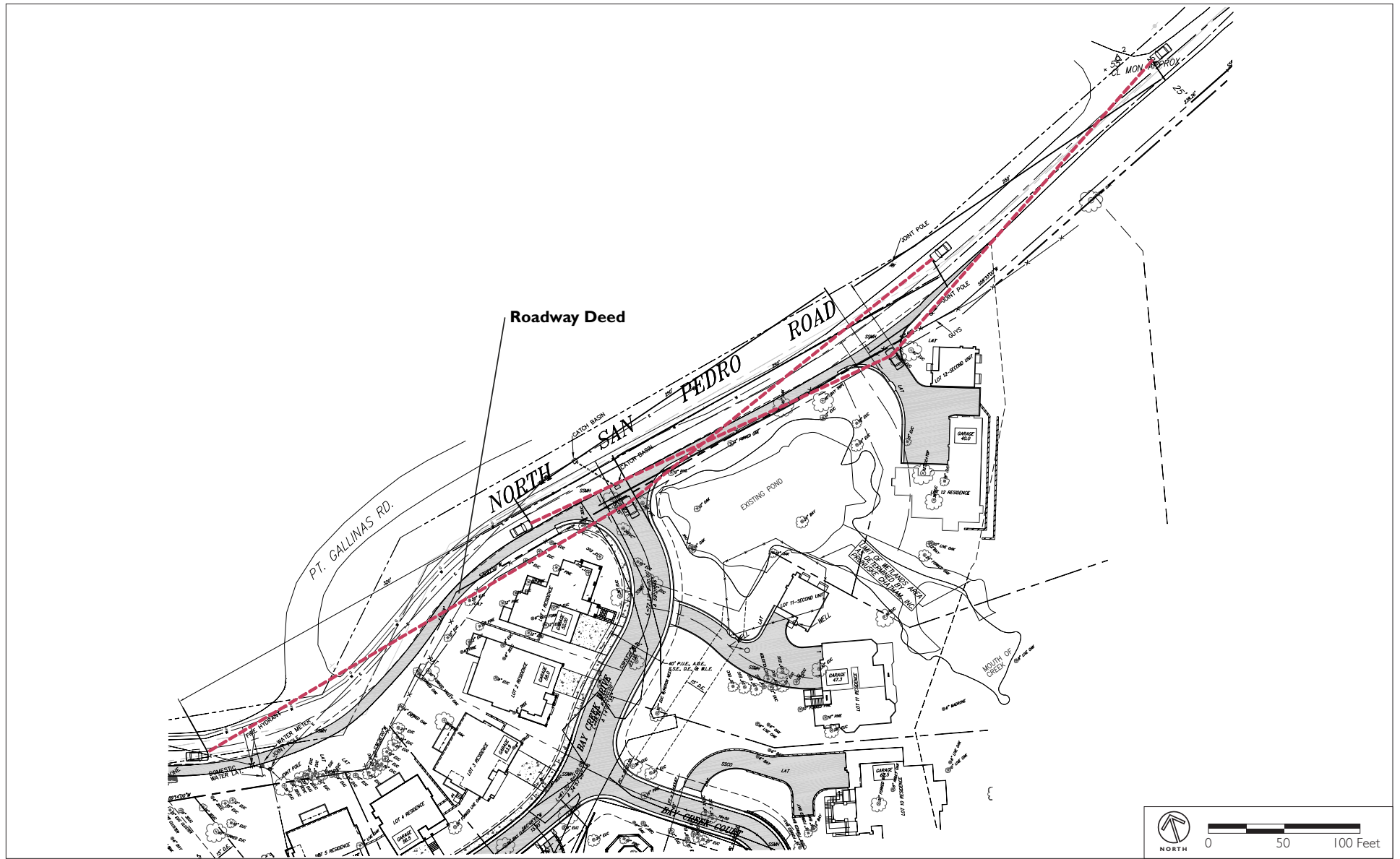
The project includes a roadway dedication on the north side of San Pedro Road. The section of roadway would be dedicated to the County to accommodate the proposed roadway widening discussed above. As shown on Figure 3-7, the area to be dedicated is part of the roadway widening as it extends into the northern boundary of Lots 1 and 2. It is a triangular section of road that would be approximately 25 feet wide from east to west and 5 feet from north to south.

b. Sight Easements

Sight easement shall be maintained along North San Pedro for the purpose of preventing future landscaping or development that would limit the sight distance required for vehicles to safely enter and exit the project site. The sight easements are shown on Figure 3-7.

**4. Internal Circulation**

A cul-de-sac would split from Bay Creek Drive and ascend the slope to the south. Separate driveways would be constructed for each residential unit. The width of roads and driveways would range from 12 feet to approximately



Source: ILS Engineers

FIGURE 3-7  
SIGHT DISTANCE EASEMENTS

28 feet. Sidewalks would be provided on Bay Creek Drive which would facilitate bicycle and pedestrian access throughout the site.

## **5. Utilities**

### **a. Sewer**

The project proponent is seeking annexation into the Las Gallinas Valley Sanitary District; however this process cannot be completed until after the project is approved by the County. Should the Project be approved, the existing on-site septic system would be abandoned under permit from Environmental Health Services (EHS) during the construction process.

### **b. Water**

Marin Municipal Water District (MMWD) has indicated that it will provide a potable water supply to the proposed project upon installation of the approved infrastructure.

### **c. Telephone**

Telephone service to the site will be provided by AT&T.

### **d. TV/Cable**

Cable television services will be provided to the site by Comcast.

**Note:** Additional information on utilities to be provided by West Bay Builders and included in this section.

## **6. Parking**

Lots 1-11 would each have two-car garages and two guest parking spots in front of each garage. Lot 12 would have a three car garage and three guest parking spots in front of the garage. Each of the second units on Lots 11 and 12 would have one parking spot. There would be four guest parking spots along Bay Creek Drive, near the intersection with Bay Creek Court.

## 7. Drainage

The project would include several features to manage the quality and quantity of stormwater runoff generated on the site. The facilities would include catch basins, biofiltration areas, outlet dissipators, a weir outlet structure, and a berm. Ongoing monitoring and maintenance of on-site sediment retention facilities would be the ultimate responsibility of a Homeowner's Association. Each of these features is described below.

### a. Catch Basins

Sixteen catch basins would be installed on the site including one near the center of North San Pedro Road that will be covered and connected with an underground pipe to pick up drainage from the pond. The basins would be installed including one at the intersection of North San Pedro Road and Bay Creek Drive and another approximately 20 feet to the north near the center of North San Pedro Road. Both of the basins would be installed below grade to outlet structures and would serve to control the amount of sediment and debris transported into receiving waters.

### b. Biofiltration Areas

Three biofiltration areas will be constructed within the existing pond area. The purpose of the biofiltration areas is to capture silt that could otherwise be transferred to downstream receiving water bodies and lead to sedimentation. The biofiltration areas will be constructed adjacent to three different drainage pipes located on-site. The drainage pipes would be located on the main driveway between Lots 1 and the pond area, on the edge of the driveway into Lot 11, and the edge of the driveway for Lot 12.

### c. Outlet Dissipators

Outlet dissipators will be constructed at the outfall of two drainage pipes on the site. One will be constructed just beyond the northwest boundary of the site along the southern edge of North San Pedro Road and the other will be constructed at the southeastern corner of Lot 9 site within that lot's open space easement. Each of these dissipators will be used to reduce the velocity

of storm water flows as they move from higher to lower portions of the site and, hence, erosion potential.

d. Weir Outlet Structure

A Weir outlet structure will be installed at the inlet of a drainage pipe situated near the center of the pond located in the northeastern portion of the site. The weir outlet structure will be used to provide multi-stage outlet control for different control volumes within the storage pond (i.e. water quality volume and storm water detention volume).

e. Berm

An earthen berm will be located between the pond and North San Pedro Road. The berm will function to detain runoff in basin. The top of the berm will be approximately two feet above the weir outlet structure and will be constructed of compacted soil from the project site or imported soil.

**8. Wetland Mitigation Area**

The wetland mitigation area will be created on the eastern side of the existing pond, and will be a minimum of 375 square feet of new wetland area to mitigate the addition of 10 cubic feet of fill into the existing pond. The expanded wetland area would be created by grading to appropriate elevations and establishing native wetland plants.

**9. Site Preparation**

Substantial grading is proposed for the portion of the site where development is proposed. The grading calculations, which are specified in Table 3-3, indicate that a total of 8,657 cubic yards of material would be cut (graded or excavated) and 5,735 cubic yards of this material would be hauled off-site. The remaining 2,922 would be stockpiled on the site and used on-site for fill purposes.

The arborist's report indicates that 53 mature, healthy, native trees that meet the County's criteria for a "protected" tree would be removed during site

TABLE 3-3 GRADING CALCULATIONS

Location	Approximate Earthwork Quantities	
	Cut (Cubic Yard)	Fill (Cubic Yard)
Lot 1	682	0
Lot 2	197	23
Lot 3	74	220
Lot 4	21	624
Lot 5	23	616
Lot 6	1,038	143
Lot 7	1,081	0
Lot 8	806	0
Lot 9	506	0
Lot 10	326	375
Lot 11	50	621
Lot 12	1,392	9
Bay Creek Drive	1,115	282
Bay Creek Court	1,013	9
N. San Pedro Road	333	0
<b>Totals</b>	<b>8,657</b>	<b>2,922</b>
<b>Total Export</b>		<b>5,735</b>

Source: ILS Architects.

preparation. Overall, site preparation and construction would disturb approximately 3.56 acres, or 24 percent of the property.

#### **10. Green Building**

The project would comply with the County's Green Building Program (including Marin's BEST- Building Energy Efficient Structures Today). The particular elements of the project that will be relied upon to ensure compliance will be identified on permit-level drawings later in the project review process.

The applicant has completed a GreenPoint Rated Checklist, as established by Build It Green. The checklist tracks green features that have been incorporated into the proposed homes. The minimum required score for classification as a green home under the checklist scoring system is 50 points. For this project, the total points achieved for a typical home 90 points.<sup>1</sup>

#### ***E. Project Objectives***

According to the project applicant, the major objectives of the project are to:

- ◆ Construct 12 residential units at 650 North San Pedro Road.
- ◆ Expand the County's supply of market-rate and affordable housing.
- ◆ Expand the County's supply of "green" housing.
- ◆ Improve the visual quality of the site.
- ◆ Improve the safety of the site and access through improved driveways, a bike lane on North San Pedro Road, and reduction of wildfire hazard.
- ◆ Develop a financially-profitable project.

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<sup>1</sup> Build It Green GreenPoint Rated Checklist, San Pedro Road Subdivision, completed August 2007.

*F. Required Permits and Approvals*

The proposed project would require the following approvals from the County of Marin prior to construction. This EIR is intended as the environmental document for all of these actions:

- ◆ Certification of this EIR by the Marin County Board of Supervisors.
- ◆ Master Plan, Development Plan, Subdivision, and Rezoning approval by Marin County Board of Supervisors.
- ◆ Grading permit issued by Marin County Department of Public Works.
- ◆ Encroachment Permit issued by Marin County Department of Public Works.
- ◆ Building permit(s) issued by Marin County Community Development Agency.
- ◆ Approval of Annexation of the project site into the Las Gallinas Valley Sanitary District by the Local Agency Formation Commission (LAFCO).
- ◆ Approval of road widening by Marin County Board of Supervisors.
- ◆ Section 401 Water Quality Certification from the Regional Water Quality Control Board.
- ◆ Nationwide Permit from Army Corps of Engineers under Section 404 of the Clean Water Act.
- ◆ Streambed Alteration Agreement from California Department of Fish and Game.<sup>2</sup>

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<sup>2</sup> Will only be required if the CDFG determines that the project may adversely affect an existing fish and wildlife resource.



## 4 ENVIRONMENTAL EVALUATION

### A. *Format of Environmental Evaluation*

This chapter consists of 14 sections that evaluate the environmental impacts of the proposed project. Each section follows the same format and consists of the following subsections:

- ◆ The *Regulatory Setting* section describes which local, State and/or federal regulations are applicable to the proposed project.
- ◆ The *Existing Setting* section describes current conditions with regard to the environmental factor reviewed.
- ◆ The *Standards of Significance* section tells how an impact is judged to be significant in this EIR. These standards are based on the CEQA guidelines and on thresholds specified by the Marin County.
- ◆ The *Impact Discussion* gives an overview of potential impacts, and tells why impacts were found to be significant or less-than-significant.
- ◆ The *Cumulative Impacts* section analyzes impacts that the proposed project may have when considered in addition to other past, present, and reasonably foreseeable projects.
- ◆ The *Impacts and Mitigation Measures* section numbers and lists identified impacts, and identifies measures that would mitigate each impact.

In subsections 4.1 through 4.14 each numbered impact is considered significant prior to mitigation, unless it is specifically identified as less than significant.

Mitigation measures have been suggested that will reduce significant impacts to less than significant levels. Impacts would be less than significant after mitigation unless they are noted as significant and unavoidable in the text.

All mitigation measures are stated with conditional language (“should”) because they are recommendations and not conditions of approval for the project, unless they are specifically adopted as conditions by the County. Under CEQA, an EIR is required to identify mitigation measures that could reduce identified im-

pacts to less-than-significant levels. However, the County is not required to adopt these mitigation measures, even after the EIR is certified.

The County could also require alternative mitigation measures that are equally effective, or it could find that the identified measures are infeasible and allow the project without mitigation under a finding of overriding consideration. If the County adopts the suggested mitigation measures as conditions of approval, then their language will be changed from the conditional “should” to the mandatory “shall.”

#### *B. Cumulative Impact Analysis*

Section 15130 of the CEQA Guidelines requires an EIR to discuss cumulative impacts of a project when the project's incremental effect is “cumulatively considerable.” CEQA Guidelines Section 15065(a)(3) defines a project’s effects as “cumulatively considerable” when those effects are significant in connection with the effects of past projects, other current projects, and probable future projects.

Where the incremental effect of a project is not “cumulatively considerable,” a Lead Agency need not consider that effect significant, but must briefly describe its basis for concluding that the incremental effect is not cumulatively considerable. Where the cumulative impact caused by the project's incremental effect and the effects of other projects is not significant, the EIR must briefly indicate why the cumulative impact is not significant. The results of the cumulative impact analysis are presented in each Impact Discussion section in subsections 4.1 through 4.14

Section 15130(b) of the CEQA Guidelines states that “the discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.”

The CEQA Guidelines provide two approaches to analyzing cumulative impacts. The first is the “list approach,” which requires a listing of past, present and reasonably anticipated future projects producing related or cumulative impacts. The second is the summary approach wherein the relevant projections contained in an adopted general plan or related planning document that is designed to evaluate regional or area-wide conditions are summarized. A reasonable combination of the two approaches may also be used.

The cumulative analysis of this EIR is consistent with Section 15130(b)(1) of the CEQA Guidelines as it is based on both a list of past, present and probable future development projects in the area (short-term cumulative development), and a summary of development projections. Cumulative impacts would most likely result from short-term and long-term development in the immediate vicinity of the San Pedro Road project. Where appropriate, this EIR assesses the short-term and long-term cumulative impacts that would result from the project plus other projected development throughout Marin County. The following sections review the anticipated short-term and long-term development in the project vicinity and throughout the county.

#### **1. Short-Term Local (San Rafael) Cumulative Development**

Marin County has identified past, present, and probable future projects that, when considered with the effects of the project, may result in cumulative effects. In the City of San Rafael, there are 21 active development projects that are either approved, under construction or have recently completed construction. These projects are listed in Table 4-1. Table 4-2 summarizes the development projects listed in Table 4-1, and shows that development in the project vicinity (in San Rafael) would result in approximately 124 single-family residential units, 200 multi-family residential units, 53 below market rate residential units, 152,227 square feet of office space, 203,670 square feet of retail space, and 32,122 square feet of industrial space.

TABLE 4-1 **APPROVED AND CURRENT DEVELOPMENT PROJECTS IN SAN RAFAEL**

Project Name	Type	Acres	Proposed Land Use	Status
1203-1211 Lincoln Avenue	Residential	0.68	36 Multi-Family Units	Approved
1867 Lincoln Avenue	Residential	0.50	16 Multi-Family Units 2 Below Market Rate	Approved
33 San Pablo	Residential	1.90	66 Multi-Family 16 Below Market Rate	<del>Under Construction</del> Under Review
Academy Heights	Residential	30.76	6 Single-Family Units	Under Construction
Ascona Place	Residential	6.30	9 Single-Family Units 2 Below Market Rate	<del>Under Construction</del> Under Review
Camgros Subdivision	Residential	5.46	13 Single-Family Units 2 Below Market Rate	<del>Under Construction</del> Under Review
Lincoln/Mission Condos	Residential	0.68	30 Multi-Family Units 6 Below Market Rate	Approved
Lookout Mountain	Residential	6.65	9 Single-Family Units 1 Below Market	<del>Under Construction</del> Under Review
Mission/Irwin	Residential	Unknown	13 Multi-Family Units 2 Below Market Rate	Approved
The Lincoln Mews	Residential	0.71	24 Multi-Family 3 Below Market Rate Units	Under Construction
Trinity Community	Residential	4.03	6 Single-Family Units	Under Construction
2350 Kerner	Mixed Use	10.28	116,427 sf Office 32,122 sf Industrial	Under Construction
2 <sup>nd</sup> & B Street Mixed Use	Mixed Use	0.42	4 Multi-Family Units 7,500 sf Retail	<del>Under Construction</del> Under Review
Layfayette Bakery	Mixed Use	Unknown	11 Multi-Family Units 2 Below Market Rate Units 800 sf Office	Approved
San Rafael Airport Rec.	Mixed Use	116.0	Unknown	<del>Under Construction</del> Under Review

Project Name	Type	Acres	Proposed Land Use	Status
The Village at Loch Lamond	Mixed Use	128.0	81 Single-Family Units 17 Below Market Rate Units 22,500 sf Retail	Approved
Dominican University Science	Commercial	13.40	35,000 sf Office	Construction Complete
Extended Stay	Commercial	1.78	Unknown	Under Construction
Peacock Gap Golf Club	Commercial	128.0	11,000 sf Retail	Under Construction
Target	Commercial	19.42	137,679 sf Retail	<del>Under Construction</del> <u>Under Review</u>
Dodge Dealership	Commercial	Unknown	25,000 sf Retail	Approved

Note: sf = square feet.

Source: Marin County, PROPDEV 43, March 2008.

## 2. Short-Term Countywide Cumulative Development

PROPDEV 43 lists 72 projects in various stages of development that are within Marin County, but outside of incorporated San Rafael.<sup>1</sup> Of these projects, 23 projects are under review, 24 have been approved, 18 are under construction, and seven have recently completed construction. A summary of this development is provided below and shown in Table 4-3.

<sup>1</sup> PROPDEV is a series of surveys of proposed development projects in Marin County (including cities). The survey provides information on all projects which include at least five residential units or 5,000 square feet of commercial, industrial, or institutional space. The PROPDEV file includes information such as location, project sponsor, acreage, zoning, square feet of improvements, and status of application. The information in PROPDEV is obtained from County planning staff and planning departments in Marin cities and towns through a survey conducted twice a year. County of Marin, Community development Agency, website, <http://www.co.marin.ca.us/depts/CD/main/comdev/ADVANCE/OTHER/PROPDEV.CFM?print=yes&>, accessed on June 26, 2008.

TABLE 4-2 **SUMMARY OF APPROVED AND CURRENT DEVELOPMENT PROJECTS  
IN SAN RAFAEL**

Land Use	Size
Single-Family Units	124 Units
Multi-Family Units	200 Units
Below Market Rate Units	53 Units
Office Space	152,227 sf
Retail	203,670 sf
Industrial	32,122 sf

Note: sf = square feet.

Source: Marin County, PROPDEV 43, March 2008.

TABLE 4-3 **COUNTYWIDE SUMMARY, EXCLUDING SAN RAFAEL**

Type	Under Review	Approved	Under Construction	Construction Complete	Total
Residential	342 Units	423 Units	552 Units	166 Units	1483 Units
Office	84,474 sf	600,760 sf	84,365 sf	34,336 sf	803,935 sf
Retail	2,963 sf	20,361 sf	193,192 sf	0 sf	216,516 sf
Industrial	59,867 sf	173,256 sf	2,395 sf	68,665 sf	304,183 sf

Note: sf = square feet.

a. Residential

Planning agencies in Marin County received permit applications for 1,024 market rate dwelling units as well as 459 below market rate units. Projects under review account for 342 units, while 423 units have been approved and 552 units are under construction. Since the last update of the PROPDEV list in 2006, 166 residential units have been completed.

b. Office

Projects encompassing approximately 84,474 square feet of office space are currently under review. Over 600,760 square feet of office space have been recently approved, 84,365 square feet are under construction, and 34,336 square feet of office space have been recently completed.

c. Retail

Approximately 2,963 square feet of retail space is under review, 20,361 square feet have been approved, and 193,192 square feet are under construction. No retail projects have been completed since the completion of the previous PROP-DEV 43 list.

d. Industrial

Approximately 59,867 square feet are currently under review, 173,256 square feet have been approved, 2,395 square feet are under construction, and construction has been completed on 68,665 square feet.

### 3. Countywide Plan Projections

Long-term countywide cumulative development can be estimated based on the 2007 Marin Countywide Plan. Table 4-4 shows that if vacant land in 2005 were fully developed, according to the zoning designations of the cities and towns in Marin County, 13,000 residential units would be constructed over the course of the General Plan Buildout (by 2030). As shown in Table 4-5, it is projected that approximately 11.5 million square feet of non-residential uses (office, retail and industrial) will be constructed in the county during the same time frame.

It is not possible to predict when Marin County would reach the buildout levels shown in Tables 4-4 and 4-5. Because it is speculative to estimate when this buildout may occur, the cumulative analysis in this EIR will not assess the proposed project in combination with the projected buildout identified in the Marin Countywide Plan. The projects listed in Table 4-1 provide a sufficient foreseeable growth projection to allow for an analysis of potentially significant cumulative impacts.

TABLE 4-4 **LONG-TERM COUNTYWIDE RESIDENTIAL BUILDOUT PROJECTIONS**

	Existing (2005) (Housing Units)	Buildout Projection (Housing Units)	Increase (Housing Units)
Cities and Towns	80,671	89,133	8,462
Unincorporated Areas	27,323	32,714	5,391
Total	107, 994	121,847	13,853

Source: Marin Countywide Plan Final EIR, Exhibit 3.0-5.

TABLE 4-5 **LONG-TERM COUNTYWIDE NON-RESIDENTIAL BUILDOUT PROJECTIONS**

	Existing (2005) (sf)	Buildout Projection (sf)	Increase (sf)
Cities and Towns	36,005,945	45,431,753	9,425,808
Unincorporated Areas	3,204,549	5,272,188	2,067,639
Total	39,210,494	50,703,941	11,493,447

Source: Marin Countywide Plan Final EIR, Exhibit 3.0-5



## **4.1 LAND USE AND POLICY CONSISTENCY**

This section includes a description of the existing land uses in the vicinity of the project site and an analysis of the effects that the proposed project would have on land use in the project area. This section also includes an analysis of the project's consistency with relevant, local policies, most of which are part of the Countywide Plan.

### ***A. Regulatory Setting***

The following is a description of the documents and regulations that pertain to the proposed project.

#### **1. Marin Countywide Plan**

The Marin Countywide Plan is the County's long range guide for use of land and protection of natural resources. The Plan, adopted in November 2007, establishes policies and programs to be used by the public, planning staff, and decision makers when reviewing and analyzing proposed development. The Plan balances current and future needs for urban, rural and natural uses throughout Marin County. The Plan provides specific policy direction for land in unincorporated areas and general guidelines within the incorporated cities of Marin County. The land use designation of the project site is SF4 (single-family residential, 1 to 2 units per acre).

#### **2. Marin County Zoning Ordinance**

The Marin County Zoning Ordinance (Zoning Ordinance), which is included in Title 22 of the Marin County Code (MCC), includes zoning designations for unincorporated land in the County and zoning code provisions, which provide development standards and permitted land uses for each zoning designation. The current zoning designation of the site is R-E:B-3 (Residential Estates District, 20,000-square-foot minimum lot size).

#### **3. Marin County Code Title 18 (Sewers)**

Title 18 of the Marin County Code establishes permits for sewage disposal and establishes charges for sewer connections and user service. Individual and

alternative sewage disposal systems are also addressed within Title 18. Section 18.06.050 is discussed below.

#### **4. San Rafael Sphere of Influence**

The project site is located within the San Rafael Sphere of Influence (SOI) and is designated Hillside Residential. Although San Rafael does not have any jurisdiction within its SOI, it is allowed to establish future land use designations for areas outside its city limit but within its SOI. The SOI indicates the area where the City is anticipated to annex and urbanize in the future and encourages cities and counties to work together to control and plan for growth in a well thought out manner.

#### **5. LAFCO Policies**

The Marin County Local Agency Formation Commission (LAFCo) promotes orderly, planned development by setting city SOI and controlling the annexation of lands to cities and special districts. LAFCo operates within the authority and policies of the Cortese-Knox Act. The Marin county LAFCo Dual Annexation Policy and the Request for Delayed Implementation Policy are discussed below.

#### ***B. Existing Setting***

The proposed project site is located at 650 North San Pedro Road in an unincorporated area of Marin County, approximately three miles northeast of downtown San Rafael. The site is near China Camp State Park and San Pedro Mountain Preserve on its southern and eastern edges and residential development to the west and north. The site is in the Santa Venetia neighborhood southeast of the intersection of North San Pedro Road and Point Gallinas Road.

As shown on Figure 3-4 in the Project Description section, the proposed project site, which is privately owned, currently consists of five Assessor's Parcels including 180-231-05, -06, -07, -09, and 180-291-04. Each Assessor's Parcel has been determined to be a legal lot of record of the Marin County Planning

Division. Access to the site is from a single-lane driveway connected to North San Pedro Road. There is an occupied single-family residence on the site and some auxiliary structures that are generally in poor condition. A relatively small portion of the site is fenced along San Pedro Road.

The majority of the site is undeveloped and consists of mature vegetation and unpaved, internal access roads. Existing vegetation and habitat types include mixed oak woodland, Eucalyptus trees and French broom, other landscaping, grasslands, a pond and associated wetlands. The ephemeral pond, which is most likely human-created or enhanced, is located in the northeastern portion of the site adjacent to North San Pedro Road. The ephemeral creek that feeds the pond runs approximately 195 feet from the southeastern end of the property to the pond area. The site, which is steep in portions, generally slopes downhill from south to north toward North San Pedro Road. Figure 4.1-1 and 4.1-2 are representative of current conditions on the project site.

### *C. Standards of Significance*

According to the 2008 State CEQA Guidelines, the project would result in a significant land use impact if it would:

- ◆ Physically divide an established community.
- ◆ Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect.
- ◆ Conflict with any applicable habitat conservation plan or natural community conservation plan.

Based on Appendix N of the Marin County Environmental Review Guidelines, the project may also have a significant impact related to land use if the project would:





FIGURE 4.1-1  
EXISTING SITE CONDITIONS





FIGURE 4.1-2  
EXISTING SITE CONDITIONS



- ◆ Call for land uses that would convert prime agricultural land to non-agricultural use or impair the productivity of prime agricultural land.
- ◆ Conflict with County land use goals or policies.
- ◆ Call for land uses that would conflict with existing or proposed uses at the periphery of the project area or with other local land use plans.
- ◆ Result in conversion of open space into urban or suburban scale development.
- ◆ Conflict with local zoning.
- ◆ Result in nuisance impacts as a result of incompatible land uses.

#### *D. Impact Discussion*

This section evaluates impacts of the proposed project as it relates to existing and planned land uses both on-site and in the near vicinity.

##### **Impact 4.1-A The proposed project would physically divide an established community.**

Under the proposed project, development on the site would change from a single-family home to 12 single-family homes and two secondary dwelling units. While the proposed level of development would be considerably more intense in relation to existing conditions, the uses would be similar to the intensity and scale of existing single-family detached residential uses to the north and west of the site.

Therefore, rather than introducing a use that is out of context with existing land uses, the proposed residential uses would be an extension of residential uses already present in the vicinity of the site. Residences in the project vicinity are already subject to uses associated with residential neighborhoods; the project is thus not anticipated to introduce any substantially different patterns or volumes of use to those already present.

Furthermore, the project would not introduce any new infrastructure, such as new roads, in the site's vicinity that could potentially divide an established community. North San Pedro Road would be widened to improve access to the project site; however this would not serve to divide an existing community.

Because the project would be similar to the nature and use of surrounding residential uses and the new single-family residences and associated infrastructure (i.e. new roads on-site) would be contained within an isolated property, the proposed project would not physically divide an established community. *No impact* would occur.

**Impact 4.1-B    The proposed project would conflict conflict with applicable land use plans, policies, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect.**

The project complies with the Marin Countywide Plan land use designation for the area, SF4 (single-family residential, 1 to 2 units per acre maximum density). The current zoning designation for the site is R-E:B-3 (Residential Estates District, 20,000-square-foot minimum lot size). Although the existing zoning is consistent with the land use designation for the site, the applicant proposes to rezone the property to a Residential Single-Family Planned zoning district. Although the rezoning would allow for certain types of land uses to occur on the site, it does not in itself propose or constitute those uses. The proposed rezoning would also be consistent with the SF4 land use designation, as specified in the Countywide Plan.

As discussed below, the project is consistent with relevant policies and regulations established by Marin County. Taken together, this project will result in a *less-than-significant* impact in terms of policy consistency. The project would not conflict with land use plans, policies or regulations established by the County.

The following discusses the proposed project's consistency with relevant plans and policies. Plans and regulations that are relevant to the Project include the following:

- ◆ 2007 Marin Countywide Plan
- ◆ Marin County Development Code (Zoning and Subdivision Regulations)
- ◆ MCC Title 18 (Sewers)
- ◆ LAFCo Policies

To assess project consistency, the following terms are used:

- ◆ **Consistent.** The proposed project would comply with all the requirements of the relevant policy or regulation.
- ◆ **Inconsistent.** The project would or may conflict with any part of the policy or regulation.
- ◆ **Potentially Inconsistent.** It is unclear whether the entire project is in conflict with the policy or regulation.

The consistency analysis includes implementation of EIR-recommended mitigation measures. The project may not be consistent with the plans and policies listed below if mitigation measures recommended in this EIR are not required as conditions of approval for the project.

a. **2007 Marin Countywide Plan**

The Marin Countywide Plan (CWP) was adopted by the Marin County Board of Supervisors on November 6, 2007 and is used to guide land use and development decisions within unincorporated areas of Marin County.

i. *Natural Systems and Agriculture Element*

**Goal BIO-1. Enhanced Native Habitat and Biodiversity.** Effectively manage and enhance native habitat, maintain viable native plant and animal populations, and provide for improved biodiversity throughout the County.

- ◆ Policy BIO-1.1. Protect Wetlands, Habitat for Special-Status Species, Sensitive Natural Communities, and Important Wildlife Nursery Areas and Movement Corridors. Protect sensitive biological resources, wet-



lands, migratory species of the Pacific flyway, and wildlife movement corridors through careful environmental review of proposed development applications, including consideration of cumulative impacts, participation in comprehensive habitat management programs with other local and resource agencies, and continued acquisition and management of open space lands that provide for permanent protection of important natural habitats.

**Consistent**

As documented in Chapter 4.3 of the analysis, background research and reports have been completed to identify sensitive biological resources on-site, including wetlands, a heron rookery, and oak woodlands. Qualified biologists have conducted analyses in order to determine the potential for project impacts on these resources and appropriate mitigation measures to minimize the potential for significant impacts. Based on these analyses, several site-specific measures have been developed for protection, enhancement, and mitigation of wetlands, the ephemeral creek corridor on-site, the heron rookery, and vegetation communities. These mitigation measures, which are identified in Chapter 4.3 of the EIR, would reduce potential impacts to relevant resources to a less than significant level. Through the implementation of these measures, the project would be consistent with the County's ongoing efforts to preserve and enhance wetlands and wildlife nursery areas, habitat, and movement corridors.

- ◆ **Policy BIO-1.2. Acquire Habitat.** Continue to acquire areas containing sensitive resources for use as permanent open space, and encourage and support public and private partnerships formed to acquire and manage important natural habitat areas, such as baylands, wetlands, coastal shorelines, wildlife corridors, and other lands linking permanently protected open space lands.

**Consistent**

In regards to the provision of open space on-site, the project would include 8.6 acres of private open space on the 14.8 acre site, which equates

to 58 percent of the site's total area. As shown on Figure 3-4 in the Project Description, the open space would provide a spatial buffer between the portion of the site to be developed and the existing, undeveloped areas to the south of the site. This buffer, within which development would be prohibited in perpetuity, would serve to reduce the potentially adverse effects of development on adjacent habitat and wildlife.

In addition to the open space included in the project, Mitigation Measure 4.3-F.3 requires that a 0.33 acre area around the wetland be a common parcel managed to maintain and enhance the functional values of the wetland.

- ◆ **Policy BIO-1.3. Protect Woodlands, Forests, and Tree Resources.** Protect large native trees, trees with historical importance; oak woodlands; healthy and safe eucalyptus groves that support colonies of monarch butterflies, colonial nesting birds, or known raptor sites; and forest habitats. Prevent the untimely removal of trees through implementation of standards in the Development Code and the Native Tree Preservation and Protection Ordinance. Encourage other local agencies to adopt tree preservation ordinances to protect native trees and woodlands, regardless of whether they are located in urban or undeveloped areas.

**Consistent**

As stated in Section 4.3, the eucalyptus tree containing the heron nest on the site will be removed prior to construction because the tree is in marginal condition and is susceptible to falling down. The tree's removal would mitigate an existing hazard on the site and would therefore be consistent with Policy CD-2.8, which is discussed later in this section. Furthermore, Mitigation Measures 4.3-B.1 - 4.3-B.4 would reduce potential impacts to herons from loss of the nest to a less than significant level.

As stated in Section 4.3, 1.5 acres of oak forest will be removed by the project, which could affect the wildlife species protected under this policy. Mitigation Measures 4.3-E.1 and 4.3-E.2 would reduce potential im-

pacts from loss of mature oak trees and mixed forest to a less than significant level. Furthermore, the portion (58 percent) of the site that will remain undeveloped will provide continued habitat for butterfly colonies, nesting birds, raptors, and wildlife corridors. Mitigation Measure 4.3-E.2 requires compensation for the loss of oak forest by maintaining at least 4.5 acres (3:1 ratio) of mixed oak forest in open space and that each of the private open space areas have deed restrictions on the lots relating to the use and maintenance of the private open space. The deed restrictions will ban the building of any structures or fencing in those areas and require that the areas be maintained in their natural state.

- ◆ **Policy BIO-1.4. Support Vegetation and Wildlife Disease Management Programs.** Support agency programs and proven methods to limit the impacts of Sudden Oak Death syndrome and any other diseases harmful to native vegetation and wildlife in Marin County, while addressing any potential adverse effects on sensitive resources.

**Consistent**

Mitigation Measure 4.3-I.1 in Section 4.3 specifically addresses the potential for spreading SOD to unaffected areas. This would reduce the risk of spreading the disease to a less than significant level and ensures consistency with Policy BIO-1.4.

- ◆ **Policy BIO-1.5. Promote Use of Native Plant Species.** Encourage use of a variety of native or compatible nonnative, non-invasive plant species indigenous to the site vicinity as part of project landscaping to improve wildlife habitat values.

**Consistent**

The project would promote the use of native plant species and reduce the presence of exotic species. The proposed planting plan lists new tree plantings of coast live oak (*Quercus agrifolia*), ~~California pepper (*Schinus molle*)~~ and western redbud (*Cercis occidentalis*) which are all native tree species. Furthermore, the proposed plant selection consists of 100% Cali-

for California native plantings for tree species with 93% of the (plant) shrubs being either California natives or naturalized species, as defined by the East Bay Municipal Utility District. No invasive, exotic species would be included in the planting plan.

- ◆ **Policy BIO-1.6. Control Spread of Invasive Exotic Plants.** Prohibit use of invasive species in required landscaping as part of the discretionary review of proposed development. Work with landowners, landscapers, the Marin County Open Space District, nurseries, and the multi-agency Weed Management Area to remove and prevent the spread of highly invasive and noxious weeds. Invasive plants are those plants listed in the State's Noxious Weed List, the California Invasive Plant Council's list of "Exotic Pest Plants of Greatest Ecological Concern in California," and other priority species identified by the agricultural commissioner and California Department of Agriculture. Species of particular concern include the following: barbed goatgrass (*Aegilops triuncialis*), giant reed (*Arundo donax*), Italian thistle (*Carduus pycnocephalus*), distaff thistle (*Carthamus lanatus*), purple starthistle (*Centaurea calcitrapa*), yellow starthistle (*Centaurea solstitialis*), pampas grass (*Cortaderia selloana*), Scotch broom (*Cytisus scoparius*), Cape ivy (*Delairea odorata*), oblong spurge (*Euphorbia oblongata*), fennel (*Foeniculum vulgare*), French broom (*Genista monspessulana*), salt-water cord grass (*Spartina alternifolia*), Spanish broom (*Spartium junceum*), medusahead (*Taeniatherum caput-medusae*), gorse (*Ulex europaeus*), and periwinkle (*Vinca major*), among others.

**Consistent**

As explained above in response to Policy BIO-1.5, the project would promote the use of native plant species and reduce the presence of exotic species. All native species would be used in new tree plantings and 93% of the (plant) shrubs planted would be either California natives or naturalized species. Furthermore, several non-native eucalyptus trees and scotch broom would be removed from the site during grading operations.

- ◆ **Policy BIO-1.7. Remove Invasive Exotic Plants.** Require the removal of invasive exotic species, to the extent feasible, when considering applicable measures in discretionary permit approvals for development projects unrelated to agriculture, and include monitoring to prevent re-establishment in managed areas.

**Consistent**

As indicated by the project grading plan and the arborist report, much of the non-native vegetation on-site, which includes invasive and exotic plant species such as eucalyptus trees and scotch broom, will be removed as a result of the project site preparation.

**Goal BIO-2. Protection of Sensitive Biological Resources.** Require identification of sensitive biological resources and commitment to adequate protection and mitigation, and monitor development trends and resource preservation efforts.

- ◆ **Policy BIO-2.1. Include Resource Preservation in Environmental Review.** Require environmental review pursuant to CEQA of development applications to assess the impact of proposed development on native species and habitat diversity, particularly special-status species, sensitive natural communities, wetlands, and important wildlife nursery areas and movement corridors. Require adequate mitigation measures for ensuring the protection of any sensitive resources and achieving “no net loss” of sensitive habitat acreage, values, and function.

**Consistent**

As part of the project’s environmental review process, a biological resource constraints analysis was completed by Garcia and Associates to determine the nature and extent of resource constraints on the site, how the proposed project would affect sensitive biological resources, and what coordination would likely be required with responsible resource agencies. The analysis identified potential impacts that the project could have on special status plant and wildlife species, trees warranting protection under

Chapter 22.27 of the Marin County Development Code, and jurisdictional hydrologic features (e.g. wetlands and streams).

As part of the CEQA clearance process and as required through mitigation specified in Section 4.3, appropriate permits and approvals would be obtained from responsible agencies, including the California Department of Fish and Game, U.S. Army Corps of Engineers, and the Regional Water Quality Control Board. Mitigation Measure 4.3-C.1 will require a setback from the ephemeral creek on-site during construction. Measures 4.3-B.1 – 4.3-B.4 will require that measures are taken to minimize impacts on herons, and measures 4.3-F.1– 4.3-B.6 address impacts to wetlands. This series of mitigation measures would reduce potential impacts on relevant resources to a less than significant level. As a result, the project would be consistent with the County’s efforts to address resource preservation through the environmental review process.

- ◆ **Policy BIO-2.2. Limit Development Impacts.** Restrict or modify proposed development in areas that contain essential habitat for special-status species, sensitive natural communities, wetlands, baylands and coastal habitat, and riparian habitats, as necessary to ensure the continued health and survival of these species and sensitive areas. Development projects should preferably be modified to avoid impacts on sensitive resources, or to adequately mitigate impacts by providing on-site or (as a lowest priority) off-site replacement at a higher ratio.

#### Consistent

The project has been designed to minimize potential impacts on sensitive biological resources, including the wetland feature and the ephemeral creek. Mitigation measures identified in Section 4.3 would reduce potential impacts on these resources to a less than significant level. These measures provide for setbacks from the creek and enhancement of the wetland.

The tree containing the heron rookery on-site would be removed prior to construction. As discussed in Section 4.3, the health of the tree is impaired due to root damage and pest infestation. The longevity of the tree is in question and it presents a hazard due to the possibility that it may fall. As a result, the tree will be removed prior to construction. Mitigation Measures 4.3.B-1 – 4.3.B-4 would reduce potential impacts to herons resulting from removal of the nest to a less than significant level.

Based on the combination of mitigation measures established to reduce potential impacts on sensitive biological resources, the project is consistent with the County's efforts to limit adverse impacts from development.

- ◆ **Policy BIO-2.3. Preserve Ecotones.** Condition or modify development permits to ensure that ecotones, or natural transitions between habitat types, are preserved and enhanced because of their importance to wildlife. Ecotones of particular concern include those along the margins of riparian corridors, baylands and marshlands, vernal pools, and woodlands and forests where they transition to grasslands and other habitat types.

#### **Consistent**

The site plan reflects a consideration of the largely natural surroundings, especially areas to the south of the site. Through focusing the overall footprint of development within the northwestern portion of the site, development would occur in closer proximity to San Pedro Road and the existing Santa Venetia neighborhood; areas where the level of human activity is greater. As shown in Figure 3-4 of the Project Description, portions of the site that are more likely to provide connections to contiguous habitat have been designated as open space. The amount and location of open space provides a substantial spatial buffer between the property line and the footprint of development. As part of the project's deeds and restrictions, development would not be permissible within open space areas in perpetuity.

- ◆ **Policy BIO-2.4. Protect Wildlife Nursery Areas and Movement Corridors.** Ensure that important corridors for wildlife movement and dispersal are protected as a condition of discretionary permits, including consideration of cumulative impacts. Features of particular importance to wildlife for movement may include riparian corridors, shorelines of the coast and bay, and ridgelines. Linkages and corridors shall be provided that connect sensitive habitat areas such as woodlands, forests, wetlands, and essential habitat for special-status species, including an assessment of cumulative impacts.

**Consistent**

Contiguous with areas that are currently open space, the project includes 8.6 acres of private open space on the 14.8 acre site. Protection of open space from future development would provide for continued wildlife movement in this area and reduce the amount of human interference (e.g. light and noise) that is transferred to surrounding habitat. In addition, the permanent 20-foot creek setback would provide for continued use of this feature as a wildlife corridor.

- ◆ **Policy BIO-2.5. Restrict Disturbance in Sensitive Habitat During Nesting Season.** Limit construction and other sources of potential disturbance in sensitive riparian corridors, wetlands, and baylands to protect bird nesting activities. Disturbance should generally be set back from sensitive habitat during the nesting season from March 1 through August 1 to protect bird nesting, rearing, and fledging activities. Preconstruction surveys should be conducted by a qualified professional where development is proposed in sensitive habitat areas during the nesting season, and appropriate restrictions should be defined to protect nests in active use and ensure that any young have fledged before construction proceeds.

**Consistent**

Potential impacts to nesting birds and bats are documented as part of the analysis in Section 4.3. As the analysis states, nesting birds could be affected by the project. The removal of trees and other site preparation ac-



tivities could destroy active nests, harm individual birds, or cause nest abandonment. Mitigation Measure 4.3-G.1 would reduce this potentially significant impact to a less than significant level. The analysis also specifically documents the potential for significant impacts on herons due to the removal of the existing rookery on-site. Mitigation Measure 4.3-B.2 requires that removal of the tree containing the rookery occur outside the nesting season. Through the inclusion of these mitigation measures, the project is consistent with County policy to minimize disturbance to sensitive habitat during the nesting season.

♦ **Policy BIO-2.6. Identify Opportunities for Safe Wildlife Movement.**

Ensure that existing stream channels and riparian corridors continue to provide for wildlife movement at roadway crossings, preferably through the use of bridges, or through over-sized culverts, while maintaining or restoring a natural channel bottom. Consider the need for wildlife movement in designing and expanding major roadways and other barriers in the county. Of particular concern is the possible widening of Highway 101 north of Novato to the county line, where maintenance of movement opportunities for terrestrial wildlife between the undeveloped habitat on Mount Burdell and the marshlands along the Petaluma River is critical.

**Consistent**

As discussed in response to Policy BIO 2.6, 58 percent of the site would be preserved as open space under the project. This open space would provide safe opportunities for wildlife movement. Furthermore, as shown on project plans, a permanent 20-foot setback would exist between the limits of grading and structures and the top of bank for the ephemeral creek corridor. The only project feature that would encroach inside this setback would be a storm water outlet dissipator on the southeast corner of Lot 9. Mitigation Measure 4.3-C.1 would ensure that the 20-foot setback is established and maintained during construction. Because of the setback, the creek would continue to function as a wildlife corridor.

- ◆ **Policy BIO-2.8. Coordinate with Trustee Agencies.** Consult with trustee agencies (the California Department of Fish and Game, U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration Fisheries, U.S. Army Corps of Engineers, Environmental Protection Agency, Regional Water Quality Control Board, and Bay Conservation and Development Commission) during environmental review when special-status species, sensitive natural communities, or wetlands may be adversely affected.

**Consistent**

As part of the CEQA clearance process and as required through Mitigation Measure 4.3-F.1 identified in Section 4.3, the appropriate permits and approvals would be obtained from responsible agencies, including the California Department of Fish and Game, U.S. Army Corps of Engineers, and the Regional Water Quality Control Board.

- ◆ **Policy BIO-2.9. Promote Early Consultation with Other Agencies.** Require applicants to consult with all agencies with review authority for projects in areas supporting wetlands and special status species at the outset of project planning.

**Consistent**

As discussed in Section 4.3, the applicant's biologists met with a CDFG representative on the project site in July 2008 to discuss the status of the tree containing the heron rookery and the rookery itself. One of the main meeting objectives was to revisit potential impacts that the project could have on the nesting herons, the tree containing the nest, and potential mitigation to address removal of the tree. As explained in Section 4.3, the tree containing the nest would be removed prior to construction because it is marginal in health and structural condition. As such, the tree is susceptible to falling down and is therefore a hazard. The applicant coordinated with CDFG in July 2008 to discuss the feasibility of off-site compensatory mitigation to address the loss of the nest. Mitigation

Measure 4.3-B.1 requires continued coordination with CDFG to finalize appropriate off-site mitigation.

Regarding the wetland on-site, a preliminary wetland assessment was conducted on the project site by Prunuske Chatham, Inc. (2003) and revised with additional data collected in 2004 (Prunuske Chatham, Inc. 2004). The area covered in this wetland delineation consisted of a 5.5-acre parcel (APN 180-231-180) that covered most of the northern portion of the project site. The Army Corps of Engineers verified the jurisdictional delineation on July 15, 2004. The area of the jurisdictional wetland was determined to be 0.29 acre.

**Goal BIO-3. Wetland Conservation.** Require all feasible measures to avoid and minimize potential adverse impacts on existing wetlands and to encourage programs for restoration and enhancement of degraded wetlands.

- ◆ **Policy BIO-3.1 Protect Wetlands.** Require development to avoid wetland areas so that the existing wetlands and upland buffers are preserved and opportunities for enhancement are retained (areas within setbacks may contain significant resource values similar to those within wetlands and also provide a transitional protection zone). Establish a Wetland Conservation Area (WCA) for jurisdictional wetlands to be retained, which includes the protected wetland and associated buffer area. Development shall be set back a minimum distance to protect the wetland and provide an upland buffer. Larger setback standards may apply to wetlands supporting special-status species or associated with riparian systems and baylands under tidal influence, given the importance of protecting the larger ecosystems for these habitat types as called for under Stream Conservation and Baylands Conservation policies defined in Policy BIO-4.1 and BIO-5.1, respectively. Regardless of parcel size, a site assessment is required either where incursion into a WCA is proposed or where full compliance with all WCA criteria would not be met. Employ the fol-

lowing criteria when evaluating development projects that may impact wetland areas:

City-Centered Corridor:

- For parcels more than 2 acres in size, a minimum 100-foot development setback from wetlands is required.
- For parcels between 2 and 0.5 acres in size, a minimum 50-foot development setback from wetlands is required.
- For parcels less than 0.5 acres in size, a minimum 20-foot development setback from wetlands is required. The developed portion(s) of parcels (less than 0.5 acres in size) located behind an existing authorized flood control levee or dike are not subject to a development setback.
- Regardless of parcel size, an additional buffer may be required based on the results of a site assessment, if such an assessment is determined to be necessary. Site assessments will be required and conducted pursuant to Program BIO-3.c, Require Site Assessment.

**Consistent**

As described in Section 4.3, the jurisdictional wetland on-site consists of the surrounding pond margin up to 34-foot elevation contour and a zone of wetland vegetation that extends upslope from the pond margin to the outlet of the ephemeral creek. Under County policy, a 100-foot setback is generally required from the edge of delineated wetland for the establishment of a Wetland Conservation Area (WCA).

Based on consultation with Environmental Collaborative, which authored the WCA policy framework, the 100-foot standard should be sensitive to context in that the function and value of the wetland itself and the surrounding upland are intended to serve as the guiding factors in determining an appropriate setback. The intent of County Policy is that a required site assessment, site-specific value and sensitivity of the jurisdictional wetlands, and other attributes dictate the importance and size of the setback zone. Mitigation for encroachment into the 100-foot area is intended to be based on a range of several factors, including the magni-

tude of the incursion, proximity to the actual jurisdictional wetlands, and the value of the upland area that is actually encroached into.

As documented in the 2005 Constraints Report completed by Garcia and Associates, the pond and the wetland are artificial or modified features that have been created or altered by past human activities. The pond is fairly shallow and dries by mid-summer, and so does not provide suitable habitat for species that require perennial aquatic habitats. In addition, the wetland area surrounding the pond is relatively degraded and characterized by a predominance of non-native, weedy vegetation.<sup>1</sup> As stated in Section 4.3 of this EIR, the areas around and upslope of the pond have been altered by a landslide deposit of unknown age and the ground in this area has been substantially disturbed. Drainage from the ephemeral creek now spreads out in sheet flow across the disturbed ground between the toe of slope and the pond. This combination of factors has resulted in a degraded wetland area.

In determining whether a setback from edge of wetland should be applied to this project, DC&E consulted with Garcia and Associates, which completed the Biological Resources Constraints Analysis and Environmental Collaborative, which wrote the WCA policies. The following summarizes this consultation:

- Garcia and Associates concludes that a setback from edge of wetland is not required for this project. As stated in the Countywide Plan, there are a limited number of exceptions to compliance with the WCA setback standards. One exception is when wetlands are avoided by project development and a site assessment demonstrates that minimal incursion within the minimum WCA setback distance would not result in any significant adverse direct or indirect impacts on wetlands.

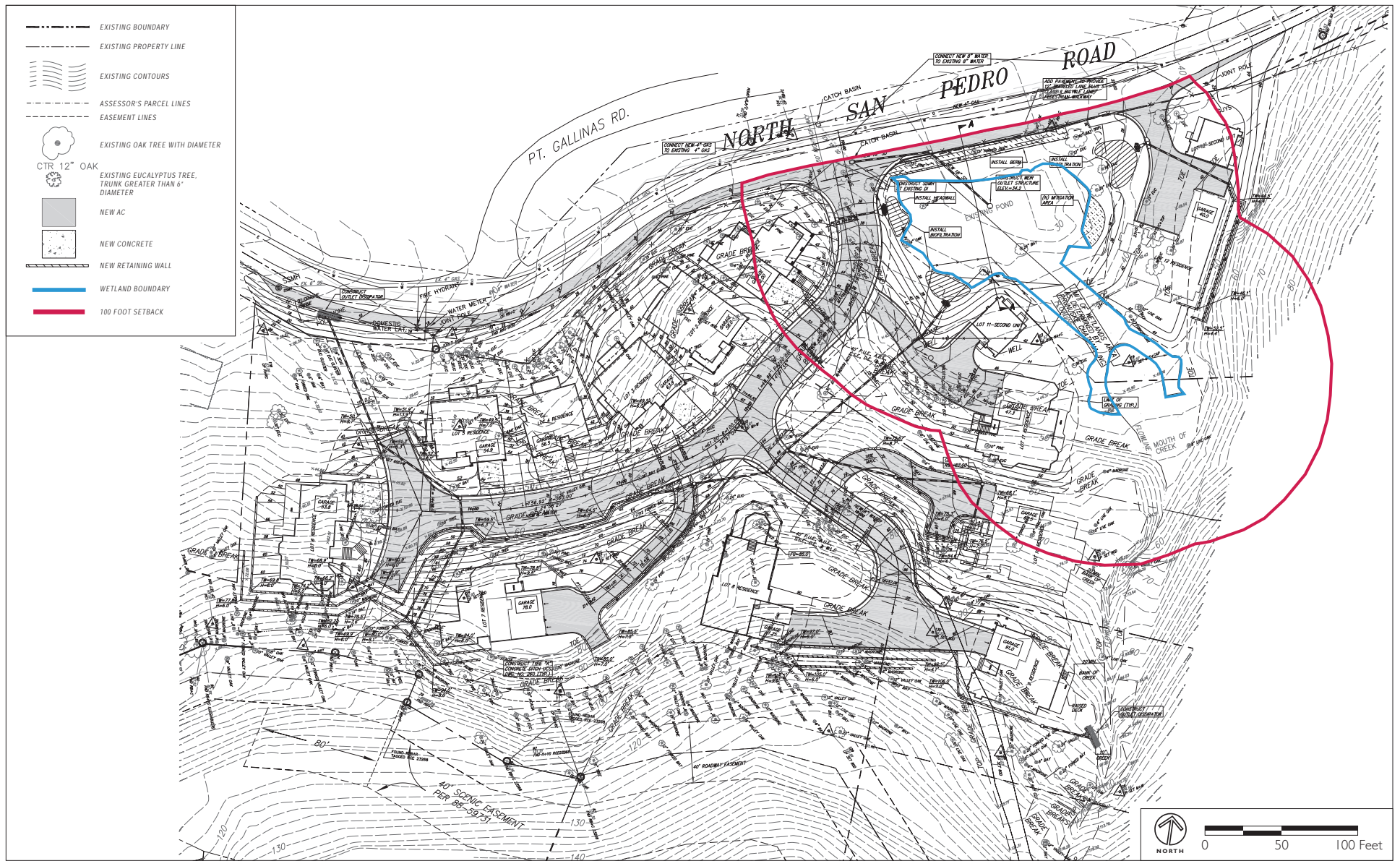
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<sup>1</sup> Garcia and Associates (GANDA), 2005a. *Biological Resources Technical Report for the San Pedro Court Project, Marin County, California*. Prepared for DC&E, June 1. Pages 2-8 and 2-13.

As concluded by GANDA, the project does not propose any ‘new’ development in the wetland itself. The weir outlet pipe won’t be considered new development such as a new house, road, driveway, lawn, or septic system would be. If no drain currently existed in the pond and the proposed weir pipe were a new drain, it would constitute new development within the wetland. However, the weir pipe will be replacing the culvert that currently drains water from the pond under San Pedro Road.

In regards to the 100-foot area surrounding the delineated wetland, GANDA concluded that new development would occur within the area and may result in potentially significant impacts from modifying the adjacent upland hydrology, increasing potential run-off from household and vehicle pollutants, reducing the upland buffer, and reducing the value of the wetland as wildlife habitat. The degree of the project’s encroachment is shown in Figure 4.1-3. Ultimately, GANDA concluded that through the implementation of wetland-specific mitigation measures, as outlined in Section 4.3 of this EIR, these potential impacts would be reduced to a less than significant level and the function and value of the wetland would be improved.

As concluded in Section 4.3 of this EIR, the proximity of development, including grading limits and structures, to the delineated wetland area is such that potential adverse effects on the function and value of the wetland could occur. It is concluded in Section 4.3 that these effects constitute a potentially significant impact. Several mitigation measures have been developed to address these potential impacts. Consistent with County policy, these mitigation measures will ensure that despite encroachment into the 100-foot area surrounding the wetland, that the project will ultimately improve the function and value of the wetland in comparison to existing conditions.



Source: ILS Engineers

FIGURE 4.1-3  
WETLAND CONSERVATION AREA

These measures, which include 4.3-F.1 - 4.3-F.3, require a detailed Wetland Mitigation and Enhancement Plan and creation of a minimum of 375 square feet of new wetland area contiguous with the existing wetland to mitigate the addition of 10 cubic feet of fill in the pond. These mitigation measures would reduce project impacts on the wetland to a less than significant level and through providing for the enhancement of the wetland, ensure consistency with County policy.

♦ **Policy BIO-3.2. Require Thorough Mitigation.** Where avoidance of wetlands is not possible, require provision of replacement habitat on-site through restoration and/or habitat creation at a minimum ratio of 2 acres for each acre lost (2:1 replacement ratio) for on-site mitigation and a minimum 3:1 replacement ratio for off-site mitigation. Mitigation wetlands should be of the same type as those lost and provide habitat for the species that use the existing wetland. Mitigation should also be required for incursion within the minimum WCA setback/transition zone.

#### Consistent

As stated above in response to Policy BIO 3.1, there are several mitigation measures intended to enhance the function and value of the wetland on-site. For example, Mitigation Measure 4.3-F.1 requires that 375 square feet of additional wetland habitat be created along the eastern margin of the existing pond to mitigate the addition of 10 cubic feet of fill in the wetland. This mitigation area would achieve the 2:1 on-site compensation requirement for lost wetlands and as a result, there would be no net loss. The expanded area would be created by grading to appropriate elevations and establishing native wetland plants. There are several other mitigations specifically related to wetland preservation and enhancement that collectively would reduce potential impacts to a less than significant level and ensure consistency with Policy BIO 3.2.

**Goal BIO-4. Riparian Conservation.** Protect and, where possible, restore the natural structure and function of riparian systems.



♦ **Policy BIO-4.1. Restrict Land Use in Stream Conservation Areas.** A Stream Conservation Area (SCA) is established to protect the active channel, water quality and flood control functions, and associated fish and wildlife habitat values along streams. Development shall be set back to protect the stream and provide an upland buffer, which is important to protect significant resources that may be present and provides a transitional protection zone. Best management practices shall be adhered to in all designated SCAs. Best management practices are also strongly encouraged in ephemeral streams not defined as SCAs. Exceptions to full compliance with all SCA criteria and standards may be allowed only if the following is true:

- A parcel falls entirely within the SCA; or
- Development on the parcel entirely outside the SCA either is infeasible or would have greater impacts on water quality, wildlife habitat, other sensitive biological resources, or other environmental constraints than development within the SCA.

SCAs are designated along perennial, intermittent, and ephemeral streams as defined in the Countywide Plan Glossary. Regardless of parcel size, a site assessment is required where incursion into an SCA is proposed or where full compliance with all SCA criteria would not be met. An ephemeral stream is subject to the SCA policies if it: (a) supports riparian vegetation for a length of 100 feet or more, and/or (b) supports special-status species and/or a sensitive natural community type, such as native grasslands, regardless of the extent of riparian vegetation associated with the stream. For those ephemeral streams that do not meet these criteria, a minimum 20-foot development setback should be required.

SCAs consist of the watercourse itself between the tops of the banks and a strip of land extending laterally outward from the top of both banks to the widths defined below (see Figure 2-2). The SCA encompasses any jurisdictional wetland or unvegetated other waters within the stream channel, together with the adjacent uplands, and supersedes setback standards defined for WCAs. Human-made flood control channels under tidal in-

fluence are subject to the Bayland Conservation policies. The following criteria shall be used to evaluate proposed development projects that may impact riparian areas:

City-Centered Corridor:

- For parcels more than 2 acres in size, provide a minimum 100-foot development setback on each side of the top of bank.
- For parcels between 2 and 0.5 acres in size, provide a minimum 50-foot development setback on each side of the top of bank.
- For parcels less than 0.5 acres in size, provide a minimum 20-foot development setback. The developed portion(s) of parcels (less than 0.5 acres in size) located behind an existing authorized flood control levee or dike are not subject to a development setback.
- Regardless of parcel size, an additional buffer may be required based on the results of a site assessment. A site assessment may be required to confirm the avoidance of woody riparian vegetation and to consider site constraints, presence of other sensitive biological resources, options for alternative mitigation, and determination of the precise setback. Site assessments will be required and conducted pursuant to Program BIO-4.g, Require Site Assessment.

Consistent

The biological resource constraints analysis completed by Garcia and Associates identified the existing, ephemeral creek as one of the unique hydrologic features on-site. As stated in the analysis, the creek does not meet the County's criteria for a Stream Conservation Area (SCA), since it is not a mapped "blue line" stream and does not support riparian vegetation. However, the analysis states that the creek is a natural watercourse that provides benefits to wildlife and is important for site drainage and stormwater conveyance. The analysis recommends a setback of 20 feet from the top of the creek bank and around the outlet should be incorporated into the project design to protect its functions and values.

The recommended 20-foot setback has been identified on relevant project plans. The only project feature that would encroach into this setback would be a storm water velocity dissipator, which would be constructed approximately 10 feet from the top of the creek bank on the southeastern corner of Lot 9. However, rather than having a potentially adverse impact on the creek banks or water quality within the creek, the dissipator would serve to reduce velocity of storm water as it enters the creek, thereby reducing the potential for bank erosion and sedimentation. Furthermore, Mitigation Measure 4.3-C.1 requires that throughout construction, temporary fencing or exclusion-zone signs be placed 20 feet from the ephemeral creek to prevent accidental encroachment by contractors.

- ♦ **Policy BIO-4.2. Comply with SCA Regulations.** Implement established setback criteria for protection of SCAs through established discretionary permit review processes and/or through adoption of new ordinances. Environmental review shall be required where incursion into an SCA is proposed and a discretionary permit is required. In determining whether allowable uses are compatible with SCA regulations, development applications shall not be permitted if the project does any of the following:
- Adversely alters hydraulic capacity;
  - Causes a net loss in habitat acreage, value, or function;
  - Degrades water quality.

**Consistent**

Although not identified as a “blue line” stream and therefore not subject to SCA regulations, Mitigation Measure 4.3-C.1 would require a 20-foot set back from the creek during the construction period. In relation to the extent of permanent development, there would no encroachment inside the 20-foot setback, as shown on project plans, with the exception of one storm water velocity dissipator.

- ♦ **Policy BIO-4.4. Promote Natural Stream Channel Function.** Retain and, where possible, restore the hydraulic capacity and natural functions

of stream channels in SCAs. Discourage alteration of the bed or banks of the stream, including filling, grading, excavating, and installation of storm drains and culverts. When feasible, replace impervious surfaces with pervious surfaces. Protect and enhance fish habitat, including through retention of large woody debris, except in cases where removal is essential to protect against property damage or prevent safety hazards. In no case shall alterations that create barriers to fish migration be allowed on streams mapped as historically supporting salmonids. Alteration of natural channels within SCAs for flood control should be designed and constructed in a manner that retains and protects the riparian vegetation, allows for sufficient capacity and natural channel migration, and allows for reestablishment of woody trees and shrubs without compromising the flood flow capacity where avoidance of existing riparian vegetation is not possible.

#### **Consistent**

As explained above in response to Policy BIO-4.2, the project includes a 20-foot setback from the creek. The only exception is a stormwater outlet dissipator, which would reduce the velocity of stormwater entering the creek. The 20-foot setback would reduce the potential for adverse effects on the creek's functions in terms of wildlife movement, storm water conveyance, and groundwater recharge. The project would not degrade the stability of the creek channel nor would it include any bank stabilization elements (e.g. placement of rip rap) that would potentially affect the hydraulic capacity of the creek. Furthermore, the project would not involve the construction of any roadways within a SCA.

There may be an increase in storm water runoff into the creek due to an increase of impermeable surface area upslope, however the potential increase in volume would not be such that it would alter the course (direction) of the creek or compromise its existing function as one of the site's primary drainages. Potential impacts to water quality in the creek would be reduced to a less-than-significant level through development of a construction period Stormwater Pollution Prevention Plan (SWPPP) and

implementation of Best Management Practices (BMPs), as required under Mitigation Measure 4.4-D.1.

- ◆ **Policy BIO-4.7. Protect Riparian Vegetation.** Retain riparian vegetation for stabilization of streambanks and floodplains, moderating water temperatures, trapping and filtering sediments and other water pollutants, providing wildlife habitat, and aesthetic reasons.

**Consistent**

Although the creek does not currently support riparian vegetation, the existence of the 20-foot setback would support the possibility that such vegetation would become established in the future.

- ◆ **Policy BIO-4.18. Promote the Use of Permeable Surfaces When Hardscapes Are Unavoidable in the SCA and WCA.** Permeable surfaces rather than impermeable surfaces shall be required wherever feasible in the SCA and WCA.

**Consistent**

The increase of impermeable surface area on-site has only been increased to the degree necessary and there would be no net increase in runoff from the project site. Furthermore, as explained in response to Policy BIO-4.4, the function of the creek on-site as a primary drainage and groundwater recharge area would be maintained.

- ◆ **Policy BIO-4.19 Maintain Channel Stability.** Applicants for development projects may be required to prepare a hydraulic and/or geomorphic assessment of on-site and downstream drainageways that are affected by project area runoff. This assessment should be required where evidence that significant current or impending channel instability is present, such as documented channel bed incision, lateral erosion of banks (e.g., sloughing or landsliding), tree collapse due to streambank undermining and/or soil loss, or severe in-channel sedimentation, as determined by the County. Characteristics pertinent to channel stability would include

hillslope erosion, bank erosion, excessive bed scour or sediment deposition, bed slope adjustments, lateral channel migration or bifurcation, channel capacity, and the condition of riparian vegetation. The hydraulic and/or geomorphic assessment shall include on-site channel or drainage-way segments over which the applicant has control or access. In the event that project development would result in or further exacerbate existing channel instabilities, the applicant could either propose his/her own channel stabilization program subject to County approval or defer to the mitigations generated during the required environmental review for the project, which could include maintenance of peak flows at pre- and post-project levels, or less. Proposed stabilization measures shall anticipate project-related changes to the drainageway flow regime. All project improvements should be designed to minimize flood hydrograph peak flow or flood volume increases into drainage courses. To this end, design features such as porous pavement, pavers, maximizing overall permeability, drainage infiltration, disconnected impervious surfaces, swales, bioretention, green roofs, etc., should be integrated into projects as appropriate. For projects subject to discretionary review, the applicant may be required, as appropriate, to submit a pre-and post-project hydrology and hydraulic report detailing the amount of new impervious surface area and accompanying surface runoff from all improvement areas, including driveways — with a goal of zero increase in runoff (no net increase in peak off-site runoff). The applicant may be required to participate in a peak stormwater runoff management program developed pursuant to new Program BIO- 4.20.

**Consistent**

A 20-foot setback from the creek has been identified on relevant project plans to ensure a spatial buffer between the extent of development and the creek corridor. The homes on Lots 9 and 10 would each be constructed approximately 20 feet from the top of the creek bank, but would not include any encroachment, permanent or temporary, into the creek corridor itself. This buffer would reduce the potential for adverse effects on the creek's functions in terms of wildlife movement, storm water

conveyance, and groundwater recharge. The project would not degrade the stability of the creek channel nor would it include any bank stabilization elements (e.g. placement of rip rap) that would adversely affect the hydraulic capacity of the creek. Furthermore, the project would not involve the construction of any roadways within a SCA. The one project feature that would be constructed inside the 20-foot setback would be a storm water outlet dissipator, which would serve to reduce the velocity of stormwater before it enters the creek. Reducing the flow velocity will in turn reduce the potential for creek bank erosion in this location and downstream sedimentation.

There may be an increase in storm water runoff into the creek due to an increase of impermeable surface area upslope, however the potential increase in volume or velocity would not be such that it would alter the course (direction) of the creek or compromise its existing function as one of the site's primary drainages.

In short, the project would not involve activities either during or after construction that would compromise stability of the creek channel or its banks.

- ◆ **Policy BIO-4.20. Minimize Runoff.** In order to decrease stormwater runoff, the feasibility of developing a peak stormwater management program shall be evaluated to provide mitigation opportunities such as removal of impervious surface or increased stormwater detention in the watershed.

#### Consistent

As part of the Hydrology and Water Quality Analysis completed for the project, peak storm water volumes following project completion were calculated. Based on these calculations, which are identified in Section 4.4 of this EIR, Mitigation Measure 4.4-E.1 has been developed to ensure that the project would not result in an increase in storm water leaving the

site. Through this mitigation, potential impacts from increased peak runoff have been reduced to a less than significant level.

**Goal WR-1. Healthy Watersheds.** Achieve and maintain proper ecological functioning of watersheds, including sediment transport, groundwater recharge and filtration, biological processes, and natural flood mitigation, while ensuring high-quality water.

- ◆ **Policy WR-1.1. Protect Watersheds and Aquifer Recharge.** Give high priority to the protection of watersheds, aquifer-recharge areas, and natural drainage systems in any consideration of land use.

**Consistent**

While the majority of the site (58 percent) would remain in its existing, undeveloped condition, the project would increase the amount of impermeable surface area on-site, thereby potentially increasing the volumes of storm water runoff conveyed to downstream waterbodies. The ephemeral creek and wet-land on-site would continue to serve hydrologic functions of storm water conveyance, storage, and infiltration for groundwater recharge. As described in Chapter 4.4 (Hydrology and Water Quality), modifications to the wetland (pond) feature on-site would be required in order to achieve pre-development storm water runoff levels. Mitigation Measure 4.4-E.1 specifies what modifications to the pond would be necessary to ensure that the project does not result in an increase in storm water leaving the site, which could otherwise have adverse effects on downstream water quality.

- ◆ **Policy WR-1.3. Improve Infiltration.** Enhance water infiltration throughout watersheds to decrease accelerated runoff rates and enhance groundwater recharge. Whenever possible, maintain or increase a site's predevelopment infiltration to reduce downstream erosion and flooding.



**Consistent**

As explained in response to Policy WR-1.1., although impermeable surface area on the site would increase because of the project, the majority (58 percent) of the site would remain undeveloped and therefore maintain areas where groundwater recharge could occur. In addition, the ephemeral creek and wetland on-site would continue to serve hydrologic functions of storm water conveyance, storage, and infiltration for groundwater recharge. Lastly, through Mitigation Measure 4.4-E.1, the project would not increase peak period run off leaving the site.

- ♦ **Policy WR-1.4. Protect Upland Vegetation.** Limit development and grazing on steep slopes and ridgelines in order to protect downslope areas from erosion and to ensure that runoff is dispersed adequately to allow for effective infiltration.

**Consistent**

The project would not involve construction activities (e.g. grading, cuts) on the steepest portions of the site where earthwork would have a greater potential to contribute to erosion and down slope sedimentation during storm events. Following construction, and as part of the permanent project design, several features would be incorporated to minimize the potential for conveyance of contaminated storm water off-site and into receiving water bodies. These features, which are described in Chapter 3.0 (Project Description), include catch basins, biofiltration areas, outlet dissipators, weir outlet structures, and an earthen berm.

**Goal WR-2. Clean Water.** Ensure that surface and groundwater supplies are sufficiently unpolluted to support local natural communities, the health of the human population, and the viability of agriculture and other commercial uses.

- ♦ **Policy WR-2.1. Reduce Toxic Runoff.** Reduce the volume of urban runoff from pollutants — such as pesticides from homes, golf courses,

cleaning agents, swimming pool chemicals, and road oil — and of excess sediments and nutrients from agricultural operations.

**Consistent**

During construction, contractors would be required to adhere to the provisions of a SWPPP, which would include a series of BMPs to minimize the potential creation and runoff of contaminated storm water. The SWPPP and likely BMPs are discussed in more detail as part of Mitigation Measure 4.4-D.1 in Section 4.4 (Hydrology and Water Quality). Beyond the construction period, the drainage scheme would introduce several new features and utilize existing features such as the pond, to minimize the transfer of potentially polluted stormwater to receiving waterbodies and to meter the rate of stormwater release from the site. These features, which are described in more detail in Section 3.0 (Project Description) and 4.4, include catch basins, catch basin silt traps, grass swales, outlet dissipators, weir outlet structures.

Based on the inclusion of construction-period measures and post-construction features identified above, the project would be consistent with County policy.

- ◆ **Policy WR-2.2. Reduce Pathogen, Sediment, and Nutrient Levels.** Support programs to maintain pathogen and nutrient levels at or below target levels set by the Regional Water Quality Control Board, including the efforts of ranchers, dairies, agencies, and community groups to address pathogen, sediment, and nutrient management in urban and rural watersheds.

**Consistent**

As stated in response to Policy WR-2.1, the project includes several features in the proposed drainage plan and a mitigation measure that would reduce the potential for the project to contribute to elevations in pathogen, sediment, and nutrient levels in downstream water bodies. These features and mitigation make the project consistent with this policy.

- ♦ **Policy WR-2.3. Avoid Erosion and Sedimentation.** Minimize soil erosion and discharge of sediments into surface runoff, drainage systems, and water bodies. Continue to require grading plans that address avoidance of soil erosion and on-site sediment retention. Require developments to include on-site facilities for the retention of sediments, and, if necessary, require continued monitoring and maintenance of these facilities upon project completion.

**Consistent**

Through Mitigation Measure 4.4-D.1, the applicant will be required to prepare a construction-period Storm Water Pollution Prevention Plan (SWPPP). The SWPPP will include a description of appropriate Best Management Practices (BMPs) to minimize the discharge of pollutants from the site. BMPs appropriate for construction activities will include erosion and sediment control measures. In addition to this measure, the project drainage plan includes a variety of features that will serve to minimize sedimentation, including catch basins, catch basin silt traps, and grass swales.

**Goal WR-3. Adequate Water for Wildlife and Humans.** Ensure that the available supply of surface and groundwater is used responsibly, so that the needs of both wildlife and human populations are met.

- ♦ **Policy WR-3.1. Conserve Water and Develop New Sustainable Sources.** Reduce the waste of potable water through efficient technologies, conservation efforts, and design and management practices, and by better matching the source and quality of water to the user's needs.

**Consistent**

The project would not rely upon groundwater supply, however the project would increase the demand on-site for potable, surface water, both during construction and operation. As stated in Section 3.0 (Project Description) the project would comply with the County's Green Building

Program including Marin's BEST- Building Energy Efficient Structures Today. Specific water-conservation features that could be incorporated into the project design to help achieve compliance with the County's program include the following:

- ◆ Low flush toilets
  - ◆ Low-flow shower fixtures
  - ◆ Closed loop irrigation systems
  - ◆ Use of drought tolerant plants in planting plan
- ◆ **Policy WR-3.2. Mitigate Water Demand in New Development.** Assess and mitigate the impacts of new development on potable water supplies and water available for wildlife.

**Consistent**

Although impacts related to increase water demand under the project are determined to be less than significant, the project's compliance with the County's Green Building Program will ensure that water-saving features are incorporated into the new homes, which will reduce the overall increase in demand.

**Goal EH-2. Safety from Seismic and Geologic Hazards.** Protect people and property from risks associated with seismic activity and geologic conditions.

- ◆ **Policy EH-2.1. Avoid Hazard Areas.** Require development to avoid or minimize potential hazards from earthquakes and unstable ground conditions.

**Consistent**

Development is proposed on the eastern portion of the site to the south of the existing pond, in an area that was identified in a previous geotechnical evaluation as containing landslide deposits. Based on its May 2008 field survey, Lowney Associates has identified mitigation measures to address potential hazards associated with construction in this portion of the

site. As recommended in Mitigation Measure 4.2-F.1, all proposed structures should be founded in the underlying bedrock and in areas of significant cuts, foundations and retaining walls should be constructed to accommodate the lateral pressures of the upslope colluvium soil.

- ◆ **Policy EH-2.2 Comply with the Alquist-Priolo Act.** Continue to implement and enforce the Alquist-Priolo Earthquake Fault Zoning Act.

**Consistent**

The project would not include the construction of any houses or supporting infrastructure within an Alquist-Priolo Fault zone. However, it is recognized that the project would be constructed within a seismically active region and would therefore be subject to ground shaking during earthquake events. The severity of ground shaking and the potential for damage would depend on the severity of the earthquake and the distance to the epicenter.

- ◆ **Policy EH-2.3 Ensure Seismic Safety of New Structures.** Design and construct all new buildings to be earthquake resistant. The minimum level of design necessary would be in accordance with seismic provisions and criteria contained in the most recent version of the State and County Codes. Construction would require effective oversight and enforcement to ensure adherence to the earthquake design criteria.

**Consistent**

Mitigation Measure 4.2-B.1, which is called out in Section 4.2 (Geology and Soils), would require that all new structures be designed in accordance with all building design requirements, as established by the International Building Code (1200) and California Building Code (2007).

**Goal EH-3 Safety from Flooding and Inundation.** Protect people and property from risks associated with flooding and inundation. (Also see the Public Facilities and Water Resources sections.)

- ◆ **Policy EH-3.1. Follow a Regulatory Approach.** Utilize regulations instead of flood control projects whenever possible to minimize losses in areas where flooding is inevitable.

**Consistent**

The site is not within the 100-year floodplain and is not subject to inundation from a tsunami or seiche event. The ephemeral creek and pond (wetland) on-site would continue to serve their existing hydrologic functions of providing storm water conveyance, detention and drainage to downstream waterbodies. Modifications to the pond would be made as part of the project; however these changes would not limit its function as a drainage feature. No modifications would be made to the creek and its hydrologic capacity would not be reduced. This would ensure that the project does not result in a net increase in stormwater runoff from the site to waterbodies downstream.

The project would increase impermeable surface area on site, however the majority of the site, including the steepest portions to the south, would be maintained in its existing condition, and therefore continue to function as a source of natural drainage and groundwater infiltration in the overall watershed.

- ◆ **Policy EH-3.2. Retain Natural Conditions.** Ensure that flow capacity is maintained in stream channels and floodplains, and achieve flood control using biotechnical techniques instead of storm drains, culverts, rip-rap, and other forms of structural stabilization.

**Consistent**

The site is not within the 100-year floodplain and is not subject to inundation from a tsunami or seiche event. The ephemeral creek and pond (wetland) on-site would continue to serve their existing hydrologic functions of providing storm water conveyance, detention and drainage to downstream waterbodies. Existing flow capacity would be maintained in the creek channel on-site.

- ♦ **Policy EH-3.3. Monitor Environmental Change.** Consider cumulative impacts to hydrological conditions, including alterations in drainage patterns and the potential for a rise in sea level, when processing development applications in watersheds with flooding or inundation potential.

**Consistent**

The potential cumulative impact of the proposed project, in combination with others, is evaluated in Section 4.4 of the EIR, Hydrology and Water Quality. As the analysis determines, the proposed project would not trigger an increase in storm water leaving the site and therefore an increase in runoff levels received downstream from the site. Cumulative impacts on hydrology within the watershed would be less than significant.

**Goal EH-4. Safety from Fires.** Protect people and property from hazards associated with wildland and structural fires.

- ♦ **Policy EH-4.1. Limit Risks to Structures.** Ensure that adequate fire protection is provided in new development and when modifications are made to existing structures.

**Consistent**

A Fire Hazard Management Plan was developed for this project that identifies zones of defensible space around the proposed structures. Each of the zones extends a different distance beyond edge of structure and includes a separate set of provisions related to vegetation management. Zone I includes a 10-foot initial buffer, Zone II includes a 40-foot buffer, and Zone III includes a 50-foot buffer.

- ♦ **Policy EH-4.2. Remove Hazardous Vegetation.** Abate the buildup of vegetation around existing structures or on vacant properties that could help fuel fires. (See also Natural Systems and Agriculture Element,

BIO-1.4, Support Vegetation and Wildlife Disease Management Programs.)

**Consistent**

A Vegetation Management Plan (VMP) will also be required and submitted to the County Fire Department for review and approval. The approved VMP will be placed within the Covenants, Codes, and Regulations (CC&Rs) of the project.

In addition, site preparation activities, including excavation and grading, would result in the removal of much of the existing vegetation within the proposed development area that currently presents a fire hazard, such as dense clusters of eucalyptus and scotch broom.

- ◆ **Policy EH-4.3. Adopt and Implement a Fire Management Plan.** Develop a proactive approach to manage wildfire losses by identifying hazard risks and enacting effective mitigation strategies.

**Consistent**

As stated in Section 4.11 of the EIR, the project is designed in accordance with a Fire Hazard Management Plan that would minimize the risks associated with wildland fires. Among the measures incorporated into the Plan are buffer and defensible space zones, removal of several trees, compliance with the Marin County Fire Code, and an irrigation system. With the inclusion of the Fire Management Plan as part of the project, exposure of people and structures to wildland fire will be reduced to a less-than-significant level.

- ◆ **Policy EH-4.4. Ensure Adequate Emergency Response.** Ensure that there is an adequate number of trained and certified emergency medical technicians to address the increase in medical demand.



**Consistent**

As concluded in Chapter 4.7 (Public Services), the proposed project would not have a significant impact on the adequate provision of emergency medical services. The project would not require that the San Rafael Fire Department increase the number of trained and certified emergency medical technicians or expand its facilities. The project could be adequately served through existing staff and facilities.

◆ **Policy EH-4.5. Regulate Land Uses to Protect from Wildland Fires.**

Use land use regulations, including but not limited to subdivision approvals and denials, as means of protecting people and property from hazards associated with wildland fires.

**Consistent**

Before approval of a subdivision by the County can occur, the County Fire Department will need to review and approve the Fire Hazard Management Plan and Vegetation Management Plan discussed above in relation to Policies EH-4.2 and EH-4.3.

**Goal AIR-1. Improved Regional Air Quality.** Promote planning and programs that result in the reduction of airborne pollutants measured within the county and the Bay Area.

◆ **Policy AIR-1.3. Require Mitigation of Air Quality Impacts.** Require projects that generate potentially significant levels of air pollutants, such as quarry, landfill operations, or large construction projects, to incorporate best available air quality mitigation in the project design.

**Consistent**

As concluded in Chapter 4.5 (Air Quality), the project would not have a significant impact on ambient air quality in the long-term. Neither the operation nor maintenance of the proposed development, nor the trips to and from the site would conflict with implementation of the Regional Air Quality Plan, generate toxic air contaminants in substantial volumes,

or expose sensitive receptors to elevated pollutant levels. During construction, however the project does have the potential to impact air quality through the generation of Particulate Matter 10 or 2.5 (PM<sub>10</sub> or PM<sub>2.5</sub>). In combination with other projects, PM<sub>10</sub> or PM<sub>2.5</sub> generated by this project during construction has the potential to adversely affect regional air quality. However, implementation of Mitigation Measure 4.5-A-1, specified in Chapter 4.5, would reduce potential impacts from construction period emissions to a less than significant level and ensure project consistency with this policy.

**Goal OS-2. Preservation of Open Space for the Benefit of the Environment and Marin Residents.** Close the gaps in the pattern of protected public open space and private lands where land acquisition or other methods of preservation would create or enhance community separators, wildlife corridors, watershed and baylands protection, riparian corridors, sensitive habitat, or trail connections.

- ◆ **Policy OS-2.4. Support Open Space Efforts Along Streams.** Support efforts to restore, enhance, and maintain natural vegetation and other habitat values along streams in the Baylands and City-Centered corridors. Maintain strict controls and high environmental standards in these zones.

**Consistent**

As previously stated, the ephemeral creek on-site would not be disturbed as a result of the project. Consistent with County policy, a 20-foot setback would be established between the extent of development and the top of the creek bank. The one exception would be the construction of a storm water outlet dissipator within 10-feet of the top of the creek bank, however this feature would not adversely affect the creek corridor's capacity to serve as habitat and a wildlife movement corridor.

In addition, 58 percent of the property would be preserved as open space under the project. The majority of this area is located on the southern portion of the site and would be contiguous with areas that are currently

forested. Like the creek corridor, this open space would provide for wildlife movement and habitat.

*ii. Built Environment Element*

**Goal CD-1. Environmental Corridor Land Use Framework.** Establish, maintain, and continue to improve a broad land use management framework using the County's environmental corridors as a basis for local policies and regulation, and to maintain the character of each of the corridors.

- ◆ **Policy CD-1.1. Direct Land Uses to Appropriate Areas.** Concentrate urban development in the City-Centered Corridor, where infrastructure and facilities can be made available most efficiently. Protect sensitive lands in the Baylands Corridor. Emphasize agricultural uses in the Inland Rural Corridor, along with preservation of resources, habitat, and existing communities. Focus on open space, recreational, and agricultural land uses, as well as preservation of existing communities, in the Coastal Corridor.

**Consistent**

The project would be located in the County's Santa Venetia neighborhood, which is currently developed with single-family residences served by local utility providers and within relatively close proximity to a variety of public services, such as schools, parks, and libraries. Therefore, the project would take place on a site that would be appropriate for development of new, single-family homes.

- ◆ **Policy CD-1.2. Direct Urban Services.** Discourage extension of urban levels of service to serve new development beyond urban service areas.

**Consistent**

As stated in the consistency determination for Policy CD1-1.1, the project site is located within an area already developed primarily with single-family homes that utilize urban services.

- ♦ **Policy CD-1.3. Reduce Potential Impacts.** Calculate potential residential densities and commercial floor area ratio (FAR) at the low end of the applicable range on sites with sensitive habitat or within the Ridge and Upland Greenbelt, or properties lacking public water or sewer systems except for multi-family parcels identified in certified Housing Elements.

**Consistent**

The Marin Countywide Plan was adopted in November 2007. The land use designation for the project site is SF4 (single-family, 1 to 2 units per acre maximum density). This range allows for 14.8 to 29.6 dwelling units on the site. The project would include 12 units, two of which would include second units. Because the project is at the low end of the permitted density range, it is consistent with Policy CD-1.3.

**Goal CD-2. Balanced Communities.** Maintain balanced communities that house and employ persons from all income groups and provide the full range of needed facilities and services.

- ♦ **Policy CD-2.1. Provide a Mix of Housing.** The range of housing types, sizes, and prices should accommodate workers employed in Marin County. This includes rental units affordable to lower-wage earners and housing that meets the needs of families, seniors, disabled persons, and homeless individuals and families.

**Consistent**

The proposed residential units on lots 1 and 4 would be affordable to “moderate” income households as determined by the published income limits for Marin County. The applicant would pay the County the allowable in lieu fee for the 0.4 unit remaining. Second, detached units are provided on Lots 11 and 12 and provide an opportunity for rental housing.

- ◆ **Policy CD-2.5. Locate Housing Near Activity Centers.** Provide housing near jobs, transit routes, schools, shopping areas, and recreation to discourage long commutes and lessen traffic congestion.

**Consistent**

The project site is located northeast of downtown San Rafael. The site is approximately 2.5 miles from Highway 101 and 5.0 miles from downtown San Rafael. Development of twelve houses and two second units on the project site would generate approximately 26 new vehicle trips per day. As discussed in Chapter 4.6 (Traffic and Transportation), it is not expected that the additional traffic volumes would cause local roadways or intersections to operate at unacceptable levels of service.

- ◆ **Policy CD-2.8. Limit Development in Resource or Hazard Areas.** Discourage development in areas with high natural resource value or threats to life or property, and restrict development in such areas to minimize adverse impacts.

**Consistent**

As explained in Section 4.3 of the EIR, the tree containing the heron nest on the site is of marginal health and condition. The tree has root damage from installation of the existing driveway and is infested with the eucalyptus long-horn borer and the eucalyptus tortoise beetle. The project arborist considers the nest tree to be a hazard with a short life-span. As such, the tree is a hazard to the existing residents on the site, ~~to motorists, bicyclists, and pedestrians on San Pedro Road.~~ If maintained, the tree would be a hazard to contractors during construction and to future occupants of the development. In order to mitigate this hazard, the tree will be removed prior to construction, which will reduce the threat to life and property. Potentially significant impacts to herons from removal of the nest would be mitigated to a less than significant level through measures 4.3-B.1 – 4.3-B.4, which are explained in Section 4.3, Biological Resources.

The project would take place on the lower slopes of a wooded hillside site where the potential exists for a wildfire to cause property damage or loss of life. However, through the development of a fire hazard management plan and a vegetation management plan, which are discussed in Section 4.11 (Hazards and Hazardous Materials), the project has reduced the risk of a wildfire to an acceptable level.

Part of the proposed development area, including the footprint of one home, does overlap with a portion of the site to the south of the pond, which has previously been identified as containing landslide deposits. As recommended in Mitigation Measure 4.2-F.1, all proposed structures should be founded in the underlying bedrock and in areas of significant cuts, foundations and retaining walls should be constructed to accommodate the lateral pressures of the upslope colluvium soil. This mitigation measure would reduce potential hazards associated with landslide deposits to a less than significant level.

**Goal CD-5. Effective Growth Management.** Manage growth so that transportation, water, sewer, wastewater facilities, fire protection, and other infrastructure components remain adequate.

- ◆ **Policy CD-5.1. Assign Financial Responsibility for Growth.** Require new development to pay its fair share of the cost of public facilities, services, and infrastructure, including but not limited to transportation, incremental water supply, sewer and wastewater treatment, solid waste, flood control and drainage, schools, fire and police protection, and parks and recreation. Allow for individual affordable housing projects to be exempted from the full cost of impact fees, subject to meeting specified criteria.

**Consistent**

The project would require water, waste disposal, drainage, schools, fire protection, police services, parks and recreation, and other services and

would generate traffic on local roads. Service capacity and projected project-related demand have been analyzed in Sections 4.7, Public Services, and 4.14, Utilities and Service Systems. Based on these analyses, the project can be adequately served by existing public services and utilities, assuming the provision of adequate on-site infrastructure (e.g. sewer connections). Traffic issues are examined in Section 4.6, Traffic and Transportation, which concluded that the project would not introduce new trip volumes that would degrade operations in the existing roadway network. Standard developer impact fees would apply to help finance the provision of these services.

♦ **Policy CD-5.2. Correlate Development and Infrastructure.** For health, safety, and general welfare, new development should occur only when adequate infrastructure is available, consistent with the following findings:

- Project-related traffic will not cause the level of service established in the circulation element to be exceeded (see TR-1.e).
- Any circulation improvements or programs needed to maintain the established level of service standard have been programmed and funding has been committed.
- Environmental review of needed circulation improvement projects or programs has been completed.
- The time frame for completion of the needed circulation improvements or programs will not cause the established level of service standard to be exceeded.
- Wastewater, water (including for adequate fire flows), and other infrastructure improvements will be available to serve new development by the time the development is constructed.

#### Consistent

As determined in Section 4.6, Traffic and Transportation, the project would not cause the Level of Service established in the circulation element to be exceeded at any intersection or on any roadway segments.

The project would not trigger the need for improvements to the circulation system to maintain relevant standards.

**Goal CD-6. Confinement of Urban Development.** Concentrate new medium- to high-intensity land uses at infill areas where services can be provided.

- ◆ **Policy CD-6.1. Coordinate Urban Fringe Planning.** Seek city review of development proposed adjacent to urban areas. Discourage development requiring urban levels of service from locating outside urban service areas. Coordinate with cities and towns regarding their plans and rules for annexing urbanized areas.

**Consistent**

Coordination with the City of San Rafael has occurred. The City postponed annexation indefinitely.

**Goal DES-3. New Development in Built Areas.** New construction should occur in a compact form in developed locations whenever feasible.

- ◆ **DES-3.1. Promote Infill.** Encourage the development of vacant and underutilized parcels consistent with neighborhood character.

**Consistent**

The proposed project will result in the construction of 12 single-family homes and 2 second units in the Santa Venetia residential neighborhood. One single-family house is currently located on the project site. The density and form of the development is similar to the existing residential development currently located to the north of the project site.

- ◆ **DES-3.2. Promote Green Spaces.** Encourage the creation of high-quality community plazas, squares, greens, commons, community and neighborhood parks, and rooftop gardens.



**Consistent**

Mitigation Measure 4.3-F.3 calls for the development of a 0.33-acre common area around the wetland as part of the Wetland Mitigation and Enhancement Plan. All residents would have access to the common area. The project would also include 377,565 square feet (8.6 acres) of private open space, which would be divided among, but entirely encompassed within, the lot lines of Lots 8-12. Although there would not be public access to this open space, it would be consistent with the County's efforts to promote such green spaces as part of development.

**Goal DES-4. Protection of Scenic Resources.** Minimize visual impacts of development and preserve vistas of important natural features.

- ◆ **Policy DES-4.1. Preserve Visual Quality.** Protect scenic quality and views of the natural environment — including ridgelines and upland greenbelts, hillsides, water, and trees — from adverse impacts related to development.

**Consistent**

The project focuses new development in the northwestern portions of the property, which are at lower elevations and closer to San Pedro Road. The more elevated portions of the site to the south, which include ridgelines or elevations approaching ridgeline, would not be impacted by development due to the inclusion of the permanent open space buffer illustrated in Figure 3-4 of the Project Description. Development would be prohibited within the open space areas of the site in perpetuity, which would preserve views of the ridgelines from points north, such as the Santa Venetia neighborhood.

**Goal DES-5. Attractive and Functional Streets and Parking Areas.** Design automobile use areas to fit the character of the community, and comfortably accommodate travel by pedestrians and bicyclists, while still meeting health, safety, and emergency access needs.

- ◆ **Policy DES-5.1. Achieve Streetscape Compatibility.** Ensure that roadways, parking areas, and pedestrian and bike movement are functionally and aesthetically appropriate to the areas they serve.

**Consistent**

As discussed in Section 4.6 of this EIR (Traffic and Transportation), the project would be a low-density residential development that includes roadways, parking areas and pedestrian access. The function and scale of this infrastructure would be appropriate to a development of this type and consistent with that serving the existing Santa Venetia neighborhood to the north. The proposed improvements to San Pedro Road and the roadways and driveways internal to the site would meet safety and emergency access requirements.

**Goal EN-1. Decreased Energy Use.** Reduce total and per-capita nonrenewable energy waste and peak electricity demand through energy efficiency and conservation.

- ◆ **Policy EN-1.1. Adopt Energy Efficiency Standards.** Integrate energy efficiency and conservation requirements that exceed State standards into the development review and building permit process.

**Consistent**

The project's compliance with the County's Green Building Program, including Marin's BEST- Building Energy Efficient Structures Today, would ensure that the new homes are designed to meet the energy efficiency standards that exceed State standards. The particular elements of the project that will be relied upon to ensure compliance will be identified on permit-level drawings later in the project review process.

**Goal HS-2. Well-Designed Housing.** Maintain and enhance existing housing and blend well-designed new housing into existing neighborhoods; ensure that existing affordable housing at risk of conversion to market rates will remain affordable.

- ◆ **Policy HS-2.2. Promote Design That Fits into the Neighborhood Context.** Enhance neighborhood identity and sense of community by designing all new housing to be sensitive to and compatible with the scale and form of the surrounding area.

**Consistent**

The Project proposes low-density residential development, similar to surrounding residential uses to the north and west of the site. Although the appearance of the homes would be “new” in relation to the appearance of some existing homes in the area, the new residences would not represent a substantial departure in terms of height, massing, or style. As discussed in Section 4.8, Aesthetics, the homes would be compatible in appearance with surrounding residential development. Furthermore, high quality, energy-efficient materials and design would be incorporated into the project so as to achieve an attractive development that complements the existing aesthetic of the Santa Venetia neighborhood. A key component of this will be a post-construction planting program that will introduce a range of native plants and trees to soften the appearance of the new development and allow it to better blend in with the surroundings. Another design aspect that will soften the appearance of the development would be the placement of garages to face inward to the development rather than outward where they may be more evident to neighboring view points.

- ◆ **Policy HS-2.3. Follow Housing Design Principles.** The intent in the design of new housing is to provide stable, safe, and attractive neighborhoods through high-quality architecture, site planning, and amenities that address the following principles:
  - **Reduce the Perception of Building Bulk.** In multi-unit buildings, require designs that break up the perceived bulk and minimize the apparent height and size of new buildings, including the use of upper-story step-backs and landscaping. Ensure a human scale in new development and, when possible, create multi-family buildings that have the

appearance of gracious single-family homes. Windows and doors, for example, are an important element of building design and an indicator of overall building quality.

- Recognize Existing Street Patterns. Incorporate transitions in height and setbacks from adjacent properties to respect adjacent development character and privacy. Design new housing so that it relates to the existing street pattern and creates a sense of neighborliness with surrounding buildings.
- Enhance the Sense of Place by Incorporating Focal Areas. Design new housing around natural and/or designed focal points, emphasized through direct pedestrian/pathway connections. Respect existing landforms, paying attention to boundary areas and effects on adjacent properties.
- Minimize the Visual Impact of Parking and Garages. Discourage home designs in which garages dominate the public façade of the home (i.e., encourage driveways and garages to be located to the side of buildings and recessed, or along rear alleyways or below the building in some higher-density developments).
- Use Quality, Energy Efficient Building Materials. Building materials should be high quality, long lasting, durable, and energy efficient.

#### Consistent

The scale and bulk of the buildings would be reduced through clustering the homes together on the southwestern portion of the site and terracing them into the hillside. Through this design, much of the site would remain in the existing, undeveloped condition and views to the ridgelines to the south would be preserved.

The site plan and the architectural style align the principles stated above. The proposed street pattern consists of a series of curves, which is similar to the street network serving the homes to the north of the site. Garages will face inward to the units instead of facing San Pedro Road. The use of energy efficient building materials will be ensured through the projects'

compliance with the County's BEST- Building Energy Efficient Structures Today program.

- ◆ **Policy HS-2.4. Conserve Resources.** Promote development patterns and construction standards that provide resource conservation by encouraging residential site planning, housing types and designs that use sustainable practices and materials, cost-effective energy conservation measures, and fewer resources (water, electricity, etc.), and therefore cost less to operate over time, supporting long-term housing affordability for occupants.

**Consistent**

The project's compliance with the County's Green Building Program, including Marin's BEST- Building Energy Efficient Structures Today, ensures that resource conservation has been taken into account in site planning, housing types and designs. Provisions from the BEST checklist that will be incorporated into the project will ensure that the new homes meet energy efficiency standards that exceed State standards. The particular elements of the project that will be relied upon to ensure compliance will be identified on permit-level drawings later in the project review process.

**Goal HS-3. Efficient Use of Land.** Use our land efficiently to meet housing needs and to implement "smart" and sustainable development principles.

- ◆ **Policy HS-3.6. Provide a Variety of Housing Choices.** Strive to achieve a mix of housing types, densities, affordability levels, and designs. Work with developers of nontraditional and innovative housing approaches in financing, design, construction, and types of housing that meet local housing needs.

**Consistent**

The proposed residential units on lots 1 and 4 would be affordable to "moderate" income households as determined by the published income

limits for Marin County. The applicant would pay the County the allowable in lieu fee for the 0.4 unit remaining. Detached second units are provided on Lots 11 and 12 and could provide opportunities for rental housing.

**Goal TR-1. Safe and Efficient Movement of People and Goods.** Provide a range of transportation options that meet the needs of residents, businesses, and travelers.

- ◆ **Policy TR-1.2. Maintain Service Standards.** Establish level of service standards for vehicles on streets and highways and performance standards for transit (see Map 3-8, Roadway Network of Marin County), bicycles, pedestrians, and other modes of transportation.

**Consistent**

The project includes sidewalks within the site, improved entry and exits points to and from San Pedro Road, and a 7-foot wide (deceleration shoulder) that would be approximately 700 feet along the northern frontage of the project site. The shoulder is also intended to serve as bike lane. These features will improve access and safety at the site for pedestrians, bicyclists, and motorists. Regarding level of service, vehicle trips associated with the project would not degrade an existing level of service on a street or highway. Given these factors, the project would be consistent with Goal TR-1 and Policy TR-1.2.

- ◆ **Policy TR-1.4. Share the Costs for Improvements.** Require new development to pay or otherwise improve its fair share of the transportation system impacts.

**Consistent**

The proposed project would be subject to Marin County Code Title 15.07 which establishes the use of public transportation facilities fees to pay for needed public transportation facilities. The fees are established

on the issuance of development permits for development in the county to pay for needed public transportation facilities and improvements.

♦ **Policy TR-1.5. Require Necessary Transportation Improvements.**

Require necessary transportation improvements to be in place, or otherwise guaranteed to result in their timely installation, before or concurrent with new developments. In evaluating whether a transportation improvement is necessary, the County shall consider alternatives to the improvement consistent with Policy TR-1.1, Manage Travel Demand, and the extent to which the improvement will offset the traffic impacts generated by proposed and expected development and restore acceptable traffic levels of service.

**Consistent**

Although the vehicle trips associated with this project would not have any significant operational impacts on roadways or intersections in the County or City of San Rafael, the project would be subject to collection of a public transportation facilities fee under Marin County Code Title 15.

**Goal TR-2. Increased Bicycle and Pedestrian Access.** Expand bicycle and pedestrian facilities and access in and between neighborhoods, employment centers, shopping areas, schools, and recreational sites (see Maps 3-9a, 3-9b, and 3-9c, Bikeways of Marin County).

♦ **Policy TR-2.1. Improve the Bicycle and Pedestrian Network.**

Promote adequate bicycle and pedestrian links, to the extent feasible, throughout the county, including streetscape improvements and standards that are safe and pedestrian and bicycle friendly.

**Consistent**

The proposed project would include a sidewalk on one side of Bay Creek Drive and Bay Creek Court that would be 4.5 feet wide in each case. These facilities would enhance bicycle and pedestrian movement

throughout the site and provide connections from the development to San Pedro Road. In addition, a 7-foot wide shoulder would be created for approximately 700 feet along the northern frontage of the project site. The shoulder is intended to serve, in part, as a bike lane and will improve access for bicyclists and pedestrians to and from the site.

- ♦ **Policy TR-2.2. Provide New Bicycle and Pedestrian Facilities.** Where appropriate, require new development to provide trails or roadways and paths for use by bicycles and/or on-street bicycle and pedestrian facilities. In-lieu fees may be accepted if warranted in certain cases.

**Consistent**

The proposed project would include a sidewalk on one side of Bay Creek Drive and a sidewalk on Bay Creek Court. Both sidewalks would be 4.5 feet wide. These facilities would enhance bicycle and pedestrian movement throughout the site and provide connections from the development to San Pedro Road.

**Goal NO-1. Protection from Excessive Noise.** Ensure that new land uses, transportation activities, and construction do not create noise levels that impair human health or quality of life.

- ♦ **Policy NO-1.1. Limit Noise from New Development.** Direct the siting, design, and insulation of new development to ensure that acceptable noise levels are not exceeded.

**Consistent**

As concluded in Section 4.10 (Noise), potentially significant impacts related to noise would be limited to the construction period when the concurrent operation of various types of machinery and vehicles could generate noise levels that exceed exterior thresholds for residential uses, which would apply to the homes to the north and west of the site. Through the implementation of Mitigation Measure 4.10-A.1, a combination of measures would be required during the construction period to



mitigate short-term impacts. Following construction, primary sources of noise would be new vehicle trips to and from the site, maintenance activities (e.g. lawn mowing), and the operation of exterior HVAC equipment (e.g. air conditioners). None of these sources would generate an increase in ambient noise levels that would exceed applicable thresholds and be potentially harmful to sensitive receptors in the area, primarily residents to the north and west of the site.

- ◆ **Policy NO-1.3. Regulate Noise Generating Activities.** Require measures to minimize noise exposure to neighboring properties, open space, and wildlife habitat from construction-related activities, yard maintenance equipment, and other noise sources, such as amplified music.

**Consistent**

As discussed in Chapter 4.10 (Noise), the proposed project would be subject to sections 6.70.030(5) and 6.70.040 of the Marin County Development Code. Implementation of Mitigation Measure 4.10-A.1 would bring the proposed project in compliance with sections 6.70.030(5) and 6.70.040.

**Goal PFS-1. Adequate Public Facilities and Services.** Provide basic public facilities to accommodate the level of development planned by cities and towns and the County.

- ◆ **Policy PFS-1.1. Require Cost-Sharing.** Require new development to pay for the infrastructure it requires and the public services it receives.

**Consistent**

As discussed in Section 4.6 (Traffic and Circulation), the project is required to comply with Title 15.07 of the Marin County Code to improve transportation facilities. The project would have a less than significant impact on most facilities and services in that it would only slightly increase demand for such services. Nonetheless, residents of the project

would be subject to standard assessments that help finance public services and facilities.

In terms of sanitary sewer capacity for the project, Mitigation Measure 4.14-H.1 requires that prior to issuance of a building permit, the applicant shall contract a qualified technician to probe the existing, 6-inch sanitary sewer line located along the northern edge of San Pedro Road to determine if it has sufficient grade. If deemed necessary by the Las Gallinas Valley Sanitary District (LGVSD) based on the probe, the applicant shall pay necessary fees to LGVSD for improvements to the pipe that would ensure adequate capacity for the project.

- ◆ **Policy PFS-1.4. Reduce Demand on Public Facilities.** Reduce per capita and total demand for water and wastewater treatment, and enhance storm water management through integrated and cost-effective design, technology, and demand reduction standards for new development and redevelopment.

**Consistent**

Storm water would be effectively managed on-site through use of the existing, natural drainage features, which include the pond and the ephemeral creek. The pond would be modified to achieve the intended drainage scheme, which would allow for the detention, treatment, and gradual release of storm water from the site. In addition to the pond, the drainage scheme would introduce several new features on-site to minimize the transfer of potentially polluted stormwater to receiving waterbodies and to meter the rate of stormwater release from the site. These features, which are described in more detail in Section 3.0 (Project Description) and 4.4, include catch basins, catch basin silt traps, grass swales, outlet dissipators, weir outlet structures. All combined, these features would ensure that the ultimate volume and rate of storm water release would be not exceed pre-development levels, thereby reducing demand on public facilities.

In terms of water demand, the project's compliance with the County's Green Building Program, including Marin's BEST- Building Energy Efficient Structures Today, ensures that water conservation has been taken into account in site planning, housing types and designs.

**Goal PFS-2. Sustainable Water Resources.** Assure a reliable, sustainable water supply for existing and future development while protecting the natural environment.

- ◆ **Policy PFS-2.1. Conserve Water and Utilize Sustainable Sources.** Promote conservation to increase the responsible use and reliability of water supplies. Reduce the waste of potable water through efficient technologies, design, and management practices, and through better matching of the source and quality of water to the user's needs.

**Consistent**

As stated in response to Policy PFS-1.4, water conservation techniques would be incorporated into the project through inclusion of relevant features recommended in the County's BEST checklist. Provisions from the checklist that will be incorporated into the project will ensure that water conservation occurs.

**Goal PA-2. Land Use Policies for the Las Gallinas Planning Area.** Specific policies for communities in the planning area are as follows:

- ◆ **Policy PA-2.4. Designate Land Use in Santa Venetia.** Land use for Santa Venetia shall include single-family residential at 1 to 7 units per acre; multi-family residential at 1 to 30 units per acre; planned residential at 1 unit per acre to 1 unit per 1 to 10 acres; general commercial at an FAR of .05 to .1; office commercial at an FAR of .1 to .35; retail commercial at an FAR of .1 to .35; and recreational commercial at an FAR of .25 to .35. Land shall be designated for open space and for public facilities or single-family residential at 1 to 7 units per acre.

**Consistent**

The project includes the construction of 12 units on a 14.8 acre-site, which equates to a density of 0.81 dwelling units per acre (DUA). This ratio falls below the maximum density allowance specified above for single-family or planned residential developments within the Santa Venetia neighborhood. Falling below the maximum permitted density does not represent an inconsistency with this policy. The project proposes detached single-family units that are subject to Master Plan Approval.

The Applicant has applied for all the applications required for the proposed project under the RSP zoning district. Findings for project approval or denial will be addressed during the review of the merits of the application.

*iii. Socioeconomic Element of County Wide Plan*

**Goal HAR-1. Historical Resource Protection.** Identify and protect archaeological and historical resources as major contributors to quality of life and community vitality in Marin.

- ◆ **Policy HAR-1.1. Preserve Historical Resources.** Identify archaeological and historical resource sites.

**Consistent**

As explained in Section 4.9 (Cultural Resources), based on a records search and field evaluation, no historic architectural resources, archaeological resources, palaeontological, or human remains have been identified on the site. However, subsurface resources may be accidentally encountered during earthwork activities (e.g. excavation and grading). As explained in Section 4.9, implementation of Mitigation Measures 4.9-C.1 and 4.9-C.2, and 4.9-D.1 would ensure that such resources are afforded adequate protection in the event of an accidental discovery.

- ◆ **Policy HAR-1.3. Avoid Impacts to Historical Resources.** Ensure that human activity avoids damaging cultural resources.

**Consistent**

The mitigation measures identified above in response to Policy HAR-1.1 would ensure consistency with Policy HAR-1.3.

b. Marin County Development Code (Zoning and Subdivision Regulations)  
The Marin County Development Code, Title 22 of the MCC, Zoning and Subdivision Regulations, establishes zoning and other regulations that would be applicable to the project site. The site is currently zoned RE-B3 which normally allows minimum lot sizes of 20,000 square feet. However, pursuant to MCC Section 22.82.050, minimum lot sizes are increased on steep slopes. Due to the steep slopes on the property, Planning Division staff estimates that the property could be subdivided into a maximum of 15 lots.

Items i – v below are specific sections of the County Development Code that are applicable to the project. An explanation of each is followed by a consistency determination.

*i. RSP District Regulations of County Development Code*

Since the applicant proposes to rezone the property, the project is subject to the Residential, Single-Family Planned (RSP) District, MCC Section 22.10.020. The RSP zoning district is intended for areas suitable for single-family residential neighborhood development in a suburban setting, along with similar and related compatible uses where site or neighborhood characteristics require the attention to design detail provided through Master Plans, Precise Development Plans, and Design Reviews (Chapter 22.44, Master Plans and Precise Development Plans). The RSP zoning district is consistent with the Single Family 1 through 6 land use categories of the Marin Countywide Plan.<sup>2</sup>

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<sup>2</sup> Principally permitted uses in the RSP zoning district include detached single-family residences, second units and accessory structures. Since the applicant has submitted applications for rezoning, Master Plan Precise Development Plan, Precise Development Plan, and subdivision, proposing detached single-family residences, sec-

**Consistent**

The applicant has applied for all applications required for the proposed project under the RSP zoning district. Findings for project approval or denial will be addressed during the review of the merits of the application. The applicant proposes to rezone the property to a Residential Single-Family Planned (RSP) zoning district that would comply with the governing SF4 (single-family, 1 to 2 units per acre maximum density) Countywide Plan Designation for the property. The site's RSP zoning would allow for 28 residential units over 14.8 acres. The project proposes 12 single-family homes and two smaller, secondary units on 12 lots and therefore would be consistent.

Principally permitted uses in the RSP zoning district include detached single-family residences, second units and accessory structures. Since the applicant has submitted applications for rezoning, Master Plan, Precise Development Plan, and subdivision, proposing detached single-family residences, second units, and accessory structures, the project is consistent with the principally permitted uses allowed and the application requirements for the project. The required findings will be addressed during the review of the merits of the application.

*ii. Title 13 of Marin County Development Code*

Title 13 discusses roads and bridges. Section 13.18.010 states that "it is unlawful to install or maintain any sign, fence, hedge, shrubs, natural growth or any other view obstructions which extend more than 2½ feet above the street level of any adjacent intersection, within the area between the property line and a diagonal line joining points on the property lines which are 35 feet from their intersection, as extended. (Ord. 2121 § 1 (part), 1974)" The primary purpose of this regulation is to provide for adequate sight distance for vehicles at intersections.

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ond units and accessory structures, the project is consistent with the principally permitted uses allowed and the application requirements for the project, the required findings will be addressed during the review of the merits of the application.

**Consistent**

The project would comply with Section 13.18.010 of Title 13. As required through Mitigation Measure 4.6-E.1, adequate sight distance between project driveways and the appropriate points along North San Pedro Road will be provided.

*iii. Chapter 18.06 of Marin County Development Code*

Chapter 18.06 discusses individual sewer systems. Section 18.06.050 (Connection to Public Sewer System and Alternatives) states that “sewage disposal shall be by means of a connection to a public sewer system if the nearest sewer is within four hundred lineal feet of the parcel in which the structure generating the sewage is to be constructed. This requirement may be waived by the health officer if he finds connection to a public sewer is legally or physically impossible. If the health officer determines that connection to a public sewer is unfeasible, an application may be filed for a permit for an alternative method of sewage disposal, utilizing an individual sewage disposal system.”

**Consistent**

The project will be annexed into the Las Gallinas Valley Sanitary District, making the project consistent with Section 18.06.050.

*iv. Chapter 19.04 of the County Administrative Code*

This chapter contains energy efficiency standards for residential buildings greater than 3,500 square feet. Residential buildings exceeding this size would be required to comply with these standards.

**Consistent**

The home on Lot 8 would be 3,598 square feet. All other homes would be less than 3,000 square feet in size. The project’s compliance with the County’s Green Building Program, including Marin’s BEST- Building Energy Efficient Structures Today, would ensure that the home on Lot 8

is designed to meet the energy efficiency standards set forth in Chapter 19.04.

*v. Chapter 24.04.627 of the Marin County Code*

Under the provisions of Section 24.04.627 (e) of this chapter, the Community Development Agency has authority to determine that based on the nature and extent of a proposed project, that a stormwater control plan section be included within the project Storm Water Pollution Prevention Plan. The stormwater control plan shall address permanent Best Management Practices (BMPs) that control pollutant sources, treat runoff, and control the rate and duration of runoff that meet the criteria in the most recent version of the Guidance Manual (as defined in Section 23.18.030) and the applicable development runoff requirements of Chapter 23.18. Permanent BMPs may include but are not limited to, site and drainage design features that route runoff from roofs and paved surfaces to landscaped areas, engineered bioretention facilities, roofs over areas where vehicles are washed or repaired, and facilities for cleaning equipment such as mats used in restaurant kitchens. The Guidance Manual contains specific guidance applicable to different project categories.

**Consistent**

As explained in Section 4.4, the project includes several mitigation measures to address potentially significant impacts related to changes in the hydrology (drainage) of the site and surroundings, and contamination of surface water quality. For example, Mitigation Measure 4.4-A.1 requires that the final drainage plan for the project should incorporate a series of Best Management Practices (BMPs) to ensure that project development does not result in an increase in Non-Point Source pollutants to on-site and off-site wetlands, to lower Gallinas Creek, and ultimately, to San Pablo Bay. One of the BMPs states that the applicant should prepare a Stormwater Control Plan that consists of all the information identified in the Stormwater Control Plan checklist in the MCSTOPPP's Stormwater Quality Manual for Development Projects in Marin County. This requires calculations for different Drainage Management Areas, a report,



and an exhibit, which the applicant would be required to provide to the County.

Mitigation Measure 4.4D.1 requires that the applicant comply with all NPDES Permit requirements for the construction period. Under the NPDES program, the applicant is required to submit a Notice of Intent (NOI) with the State Water Resource Control Board's (SWRCB) Division of Water Quality. The NOI includes general information on the types of construction activities that will occur on the site. The applicant will also be required to prepare a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP will include a description of appropriate BMPs to minimize the discharge of pollutants from the site. Based on inclusion of these measures, the project would be consistent with Chapter 24.04.627 of the County code.

c. Local Agency Formation Commission (LAFCO) Policies

The Marin County Local Agency Formation Commission (LAFCo) promotes orderly, planned development by setting city Spheres of Influence and controlling the annexation of lands to cities and special districts. LAFCo operates within the authority and policies of the Cortese-Knox Act. LAFCo may also set its own policies. The following discussion evaluates the consistency of the proposed 650 San Pedro Road project with relevant LAFCo policies, which include the Dual Annexation Policy and the Request for Delayed Implementation Policy.

i. *Dual Annexation Policy*

LAFCo's dual annexation policy states:

Annexations of unincorporated land to special districts that provide services necessary for urban development shall require concurrent or subsequent annexation to a city if the land is located within the city's sphere of influence. The Commission may, however, defer the requirement for annexation to the city if the Commission determines that each of the following conditions has been met:

1. The County Board of Supervisors has adopted plans or policies specifically for the subject area that support the extension of urban services (e.g., community plan or designated urban service area); and
2. All affected agencies have been notified and given adequate time to review and comment on the proposed annexation; and
3. Application of the policy at the present time would result in illogical boundaries or inefficient provision of local services.

The purposes of this policy are to allow the Commission to:

1. Encourage orderly growth and development by determining logical and timely boundary changes of local agencies.
2. Make boundary decisions in the long-term best interests of the efficient delivery of local services and the assignment of appropriate local political responsibility for those services pursuant to Government Code 56001.
3. Provide for the orderly implementation of adopted city and special district spheres of influence.
4. Restrict extension of urban services to areas within cities or to unincorporated areas where County-adopted planning policies support provision of urban services for that area.

The Dual Annexation Policy will be applied to annexations and reorganizations affecting property located within a city's sphere of influence. Implementation of this policy may be deferred at the discretion of the Commission through the use of an agreement between the city and the property owner providing for future annexation by the city. Approval of such boundary changes will comply with this policy upon execution of such an agreement.

Applicants may comply with the Dual Annexation Policy in one of two ways:

1. Filing application for a reorganization that includes annexation to both the special district and the city, or

2. Filing application for district annexation only with a request for deferral of the Dual Annexation Policy. If the proposal is approved, the Commission may attach conditions providing for city annexation at a later date.

*ii. Request for Delayed Implementation Policy*

LAFCo's request for delayed implementation policy states:

1. Applicants seeking delayed implementation of the policy shall make the request in writing at the time of application and state the reasons in support of the request.
2. The applicant's request for deferral will be circulated to all affected agencies for comment for a minimum of 60 days. LAFCo staff will extend the comment period for an additional 30 days at the request of an affected agency.
3. The Commission will give weight to the comments of any affected agency objecting to the action.
4. Applicants will retain the option of amending their proposal up to the issuance of the Certificate of Filing (scheduling a hearing before LAFCo) for the proposal.

**Consistent**

LAFCo's dual annexation policy applies to unincorporated properties that are located in a city sphere of influence and that may require annexation to a special district for essential urban services. The project site is located within the City of San Rafael Sphere of Influence and the sphere of influence of Las Gallinas Valley Sanitary District. LAFCo policy would require that the project site be annexed to the City at the same time that it is annexed to Las Gallinas Valley Sanitary District, unless LAFCo chooses to defer the requirement and provide for annexation to the City at some later date. The City of San Rafael ~~has postponed the requirement for dual annexation indefinitely~~ does not expect to annex the developed or undeveloped portions of Santa Venetia within the time frame

of the San Rafael General Plan (2020). As a result the project will go into the Las Gallinas Valley Sanitary District and stay in the County.

**Impact 4.1-C** The proposed project will conflict with an applicable habitat conservation plan or natural community conservation plan.

No applicable habitat conservation plan or natural community conservation plan exist for the project site, thus *no impact* would occur.<sup>3</sup>

**Impact 4.1-D** The proposed project calls for land uses that would convert prime agricultural land to non-agricultural use or impair the productivity of prime agricultural land.

The current zoning designation for the project site is R-E: B-3.<sup>4</sup> No agricultural uses currently occur on the site and the site is not considered prime agricultural land.<sup>5</sup> Therefore, *no impact* would occur.

**Impact 4.1-E** The proposed project calls for land uses that would conflict with existing or proposed uses at the periphery of the project area or with other local land use plans.

Due to the location of the project and the proposed uses, the project would not conflict with existing or proposed uses at the periphery of the project area. As discussed above under Existing Conditions, the southern and eastern

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<sup>3</sup> County of Marin Community Development Agency, January 2007, *Marin Countywide Plan Update, Draft Environmental Impact Report*, Biological Resources Section 4.6, page 4.6-34.

<sup>4</sup> County of Marin Community Development Agency, Zoning Map, <http://gisprod1.co.marin.ca.us/CAODist/viewer.htm>, accessed on January 17, 2008.

<sup>5</sup> State of California Department of Conservation, website, Prime Farmland Definition, [http://www.conservation.ca.gov/dlrp/fmmp/overview/Pages/prime\\_farmland\\_fmmp.aspx](http://www.conservation.ca.gov/dlrp/fmmp/overview/Pages/prime_farmland_fmmp.aspx), accessed on April 7, 2008.

sides of the site are bordered by open space, whereas the northern and western sides are bordered by North San Pedro Road, and low density residential. As a result, a *less-than-significant* impact would occur.

**Impact 4.1-F The proposed project would result in conversion of open space into urban or suburban scale development.**

No public open space currently exists on the privately owned project site. A single family residence, auxiliary structures and dense vegetation currently define the site. Since the project is not currently zoned as public open space or used as such, the project would not significantly impact available open space in this portion of Marin County. Conversely, the proposed project would include a set-aside of 377,565 square feet of private open space where development would be prohibited in perpetuity. As a result, a *less-than-significant* impact would occur.

**Impact 4.1-G The proposed project would conflict with local zoning.**

The current zoning designation for the project site is Residential Estates District (R-F: B-3, 20,000 square-foot minimum lot size). The applicant proposes to rezone the property to a Residential Single-Family Planned Development zoning district that would comply with the governing SF4 (single-family, 1 to 2 units per acre maximum density) Countywide Plan Designation for the property. Therefore, the impact would be *less than significant*.

**Impact 4.1-H The proposed project would result in a nuisance impact as a result of incompatible land uses.**

Incompatibility between land uses would exist if the project were to introduce a use that was substantially out of scale or character with adjacent uses or resulted in a nuisance to adjacent uses, such as excessive light, noise or odors. As discussed above in response to criteria 1), the proposed homes and supporting infrastructure would not represent a dramatic deviation from the existing residential uses to the north and west of the site. While construction

of twelve units would represent an intensification of development in relation to the one single-family residence currently on-site, the construction and subsequent occupation of the new homes would not represent a use that would result in significant nuisance impacts.

During construction, there is the potential for significant impacts in relation to noise levels and air quality on an intermittent basis. However, these impacts would be mitigated to a less-than-significant level through measures identified in the noise and air quality chapters of this EIR. As a result, potential nuisance impacts resulting from incompatible land uses would be limited to the construction period and would be *less than significant* after mitigation.

#### *E. Cumulative Impacts*

This section analyzes potential land use and planning impacts that could occur from a combination of the proposed project with other reasonably foreseeable projects in the near vicinity. The list of projects considered in this section is shown in Chapter 4.0.

#### Cumulative Changes in Land Use

**Impact 4.1-I     The proposed project, in combination with other development projects would result in cumulative land use changes.**

The construction and operation of the project would not contribute to land use conflicts in the surrounding area as the area is currently developed, in part, with low-density, single-family detached residential uses. Furthermore, the designated open space areas on lots 8 to 12, as shown in Figure 3-4, would provide transition buffers between the proposed development and currently undeveloped, wooded areas to the east and south of the site. When combined with other foreseeable projects in this portion of Marin County, the proposed project would not contribute to a significant shift in the character or feeling of the area. As a result, while the project would contribute to an ongoing

trend of urbanization in the County, the cumulative land use impact would be *less than significant*.

COUNTY OF MARIN  
650 NORTH SAN PEDRO ROAD EIR  
LAND USE AND POLICY CONSISTENCY



## **4.2 GEOLOGY AND SOILS**

This section describes the existing geologic setting and conditions on and around the proposed project site, and presents an evaluation of the impacts of the site geology on the proposed project. The information presented in this section is based on site visits conducted by Lowney Associates in April 2005 and May 2008, and review of published geologic, seismic, and soils maps for the project site and vicinity.

### ***A. Regulatory Setting***

#### **1. Alquist-Priolo Earthquake Fault Zoning Act**

The California Alquist-Priolo Earthquake Fault Zoning Act of 1972 requires the mapping and zoning of active faults within the State of California. Under the Act, new development within zones of active fault displacement is restricted for structures intended for human occupancy. Any development site located within an Earthquake Fault Zone Boundary as delineated on State maps must be studied to determine if an active fault crosses the subject parcel. Setbacks from active faults are required under the Act.<sup>1</sup>

#### **2. Seismic Hazards Mapping Act**

The California Seismic Hazards Mapping Act of 1991 has established a program of mapping zones of potential seismic shaking, induced liquefaction and landslide hazard areas. Currently, mapping efforts of the California Geological Survey are concentrated in the San Francisco-Alameda-San Mateo-Santa Clara County area in Northern California and the Los Angeles-Ventura-Orange County area of Southern California. Seismic Hazard Maps produced under this program are not currently available for the Marin County area.

#### **3. International Building Code (1200) and California Building Code (2007)**

The International Building Code was developed by the International Code Council to provide a set of consistent standards for building of structures.

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<sup>1</sup> State of California, California Geological Survey. Website, <http://www.consrv.ca.gov/CGS/rghm/ap/>. Accessed on June 10, 2008.

The California Building Code (CBC) was developed to incorporate modifications required by California law and statute and has been adopted by most jurisdictions in California to oversee construction. The CBC defines four Seismic Zones in California, which are ranked according to their seismic hazard potential. Zone 1 has the least seismic potential and Zone 4 has the highest seismic potential. The Bay Area is located in Seismic Zone 4 and thus development is required to comply with all design standards applicable to Seismic Zone 4. The earthquake protection law (California Health and Safety Code section 19100 et seq.) requires that structures be designed to resist stresses produced by lateral forces caused by wind and earthquakes. Specific minimum standards for seismic safety and structural design to meet earthquake protection requirements are set forth in Chapter 16 of the CBC.

#### **4. Marin County Operational Area Hazard Mitigation Plan**

The Marin County Operational Area Hazard Mitigation Plan, completed April 2006, provides in-depth analysis of earthquakes, floods, wildland fires, landslides, terrorism and tsunamis in terms of frequency, intensity, location, history, and damage effects. It identifies areas where people or structures may have higher vulnerability, and policies and actions that may be implemented by the County to reduce the potential for loss of life and property damage in these areas. The Plan serves as a guide for decision-makers as they commit resources to reduce the potential effects of natural hazards.<sup>2</sup>

#### **5. Phase II National Pollution Discharge Elimination System Permit**

All construction sites greater than one acre in size are required to comply with all Phase II NPDES Permit requirements for the construction period. Under the Phase II program, the applicant is required to submit a Notice of Intent (NOI) with the State Water Resource Control Board's (SWRCB) Division of Water Quality. The NOI includes general information on the types of construction activities that will occur on the site. The applicant will also be required to prepare a Storm Water Pollution Prevention Plan (SWPPP).

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<sup>2</sup> Marin County Sheriff's Office, Local Hazard Mitigation Plan. <http://www.marinsheriff.org/uploads/documents/Marin%20County%20Local%20Hazard%20Mitigation%20Plan.pdf>, accessed June 10, 2008.

The SWPPP will include a description of appropriate Best Management Practices (BMPs) to minimize the discharge of pollutants from the site.

## ***B. Existing Setting***

### **1. Regional Geology**

The project site is within the Coast Ranges Geomorphic Province, which is composed of northwest oriented mountain ranges along the California coast. The Coast Range Provinces were formed by tectonic forces, which caused folding, shearing, and faulting of bedrock materials. The Coast Range province consists of two distinct structural terranes that are separated by the San Andreas Fault. The Franciscan Complex of Jurassic-Cretaceous age is located to the northwest of the San Andreas Fault.<sup>3</sup> Bedrock found in the vicinity of the site is a component of the Cretaceous Franciscan Complex, consisting of sheared fine to medium grained sandstone with interbedded shale.

### **2. Regional and Local Seismicity**

The San Francisco Bay Area is one of the most seismically active regions in the United States. Seismic activity is primarily generated by the tectonic boundary between the North American and Pacific Crustal Plates, which together make up the San Andreas Fault System. The San Andreas fault is located approximately 12 miles southwest of the project site. Other active faults in the region are the northern Hayward fault, located about 6 miles east of the site, and the Rodgers Creek fault, approximately 10 miles to the northeast of the site.<sup>4</sup>

Although research on earthquake prediction has greatly increased in recent years, seismologists cannot predict when or where an earthquake will occur. However, the U.S. Geological Survey's Working Group on California Earth-

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<sup>3</sup> Lowney Associates, Geohazards Assessment Report, San Pedro Court Project, San Rafael, California, April 2005, page 2.

<sup>4</sup> Lowney Associates, Geohazards Assessment Report, San Pedro Court Project, San Rafael, California, April 2005, page 1.

quake Probabilities (2003), referred to as WG02, determined that there is a 62 percent chance of at least one magnitude 6.7 or greater earthquake occurring in the San Francisco Bay region between 2003 and 2032.<sup>5</sup>

### 3. Site Topography

The site is primarily defined by steep northeast to northwest facing wooded terrain. Based on topographic maps supplied by ILS Associates Inc., (2003), the proposed development site elevations range from 20 feet near the northwest corner of the site, to approximately 120 feet near the southeast corner of the site. Beyond the portion of the site proposed for development, the topography continues to rise steeply to the south-southeast to an elevation of approximately 325 feet.

Based on observations by Lowney Associates in April 2005, the portion of the site immediately south of the existing on-site pond has a gentle north-facing slope (9:1).<sup>6</sup> This area is underlain by colluvial material of an unknown depth. The remainder of the site is generally steep to very steep (1.5:1) and covered with dense tall brush and many mature oak trees. A small, incised creek oriented northeast-southwest was observed on the steeper slopes in the eastern portion of the site above the proposed developed area. Minor surface water was observed flowing along the eastern slopes of the ridge, which forms the central portion of the site.<sup>7</sup>

### 4. Site Geology and Soils

Geologic maps published by Blake et al. (1974), Wentworth (1997) and Blake et al. (2000) indicated that the bedrock underlying the site is Cretaceous Franciscan sandstone, consisting of sheared fine to medium grained sandstone with interbedded shale. The maps also identify an unnamed fault segment within

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<sup>5</sup> Lowney Associates, Geohazards Assessment Report, San Pedro Court Project, San Rafael, California, April 2005, page 2.

<sup>6</sup> The slope of 9:1 is defined as a 1-foot rise for every 9 feet of distance traveled.

<sup>7</sup> Lowney Associates, Geohazards Assessment Report, San Pedro Court Project, San Rafael, California, April 2005, page 2.

the Franciscan sandstone unit oriented northeast-southwest, across the middle portion of the site. A review of these maps by Lowney Associates maps revealed no evidence of recent seismic activity such as displacement of younger Quaternary deposits. Furthermore, Lowney's April 2005 review of topographical maps and aerial photographs provided no geomorphic evidence of recent movement along this fault, nor did site reconnaissance.<sup>8</sup>

Lowney Associates' review of aerial photographs showed geomorphic indications of a previous slope failure in the portion of the site south of the existing pond on-site. The area affected appeared as a bowl shaped feature, which extended from the pond southward to the moderately steep area in the southern portion of the site, but below the ridgeline.

The more gradual area closer to the pond is underlain by colluvial material of an unknown depth. The surface of the steeper portions of the site was covered with a soil, which was observed to be very thick near the base of the slope to very thin at the crest of the steep, northwest facing slope.

## 5. Liquefaction

Liquefaction hazards may exist in the presence of loose, saturated soils, such as sands or silty sands. Liquefaction occurs when the space between individual soil particles is completely filled with water and the strength and stiffness of a soil is decreased by seismic shaking or rapid loading. The susceptibility to liquefaction is dictated by three main factors: depth of groundwater, soil type, and the seismicity of the area. Liquefaction of soils in developed areas can result in structural failure and pavement damage.

Liquefaction Susceptibility maps prepared by the Association of Bay Area Governments (ABAG) indicates that soils on the northwestern portion of the site may have a high susceptibility to liquefaction.<sup>9</sup> Based on a review of the

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<sup>8</sup> Lowney Associates, Geohazards Assessment Report, San Pedro Court Project, San Rafael, California, April 2005, page 2.

<sup>9</sup> Association of Bay Area Government, GIS Liquefaction Susceptibility Map, <http://gis.abag.ca.gov/website/liq/viewer.htm>. Accessed January 22, 2008.

ABAG map in relation to the proposed site plan, it appears that most of the area with potentially high susceptibility to liquefaction is located within the open space areas to the southeast of lots 9-12.

## 6. Soil Expansion

Soil expansion is a phenomenon in which clayey soils expand in volume as a result of an increase in moisture content, and shrink in volume upon drying. Changes in soil volume as a result of moisture fluctuations, including seasonal fluctuations, can cause damage to concrete slabs, foundations and pavements. Expansive soils are generally identified by use of two types of soil tests. Expansion index tests determine the potential for expansion of soils. Soils with an expansion index greater than 20 have a potential for damaging site improvements. Atterberg limits testing, including liquid limit and plastic limit testing, is another type of physical properties test used to determine the plasticity index and the potential for soil expansion. Soils with a plasticity index of 12 and above are considered to be expansive. Site specific geotechnical reports conducted in 1998 and 2003 did not identify high plasticity soils on site and concluded that the potential for expansive soils is low.<sup>10</sup>

### *C. Standards of Significance*

The geologic, soils and seismic analysis uses criteria from Appendix G of the State CEQA Guidelines and the Marin County EIR Guidelines. According to these criteria, the project would have a significant geologic and soils impact if it would:

- ◆ Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;

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<sup>10</sup> Salem Howes Associates, Geotechnical Investigation, 2003, page 4.

- Strong seismic ground shaking;
  - Seismic-related ground failure, including liquefaction; or
  - Landslides.
- ◆ Result in substantial soil erosion or the loss of top soil.
  - ◆ Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.
  - ◆ Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1997), creating substantial risks to life or property.
  - ◆ Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

Based on Appendix N of the Marin County Environmental Review Guidelines, the project may also have a significant impact related to geology, soils or seismicity if the project would:

- ◆ Be located within an Alquist-Priolo Special Studies Zone, or contain a known active fault zone, or an area characterized by surface rupture that might be related to a fault.
- ◆ Have substrate consisting of material that is subject to liquefaction or other secondary seismic hazards in the event of groundshaking.
- ◆ Be located near any evidence of static hazards, such as landsliding or excessively steep slopes that could result in slope failure.
- ◆ Be located in the vicinity of soil that is likely to collapse, as might be the case with karst topography, old mining properties or areas of subsidence caused by groundwater drawdown.
- ◆ Have soils characterized by shrink/swell potential that might result in deformation of foundations or damage to structures.

- ◆ Be located in a Mineral Resource Zone identified by the California Department of Mines and Geology or within an area designated as important Farmland identified by the Soil Conservation Service.
- ◆ Be located next to a water body that might be subject to tsunamis or seiche waves.

#### *D. Impact Discussion*

##### Geotechnical Impacts

##### **Impact 4.2-A Surface fault rupture.**

Although there are active faults in the region, the site is not located in an Alquist-Priolo Earthquake Fault Zone.<sup>11</sup> Several geologists have mapped an unnamed fault crossing the project site, however, the geologic hazards assessment found no evidence of recent activity along that portion of the unnamed fault which crosses the project site. Therefore, a *less-than-significant* impact would occur, in regards to a potential fault rupture.

##### **Impact 4.2-B The project could result in the exposure of people, structures, and/or property to seismic ground shaking.**

The project site is located in the seismically active San Francisco Bay Area of California. Strong seismic ground shaking is a potentially significant impact to all development sites within the region, including sites within Marin County. Ground shaking associated with movement along a nearby or distant fault presents a risk to public safety and property. Seismic shaking on the site could result in damage to buildings, pavements and utilities. Therefore, seismic ground shaking is considered a *potentially significant impact*.

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<sup>11</sup> County of Marin, Countywide Plan Map Viewer, <http://gisprod.co.marin.ca.us/CWP/Viewer/bottom/Viewer.asp>, accessed on May 8, 2008.



## Mitigation Measures

4.2-B.1 The following seismic Best Management Practices (BMPs) should be employed:

- ◆ Structures should be designed in accordance with all building design requirements as established by the International Building Code (IBC) of 2000 and the California Building Code of 2007.
- ◆ A State-licensed architect and civil engineer should design all structures.
- ◆ All design may undergo a plan review by an independent Civil Engineer with structural expertise retained by the County at the applicant's expense.
- ◆ Utilities should be designed to provide sufficient flexibility or rigidity to withstand the expected ground motions during an earthquake.
- ◆ Water heaters and other fixtures should be secured in accordance with County guidelines.
- ◆ Design and construction of foundations, concrete structures, and pavements should be performed under the oversight of state-licensed civil, geotechnical, and/or structural engineers and should be reviewed by the Building Official.

## Impact Significance After Mitigation

The implementation of this mitigation measure would reduce the impact to a *less-than-significant* level.

### Impact 4.2-C Seismic-related ground failure, including liquefaction.

According to liquefaction susceptibility maps prepared by the ABAG, the site soils have very low liquefaction susceptibility. Furthermore, subsurface geotechnical investigations by Lowney and Associates have confirmed that the

site would have a low susceptibility to seismically induced hazards, such as seismic-related ground failure and liquefaction. Therefore, the hazard of seismic related ground failure, including liquefaction is considered a *significant impact*.

### **Mitigation Measures**

4.2-C.1 Adherence to the Association of Bay Area Government's Manual of Standards for Erosion and Sediment Control Measures during the design, construction and maintenance of the project would limit downhill movements. These standards and measures relate to structural control, vegetation control, soil loss prevention, and dust and wind erosion control.

### **Impact Significance after Mitigation**

The implementation of this mitigation measure would reduce the impact to a less-than-significant level.

### **Impact 4.2-D Landslides.**

Ellen et al. (1997) published a map showing principal debris-flow source areas from the natural hillslopes in Marin County. The mapping utilized hillslope steepness and curvature to indicate areas with an increased probability for debris flow source material. Ellen et al. mapped the upper, steep portions of the project site above the proposed building area as a potential debris flow source area. One such site is mapped to the west of the project site in the general vicinity of Sunny Oaks Drive, which is approximately 300 feet to the west of the project site, at the closest point. Earth Mechanics Consulting Engineers produced a report for this project site in 1998, and cited that a debris-flow occurred on the slope above Sunny Oaks Drive in February 1996.

During site reconnaissance in 2005, Lowney and Associates observed the bowl shaped topography of the eastern side of the site. The topography re-

sembles a steep sided bowl that abruptly levels out to the north in the vicinity of the existing pond. This topography may be indicative of a previous slope failure. The presence of abundant mature trees covering the steep slopes suggests that the steeper slopes are currently in a stable condition. Localized slope instability was observed where over-steepened slopes had caused minor failures, possibly the result of the road cut for the existing driveway and old unpaved access roads that cross the site. In addition, Rice et al. (1976) mapped an area of the project site in the vicinity of the existing pond as a landslide deposit. As a result, the potential for landslides is considered a *significant impact*.

### **Mitigation Measures**

4.2-D.1 The mitigation measure recommended for Impact 4.2-C also applies to this impact.

### **Impact Significance After Mitigation**

The implementation of this mitigation measure would reduce the impact to a *less-than-significant* level.

### **Soil Erosion**

#### **Impact 4.2-E Soil erosion and the loss of topsoil.**

Construction of the proposed project would result in the removal of vegetative cover and topsoil and could compound and increase erosion on the project site by subjecting exposed, earthen areas to erosional forces, such as wind and rainfall.

Substantial grading is proposed on the portion of the site where development will occur. A total of 8,657 cubic yards of material would be cut (graded or excavated) and 5,735 cubic yards of this material would be hauled off-site. The remaining 2,922 would be used on-site as backfill. Overall, site prepara-

tion and construction would disturb approximately 3.56 acres of the 14.8-acre site, or 24 percent of the property.

The project applicant would be required to comply with all Phase II NPDES requirements. Compliance would be ensured through Mitigation Measure 4.4-D.1, which is identified in the Hydrology and Water Quality section. Due to the inclusion of this measure, which calls for the implementation of several construction-period Best Management Practices (BMPs), potential impacts from soil erosion and loss of top soil would be *less than significant*.

#### **Unstable Soil**

##### **Impact 4.2-F Unstable geologic units.**

No unstable geologic units are known to occur on or adjacent to the project site. The underlying bedrock unit in the site vicinity has been mapped as Cretaceous Franciscan sandstone, and during site reconnaissance, Lowney and Associates observed a shale and sandstone outcroppings. However, the occurrence of unstable slopes and landslides in the Franciscan Formation is not uncommon in the San Francisco Bay, and as a result, the hazard of unstable geologic units is considered a *significant impact*.

#### **Mitigation Measures**

4.2-F.1 All proposed structures in those areas identified should be founded in the underlying bedrock. In areas of significant cuts, foundations and retaining walls should be constructed to accommodate the lateral pressures of the upslope colluvium soil. Where necessary, colluvium should be removed to expose bedrock.

#### **Impact Significance After Mitigation**

The implementation of this mitigation measure would reduce the impact to a *less-than-significant* level.

**Impact 4.2-G Expansive soils.**

As discussed in section B), Atterberg limits tests analyze the physical properties of soil to determine the potential for soil expansion. In 2003, Salem Howes Associates conducted Atterberg limits testing on soils from the project site and determined that the soils have a low plasticity index and concluded that the potential for expansive soils is low.<sup>12</sup> As a result, a *less-than-significant* impact would occur.

**Impact 4.2-H Soils incapable of supporting on-site wastewater disposal.**

The subject development will be serviced by Las Gallinas Valley Sanitary District. On-site wastewater disposal and septic tanks are not needed for this project and as a result *no impact* would occur.

**Impact 4.2-I Alquist-Priolo Special Studies Zone, or contain a known active fault zone, or an area characterized by surface rupture that might be related to a fault.**

As discussed in response to criteria 1.a), the project site is not located within an Alquist-Priolo Earthquake Fault Zone and no evidence of any recent fault activity on the project site has been found. Therefore, a *less-than-significant* impact is anticipated in regards to a potential surface rupture.

**Impact 4.2-J Soil collapse.**

The project does not have a history of mining operations and no groundwater will be used for this project. Furthermore, the project site does not contain karst topography,<sup>13</sup> typified by subsurface limestone or dolomite. Bedrock

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<sup>12</sup> Salem Howes Associates, Geotechnical Investigation, 2003, page 4.

<sup>13</sup> Karst Topography is formed by the dissolution of soluble rocks, including limestone and dolomite. Karst regions contain aquifers that are capable of providing large supplies of water. United States Geological Survey website, <http://water.usgs.gov/ogw/karst/>, accessed on June 10, 2008.

located within the vicinity of the project site is a component of the Cretaceous Franciscan Complex and consists of sandstone and shale. As a result, *no impact* would occur.

**Impact 4.2-K Mineral Resource Zone identified by the California Department of Mines and Geology or within an area designated as important Farmland identified by the Soil Conservation Service.**

The project site has never been used for mineral extraction and is not listed as a Mineral Resource Site.<sup>14</sup> The project site has never been used for agricultural production. A *less-than-significant* impact would occur.

#### Water Bodies

**Impact 4.2-L Be located next to a water body that might be subject to tsunamis or seiche waves.**

As discussed in Chapter 4.4 (Hydrology and Water Quality), response to criteria 10), the site does not lie in close proximity to a large lake or the ocean and is therefore not subject to tsunamis or seiche. San Pablo Bay is approximately 0.25 miles from the project site and is too far away to present a risk related to a potential tsunami. Therefore, *no impact* would occur.

#### *E. Cumulative Impacts*

This section analyzes potential geological impacts that could occur from a combination of the proposed project with other reasonably foreseeable projects in the near vicinity (a ½-mile radius). The list of projects considered in this section is shown in Chapter 4.0.

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<sup>14</sup> Marin Countywide Plan, Map Viewer, <http://gisprod.co.marin.ca.us/CWP/Viewer/bottom/Viewer.asp>, accessed on May 8, 2008.

### Cumulative Geological Impact

**Impact 4.2-M The proposed project, in combination with other development project would result in geotechnical impacts.**

This section analyzes potential geological impacts that could occur from a combination of the proposed project with other reasonably foreseeable projects in the near vicinity (a ½-mile radius). The list of projects considered in this section is shown in Chapter 4.0.

The proposed project, in combination with other projects occurring within a half-mile radius, would expose a greater number of people to risk associated with regional seismic events. Collectively, more people would be occupying more homes and offices that would be subject to partial or complete failure during a seismic event. However, as proposed development occurs, adherence to State requirements such as the Uniform Building Code would ensure structural safety to the maximum extent feasible. This would reduce potential cumulative impacts related to seismic safety to a less-than-significant level.

As identified in Section D, recommendations have been made to mitigate potential risks associated with geotechnical hazards to a less than significant level. Based on the inclusion of any such recommendations into the project design, the project would not have a significant, cumulative impact on public safety.

**Impact 4.2-N The proposed project in combination with other projects would expose soils to wind and water erosion.**

The proposed project, in combination with other projects, has the potential to contribute to significant, cumulative impacts associated with soil erosion. However, because the proposed project would incorporate BMPs that would reduce erosion to a *less-than-significant* level, the project would not have a significant cumulative impact related to erosion and loss of top soil.

COUNTY OF MARIN  
650 NORTH SAN PEDRO ROAD EIR  
GEOLOGY AND SOILS



## 4.3 BIOLOGICAL RESOURCES

This section chapter evaluates potential impacts on the existing biological resources including vegetation, waters, riparian zones and wildlife resulting from the proposed development.

### *A. Regulatory Framework*

This section summarizes existing federal, State and local laws, policies and regulations that pertain to biological resources.

#### **1. Federal Laws and Regulations**

The federal regulations that are applicable to biological resources on-site and in the vicinity are the federal Endangered Species Act (ESA), the Clean Water Act (CWA) and the Migratory Bird Treaty Act (MBTA). Relevant portions of these regulations are summarized below.

##### **a. Federal Endangered Species Act**

The ESA establishes protection for species that are listed as endangered or threatened by the U.S. Fish and Wildlife Service (USFWS). The USFWS has jurisdiction over wildlife and resident fish; the National Marine Fisheries Service (NOAA Fisheries) has jurisdiction over anadromous fish. If a project involves a “take” of a federally listed species, then the USFWS must approve the permit for this “taking.” “Take” is defined by the ESA as harassing, harming, pursuing, shooting, wounding, trapping, capturing, or collecting any listed wildlife species. Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter.

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 implementing of the project, then initiation of formal consultation between that agency and USFWS, pursuant to Section 7 of the ESA, 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 anticipated effects of the project on listed and proposed species and may au-

thorize a limited level of incidental take. If a federal agency is not involved with the project, then an "incidental take" permit pursuant to Section 10(a) of the ESA should be obtained.

For plants, the ESA prohibits the removal or destruction of any endangered plant on federal land as well as destruction of an endangered plant species in non-federal areas in knowing violation of any State law. Section 7 of the ESA mandates that all federal agencies consult with the USFWS to ensure that federal agencies' actions do not jeopardize the continued existence of a listed species or adversely modify critical habitat for listed species.

b. Clean Water Act

Section 401 of the Clean Water Act (CWA) requires a water quality certification from the State for all nationwide or individual permits issued by the U.S. Army Corps of Engineers (Corps) under Section 404 of the CWA. The Regional Water Quality Control Board (RWQCB) is the State agency in charge of issuing a Section 401 water quality certification or waiver.

~~Section 402 of the CWA requires a National Pollutant Discharge Elimination System (NPDES) permit for discharge of pollutants into water. For projects that will disturb more than one acre, an NPDES permit will need to be obtained from the State Water Resources Control Board. As part of this permit, a Storm Water Pollution Prevention Plan (SWPPP) to control erosion and sediment must be prepared and implemented.~~

Under Section 404 of the CWA, the Corps regulates the discharge of dredged or fill material into "Waters of the United States." Waters of the U.S. are broadly defined to include perennial, intermittent, and ephemeral watercourses as well as wetlands (33 CFR 328.3(a)). Wetlands are defined as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3(b)). Wetlands are identified using three parameters: vegetation, soils and hydrology. In most cases, jurisdic-

tional wetlands are dominated by hydrophytic (wetland) vegetation, occur on hydric soils, and are supported by wetland hydrology. For watercourses, the Corps' jurisdiction extends up to the ordinary high water mark (OHWM) of the stream channel.

The discharge of dredged or fill material into waters of the U.S., including wetlands, is regulated by the Corps under Section 404 of the CWA. Certain activities may qualify for authorization under the Corps' Nationwide Permit (NWP) program, provided certain conditions are met. Discharge into, or filling of, jurisdictional wetlands associated with the construction of a residential development may be authorized under NWP number 29. For NWP 29, the affected area of wetlands/waters of the U.S. cannot exceed 0.5-acre, and notification to the Corps is required for the loss of any open waters, including ephemeral, perennial, or intermittent streams, below the OHWM.

c. Federal Migratory Bird Treaty Act

The Federal Migratory Bird Treaty Act (MBTA) prohibits take of most species of birds and their active nests, eggs and nestlings, without a permit from the USFWS. Activities that cause abandonment of a nest are also considered a non-permitted take, prohibited by the MBTA.

## 2. State Laws and Regulations

a. California Endangered Species Act

The California Endangered Species Act (CESA) prohibits the take of State-listed endangered and threatened species unless specifically authorized by the California Department of Fish & Game (CDFG). The CDFG administers the CESA and authorizes take through permits or memoranda of understanding issued under Section 2081 of the California Fish and Game Code (CFGC). Section 2090 of CFGC requires state agencies to comply with threatened and endangered species protection and recovery and to promote conservation of these species.

b. California Fish and Game

The California Department of Fish and Game (CDFG), under Section 1600 of the California Fish and Game Code, has jurisdiction over activities that would interfere with the natural flow of, or substantially alter, the channel, bed, or bank of a lake, river, or stream. Section 1602 requires notification to the CDFG for lake or stream alteration activities. If the CDFG determines that the activity may adversely affect an existing fish and wildlife resource, the CDFG has the authority to issue a streambed alteration agreement. Requirements to protect water quality, fish and wildlife species, along with associated aquatic and riparian habitats are often conditions of streambed alteration agreements.

CFG Sections 3511, 4700, 5050 and 5515 (Fully Protected Species), designates certain animal species as “fully protected” under Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians) and 5515 (fish). Fully protected species may not be taken or possessed at any time and no permits may be issued for incidental take of these species.

The CFGC Bird Protections Section 3503 prohibits taking, possession or destruction of the nest or eggs of most bird species unless authorized by the CDFG. Section 3503.5 prohibits the taking of any birds of prey, their nests or eggs.

CFG Sections 1900-1913, the Native Plant Protection Act (NPPA), includes provisions that prohibit the taking of endangered or rare native plants from the wild and a salvage requirement for landowners. The CDFG administers the NPPA and generally regards as “rare” many plant species included on lists 1A, 1B and 2 of the California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants of California.<sup>1</sup>

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<sup>1</sup> California Native Plant Society (CNPS), 2006. Inventory of Rare and Endangered Plants. <http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi>.

c. California Environmental Quality Act

The Oak Woodlands Bill (Senate Bill 1334) amended CEQA, effective January 1, 2005, to require counties to determine whether a project subject to CEQA may lead to a significant environmental impact as a result of the conversion of oak woodlands. If there may be a significant effect, mitigation measures must be employed to reduce the impact and promote oak woodland conservation.

**3. Local Regulations and Policies**

a. Regulations for Oak Woodlands Protection

The State Public Resources Code (Section 21083.4) states that if a county determines that a project in its jurisdiction may result in a conversion of oak woodland that would be considered significant under CEQA, then mitigation for this impact is required. The mitigation can include: 1) conservation of oaks on the site; 2) replanting oaks (can be used for a maximum of 50 percent of the required mitigation); 3) contribution to the Oak Woodlands Conservation Fund; and/or 4) other mitigations developed by the County.

b. Marin Countywide Plan

The Marin Countywide Plan<sup>2</sup> is the County's long-range guide for use of land and protection of natural resources. The Plan, adopted in November 2007, establishes policies and programs to be used by the public, planning staff, and decision makers when reviewing and analyzing proposed development. The Plan balances current and future needs for urban, rural and natural uses throughout Marin County. The Plan provides specific policy direction in regards to preserving biological resources, and continuing to protect and restore open space, wilderness, and damaged ecosystems, and enhance habitats for biodiversity. The policies address five goals:

- ◆ **Goal 1: Enhanced Native Habitat and Biodiversity.** Effectively manage and enhance native habitat, maintain viable native plant and animal

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<sup>2</sup> Marin County Community Development Agency, 2007. *Marin Countywide Plan*. Adopted November 7, 2007.

populations, and provide for improved biodiversity throughout the County.

- ◆ **Goal 2: Protection of Sensitive Biological Resources.** Require identification of sensitive biological resources and commitment to adequate protection and mitigation, and monitor development trends and resource preservation efforts.
- ◆ **Goals 3: Wetland Conservation.** Require all feasible measures to avoid and minimize potential adverse impacts on existing wetlands and to encourage programs for restoration and enhancement of degraded wetlands.
- ◆ **Goal 4: Riparian Conservation.** Protect and, where possible, restore the natural structure and function of riparian systems.
- ◆ **Goal 5: Baylands Conservation.** Preserve and enhance the diversity of the baylands ecosystem, including tidal marshes and adjacent uplands, seasonal marshes and wetlands, rocky shorelines, lagoons, agricultural lands, and low-lying grasslands overlying historical marshlands.

c. Marin County Native Tree Protection and Preservation

Section 22.27.020 of the Marin Development Code provides protection for native trees in the County. Tree protection and preservation measures apply only to “protected trees” as defined in Article VIII of the code. Article VIII refers to a list of ‘Trees Native to Marin County’ that is maintained by the Marin Community Development Agency – Planning Division. The provisions of the Development Code prohibit the removal of a “protected tree” without first requesting and receiving a tree removal permit. Mitigation for removal of non-exempt protected trees can include planting replacement trees, establishing a management plan for preservation of existing stands, and removal of exotic species.

d. Marin County Stream Conservation Area

A Stream Conservation Area consists of a watercourse, surrounding banks, and a strip of land extending laterally from the top of both banks. An (SCA) is established to protect the active channel, water quality and flood control functions, and associated fish and wildlife habitat values along streams.

## ***B. Existing Conditions***

This section describes existing conditions on-site and in the vicinity and identifies animal and plant species and vegetation communities, including special-status species and sensitive communities that occur in the project area. Additional background data and information regarding identified animal and plant species may be found in the Biological Technical Report that was prepared for this project.<sup>3</sup>

### **1. Project Area Conditions**

The proposed project site is located at 650 North San Pedro Road in an unincorporated area of Marin County. The site is approximately 3 miles northeast of downtown San Rafael. The City of San Rafael is located southwest of San Pablo Bay and north of the cities of Mill Valley and Sausalito, approximately 15 miles north of San Francisco. The project site is bordered by China Camp State Park and San Pedro Mountain Preserve on its southern and eastern edges and residential development to the west and north. A private property is located between the project site and China Camp State Park to the east. The site is in the Santa Venetia neighborhood southeast of the intersection of North San Pedro Road and Point Gallinas Road.

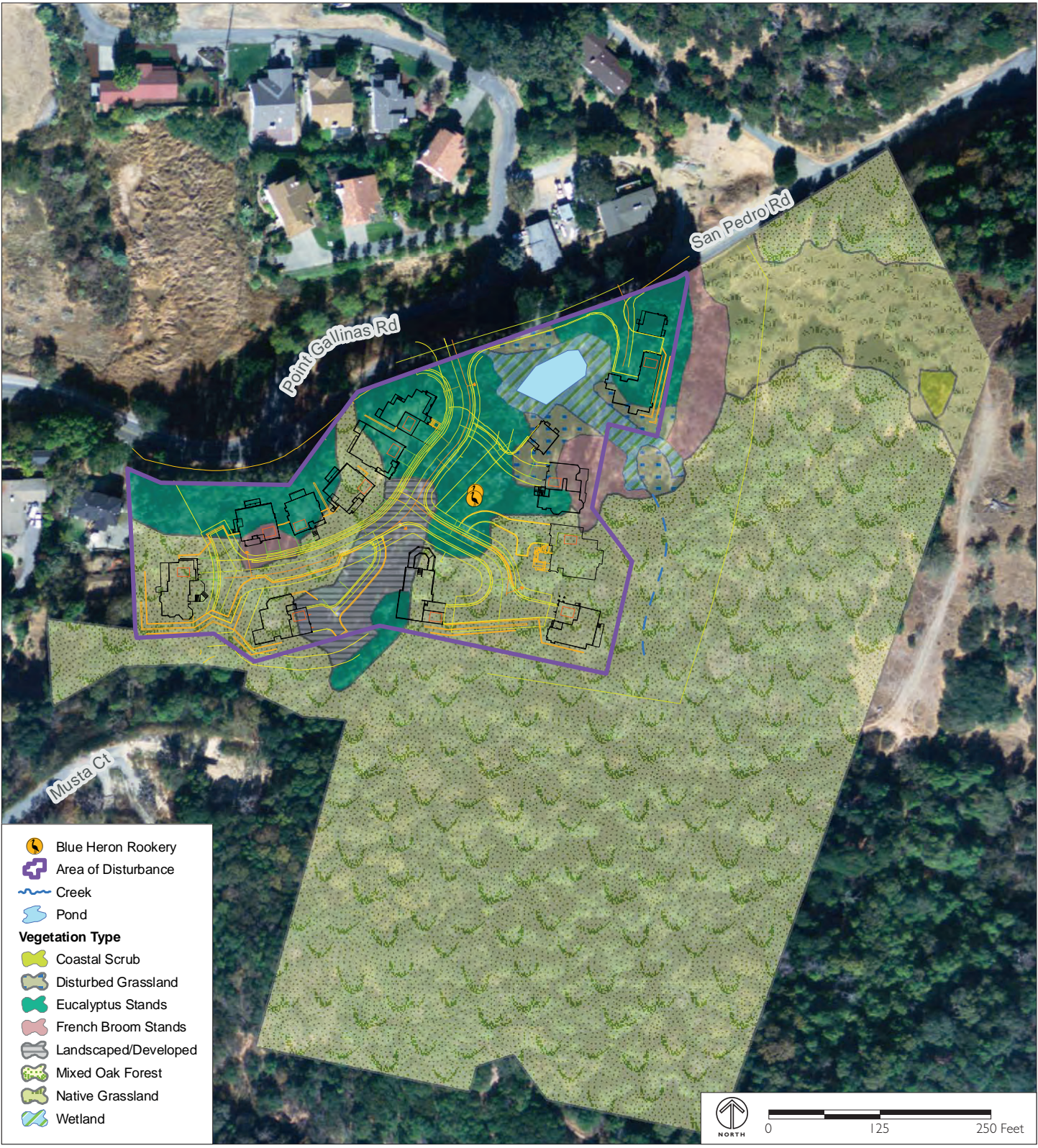
#### **a. Vegetation Types**

Eight vegetation types were identified on the property. These include three natural vegetation types (mixed oak forest, native grassland, and coastal scrub) and five types that are associated with human activities (eucalyptus stands, French broom stands, non-native seasonal wetland, non-native seasonal grassland, and developed/landscaped). Figure 4.3-1 illustrates the existing conditions, including the location of the vegetation types.

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<sup>3</sup> Garcia and Associates (GANDA), 2005a. *Biological Resources Technical Report for the San Pedro Court Project, Marin County, California*. Prepared for DC&E, June 1.





Source: Garcia and Associates

FIGURE 4.3-1  
EXISTING CONDITIONS



*i. Mixed Oak Forest*

Mixed oak forest is the predominant vegetation type (approximately 11.1 acres) at the site and covers most of the steep upper north- and west-facing slopes of the site. The dominant trees are California bay (*Umbellularia californica*) and coast live oak (*Quercus agrifolia*). Associated tree species include madrone (*Arbutus menziesii*), California black oak (*Quercus kelloggii*), and California buckeye (*Aesculus californica*). Tree canopy cover is very dense, visually estimated to be at or near 100 percent throughout most of the mixed oak forest. Many of the large coast live oaks are dead. A survey for the presence of the organism that causes Sudden Oak Death (SOD) (*Phytophthora ramorum*) found evidence that trees at the site have been affected by this organism.<sup>4</sup> A significant portion of the oaks are in marginal condition due to old fire damage, high tree densities, and oak tree death due to probable SOD infection. The high density of trees has resulted in overcrowding, excessive shade, and decreased vigor due to competition for limited soil, sunlight, and water resources. The risk of wildfire is high due to the crowded woodland conditions, the presence of pyrophytic tree species, dense ground fuel, and the high number of declining trees with excessive amounts of dead wood in the tree canopy.<sup>5</sup>

The mixed oak forest understory varies from dense to open, and is composed largely of native perennial ferns, grasses, forbs and shrubs, including: coastal wood fern (*Dryopteris arguta*), California polypody (*Polypodium californicum*), California fescue (*Festuca californica*) Torrey's melic (*Melica torreyana*), woodland madia (*Madia madioides*), poison oak (*Toxicodendron diversilobum*) and toyon (*Heteromeles arbutifolia*).

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<sup>4</sup> Garcia and Associates (GANDA), 2005b. Update to SOD Evaluation at San Pedro Road. Memo prepared for DC&E, April 19.

<sup>5</sup> MacNair and Associates. 650 North San Pedro Road Tree Inventory and Evaluation (Revised), Marin County, California. Prepared for West Bay Builders, October 7, 2007.

*ii. Native Grassland*

Native grassland is the dominant vegetation on the steep, west-facing slope at the northern end of the site, where it covers approximately 1 acre. This grassland is the most floristically diverse community at the site. The vegetation consists of native and introduced grasses, and a wide variety of native forb species that reach a height of about 2 feet. This grassland slope is virtually devoid of invasive non-native plants. Annual grasses dominate in terms of cover, but many large clumps of purple needlegrass (*Nassella pulchra*) and bulbous melic (*Melica bulbosa*) form an important cover element, especially on the upper part of the slope. From a visual estimate, about 20 percent of the slope contains native grasses. Native forbs found here include: narrow-leaved mules-ears (*Wyethia angustifolia*), six species of native clovers (*Trifolium* spp.), blue larkspur (*Delphinium variegatum*), purple owl's-clover (*Castilleja exserta*), and many others.

*iii. Coastal Scrub*

A very small patch (0.04-acre) of coastal scrub is found at the top of the native grassland-covered slope at the northern end of the site. This coastal scrub vegetation is dominated by two shrubs: coyote brush (*Baccharis pilularis*) and bush monkeyflower (*Mimulus aurantiacus*). The understory consists mainly of low-growing native and introduced annual forbs.

*iv. Eucalyptus Stands*

Stands of tall eucalyptus trees, mainly Tasmanian blue gum (*Eucalyptus globulus*), cover about 1.4 acres of the lowest part of the site, where development is proposed. Tasmanian blue gum is a non-native tree designated as invasive along the coast of California by the California Invasive Plant Council (Cal-IPC).<sup>6</sup> At the site, eucalyptus stands cover most of the frontage area with North San Pedro Road. These tall trees form a moderately dense canopy, with canopy cover visually estimated at approximately 85 percent. Eucalyptus trees release chemical compounds that inhibit the growth of many species

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<sup>6</sup> Cal-IPC (formerly called the California Exotic Pest Plant Council [Cal-EPPC]), 1999. Exotic pest plants of greatest ecological concern in California. Unpublished list.

of plants. Therefore, the understory of eucalyptus stands is typically low in plant species diversity, which is the case at the project site. The understory consists mainly of the invasive weeds periwinkle (*Vinca major*) and Italian thistle (*Carduus pycnocephalus*).

There is significant size and age distribution in the eucalyptus population with trees ranging from approximately 12 inches in diameter at breast height (dbh) to 36 inches and occasionally larger. The older trees tend to have very large and open limb structures with heights exceeding 90 to 100 feet and crown diameters often extending from 60 to 80 feet. The younger trees tend to have narrow, high-branch structures (low crown-to-height ratios) with low trunk taper due to growing in a shaded woodland environment. A significant number of the mature trees have low, multiple trunk structures due to previous topping procedures. The eucalyptus long-horned borer (*Phoracantha semipunctata*) (ELB), with contributing damage by the eucalyptus tortoise beetle (*Trachymela sloanei*) (ETB), have killed or severely damaged a significant number of standing trees. Blue gums were observed to have varying degrees of foliar damage from the ETB. Dead trees and limbs killed by ELB are common throughout the site. In addition to the insect infestations, the eucalyptus have various structural problems associated with limb and trunk attachment defects, trunk decay or damage, and weak structure development due to shade suppression. The eucalyptus located upslope and overhanging the electrical lines on San Pedro Road are a significant risk since limb failure and wind-throw are common in this tree species. The location of these trees on the lower slopes of the site in combination with the excessive fuel loads on the site constitutes a high fire risk for the project site and woodlands surrounding the property. The trees in the northwest corner of the site were observed to have trunk and limb fire damage indicating at least a small fire has already occurred on the site.<sup>7</sup>

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<sup>7</sup> MacNair and Associates, 2007. *650 North San Pedro Road Tree Inventory and Evaluation (Revised)*, Marin County, California. Prepared for West Bay Builders, October 7.

In spring of 2007, a herd of goats was brought to the property in an effort to clear understory vegetation. This resulted in heavy browse and in some places elimination of ground cover vegetation, particularly around the existing residence. Much of the area under the eucalyptus stands has been altered by past grading activities and construction of the existing residence and roadways.

*v. French Broom Stands*

At the lower margins of the mixed oak forest, and elsewhere on the lower portion of the site, are dense stands of French broom (*Genista monspessulana*). This fast-growing shrub invades oak communities in Marin County, especially in areas disturbed by roads, wildfire and other causes. The French broom stands at the site are associated with old roads or other forms of disturbance. Most of these stands are very dense, with shrubs six feet or more in height. Few plants grow beneath the dense stands. The stands were browsed, but not eliminated, by the goat herd.

*vi. Non-Native Seasonal Wetland*

Wetland vegetation is present within and along the edges of the pond and in a band that extends upslope from the pond to the mouth of the creek. The pond appears to have developed as a result of obstruction of flow from the upslope ephemeral creek. When water is present in the pond, vegetation is sparse and consists primarily of the floating and emergent freshwater aquatic plant, water plantain (*Alisma plantago-aquatica*). The pond dries seasonally, and the moist pond bottom in summer is dominated by the introduced, weedy forbs cocklebur (*Xanthium strumarium*) and pennyroyal (*Mentha pulegium*). Wet areas in the immediate vicinity of the pond are dominated by non-native, invasive, mesic-adapted wetland grasses and forbs, such as Italian ryegrass (*Lolium multiflorum*), rabbitsfoot grass (*Polypogon monspeliensis*) and pennyroyal. Scattered clumps of native perennial forbs, including umbrella sedge (*Cyperus eragrostis*), spreading rush (*Juncus patens*), and slender rush (*Juncus tenuis*) also occur in the wetter areas. A large shrub of native shining willow (*Salix lucida* ssp. *lasiandra*) occurs at the western pond edge.

*vii. Non-Native Seasonal Grassland*

Non-native grassland is found on areas of higher ground in the vicinity of the pond, and includes both dry and mesic microsites. The ground in this area is relatively disturbed and species diversity is low. This vegetation consists mainly of non-native annual grasses, weedy non-native forbs and a few native forbs. Common plant species include: Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), Italian ryegrass, little quaking grass (*Briza minor*), smooth cat's-ear (*Hypochaeris glabra*), California burclover (*Medicago polymorpha*) and California buttercup (*Ranunculus californicus*).

*viii. Developed/Landscaped*

Non-native trees, shrubs and perennial forbs have been planted along the driveway from San Pedro Road to the existing residence, and in the area directly below the residence. Planted trees include several species of eucalyptus, incense cedar (*Calocedrus decurrens*), deodar cedar (*Cedrus deodara*), black locust (*Robinia pseudoacacia*), silver wattle (*Acacia dealbata*) and blackwood acacia (*Acacia melanoxylon*). The understory landscaping plants include montbretia (*Crocasmia crocosmiflora*) and daffodils (*Narcissus* sp.).

**b. Wildlife Habitat**

The classification of wildlife habitats generally follows that used for vegetation types described above. While vegetation types are defined by plant species composition, wildlife habitats can include other important features such as rock outcrops, underground refuges, and open water. In some cases, a wildlife habitat type includes more than one plant community where those communities provide similar habitat characteristics and support a similar assemblage of wildlife species. Some wildlife habitat types, such as unvegetated, aquatic habitats, have no corresponding vegetation type.

*i. Mixed Oak Forest*

The mixed oak forest on the site forms a dense, diverse canopy that provides high habitat value for wildlife. Oak forests and woodlands provide important nesting and perching habitat for raptors and other birds, an abundant food source in acorns, and cover for larger mammals. Common birds and mam-

mals that utilize this habitat type include red-shouldered hawk (*Buteo lineatus*), California quail (*Callipepla californica*), nuthatches (*Sitta* spp.), acorn woodpecker (*Melanerpes formicivorus*), gray squirrel (*Sciurus griseus*), and black-tailed deer (*Odocoileus hemionus*). Leaf litter deposited below the trees creates microhabitats for small vertebrates including newts (*Taricha* spp.), western fence lizard (*Sceloporus occidentalis*), and rodents such as deer mouse (*Peromyscus maniculatus*).

ii. *Grassland*

This wildlife habitat type includes both native and non-native grassland vegetation types. Grasslands can support a variety of small mammals and provide foraging habitat for raptors and other birds. Birds commonly found foraging in annual grasslands include the red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), and turkey vulture (*Cathartes aura*). Common mammals of coastal grassland habitats include the California ground squirrel (*Spermophilus beechyi*) and Botta's pocket gopher (*Thomomys bottae*), and the burrows of these rodents can provide important refuge sites for amphibians and reptiles. Wildflowers in grasslands also provide foraging resources for butterflies, bees and other insects. The native grassland at the northeastern end of the site is a relatively diverse biotic community that provides moderately high habitat value for wildlife. By contrast, the non-native grassland adjacent to the wetland area is a degraded biotic community that provides relatively low habitat value.

iii. *Coastal Scrub*

Coastal scrub communities provide foraging, perching and nesting sites for some birds and cover for small mammals and reptiles. Common species associated with these habitats include western fence lizard, California quail, western scrub-jay (*Apelocoma californica*), California towhee (*Pipilo crissalis*), and brush rabbit (*Sylvilagus bachmani*). The small patch of coastal scrub on the property does not represent a distinct, contiguous community, but provides habitat diversity for wildlife within the surrounding grassland matrix.

*iv. Eucalyptus Stands*

Eucalyptus trees provide roosts, perches, and nest sites for a variety of birds including raptors, herons, hummingbirds and songbirds. Eucalyptus debris that collects under the trees also creates microhabitats for ground-dwelling species such as gopher snakes (*Pituophis melanoleucus*) and woodrats (*Neotoma* spp.). Large conical terrestrial woodrat nests on the property are composed of twigs, leaves, and miscellaneous debris supported by some existing sub-structure such as logs, tree trunks, or the live branches of vegetation such as poison oak. Woodrats are prey to many species, including great horned owl (*Bubo virginianus*), red-tailed hawk, bobcat (*Felis rufus*), and rattlesnake (*Crotalus viridis*). The nests of woodrats offer refuge and food to a variety of species including small mammals, reptiles, salamanders, arachnids and insects.

A few large eucalyptus trees on the project site have suitable branch structure and stability to support nests of raptors and other large birds. Most of the eucalyptus trees adjacent to North San Pedro Road are ~~relatively small in diameter and~~ not suitable for raptor nesting. However, these trees provide a wind buffer and visual screening for more suitable nesting sites located in the interior of the property.

*v. French Broom Stands*

Stands of French broom have low habitat value for wildlife. The dense foliage of French broom can offer some cover for small mammals and birds. However, these low-diversity, non-native stands degrade habitat quality for wildlife by displacing native forage species. French broom does not support a diversity of native insects and its foliage and seeds are toxic to most wildlife species.<sup>8</sup>

*vi. Pond/Wetland*

The pond and surrounding wetland on the project site provide moderate benefits for wildlife. Most of the wildlife habitat value is provided by the pond, as the surrounding wetland area is relatively degraded. When water is

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<sup>8</sup> Bossard, C.C., J.M. Randall and M.C. Hoshovsky (eds.), 2000. *Invasive Plants of California's Wildlands*. University of California Press, Berkeley, CA.

present, the pond can support a variety of aquatic insects, amphibians such as the Pacific tree frog (*Hyla regilla*), and reptiles such as garter snakes (*Thamnophis* spp.). The open water of the pond also provides foraging habitat for waterfowl such as mallards (*Anas platyrhynchos*) and wading birds such as great egrets (*Ardea alba*). Mallards have been observed foraging on the pond by the County's biologists during several surveys.<sup>9</sup> The pond is fairly shallow and dries by mid-summer, and so does not provide suitable habitat for species such as the western pond turtle (*Emys* [= *Clemmys*] *marmorata*) that require perennial aquatic habitats. The pond does not provide suitable breeding habitat for California red-legged frog (*Rana aurora draytonii*) because it lacks deep water and emergent vegetation, and draws down too quickly each summer.

*vii. Ephemeral Creek*

During the wet season, ephemeral creeks are habitat for a variety of aquatic insects and amphibians such as the California newt (*Taricha torosa*). In the drier months, the creek channel can offer cool, moist microhabitats for small mammals and reptiles. The creek on the project site does not support resident fish because it is small, seasonally dry, and isolated from other water bodies, but it likely provides benefits to terrestrial wildlife that inhabit the surrounding oak forest.

*viii. Developed/Landscaped*

Developed areas, particularly areas with landscaping vegetation, can provide moderate habitat value for wildlife. The planting and maintenance of shrubs, trees, and other ornamental plants in residential areas can enhance this habitat for opportunistic animal species that can coexist with humans. Examples of species found in this habitat type are Anna's hummingbird (*Calypte anna*), Northern mockingbird (*Mimus polyglottos*), house finch (*Carpodacus mexicanus*), raccoon (*Procyon lotor*), and opossum (*Didelphis virginianus*).

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<sup>9</sup> Garcia and Associates (GANDA), 2005a. *Biological Resources Technical Report for the San Pedro Court Project, Marin County, California*. Prepared for DC&E, June 1.



c. Wetlands and Aquatic Resources

Jurisdictional waters of the U.S. on the project site include the wetland area described in the vegetation section and the ephemeral creek that drains into the wetland (Figure 4.3-1). The jurisdictional wetland consists of the existing pond, the surrounding pond margin up to the 34-foot elevation contour (as mapped on the Topographic and Boundary Survey),<sup>10</sup> and a zone of wetland vegetation that extends upslope from the pond margin to the outlet of the ephemeral creek. The wetland was delineated<sup>11</sup> and the delineation was verified.<sup>12</sup> The area of this jurisdictional wetland is 0.29-acre.

The ephemeral creek is a natural watercourse with a short, steep-gradient that drains a small watershed. Consequently, the creek dries out fairly early in the dry season and does not support riparian vegetation. By contrast, the pond and surrounding wetland are artificial or modified features that have been created or altered by past human activities. Prior to construction of North San Pedro Road, the creek probably drained directly into a freshwater marsh located northwest of the project site. Construction of the road grade obstructed the natural drainage flow from the creek and contributed to the formation of the pond. In addition, the area around and upslope of the pond was altered by a landslide deposit of unknown age<sup>13</sup> and the ground in this area has been substantially disturbed. Drainage from the creek now spreads out in sheet flow across the disturbed ground between the toe of the slope and

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<sup>10</sup> ILS Associates, Inc., 2003. *San Pedro Court Topographic and Boundary Survey, Sheet No. C-2*. Prepared for West Bay Builders, July 25.

<sup>11</sup> Prunuske Chatham, Inc., 2003. *West Bay Builders Preliminary Wetland Assessment Report*. Prepared for West Bay Builders, November.

<sup>12</sup> U.S. Army Corps of Engineers, 2004. Letter from Jane Hicks, U.S. Army Corps of Engineers, San Francisco District, to West Bay Builders. File No. 28450N, July 15.

<sup>13</sup> Earth Mechanics, 1998. *Site Stability Evaluation, Planned Residential Development, 650 North San Pedro Road, San Rafael, California*. Letter-report from H. Allen Gruen, Principal Engineer, to Mr. Vincent Saunders, Saunders and Associates, August 24.

the pond. This combination of factors has resulted in a degraded wetland area characterized by a predominance of non-native, weedy vegetation.

The drainage is not included on the Marin County Anadromous Fish Streams and Tributaries map or on the Marin County Stream Conservation Area (SCA) Streams map. The drainage is not shown as a solid or dashed blue-line stream on the most recent appropriate USGS quad sheet. It does not support riparian vegetation for a length of 100 feet or more. The watercourse does not meet the definition of a SCA in the County Wide Plan (CWP) because of the factors above and since it does not support special-status species or any other sensitive biological community.

d. Sudden Oak Death

A detection survey was conducted on the project site to determine the presence of *Phytophthora ramorum*, the pathogen that causes SOD.<sup>14</sup> Approximately 50 percent of the property was surveyed for symptoms of SOD. Samples of foliage were collected from host species of *P. ramorum* that were present on the property and that exhibited symptoms of SOD (leaf spots, twig dieback, lesions, and cankers). Six sites were chosen for foliar sampling that were spread out across the property and that had the greatest prevalence of SOD symptoms. Most of the leaves collected in the survey were from California bay because symptoms of SOD were most common on this species and *P. ramorum* is readily isolated from foliar samples of this host in the lab.

Leaf samples that exhibited symptoms of *P. ramorum* were collected, placed in labeled, sealed plastic bags, and stored in a cooler. These samples were sent to the Marin County Agricultural Commissioner's Office for analysis for the presence or absence of *P. ramorum*. The SOD pathogen was positively detected in leaf samples from one of the six sampling sites. The leaf samples consisted of California bay and toyon. This sample location was approximately 250 feet south of the pond.

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<sup>14</sup> Garcia and Associates (GANDA), 2005c. SOD Evaluation at San Pedro Road. Memo prepared for DC&E, April 8.

e. Special-Status Species

Special-status species are defined in accordance with the CEQA Guidelines, Section 15380. Special-status plant and animal species with potential to occur on the project site or vicinity are summarized in the Biological Technical Report that was prepared for this project.<sup>15</sup> In addition to these species, the CDFG has identified other biological resources of concern, including sensitive natural communities and special habitat areas such as nesting sites of certain wildlife species. Figure 4.3-2 shows the locations of sensitive biological resources observed on the project site.

i. Plants

The characteristics of 25 species of special-status plants with the potential to occur on the project site are summarized in the Biological Technical Report. Rare plant surveys were conducted on March 7, April 12, and July 14, 2005. No special-status plants were found on the project site.<sup>16</sup>

ii. Wildlife

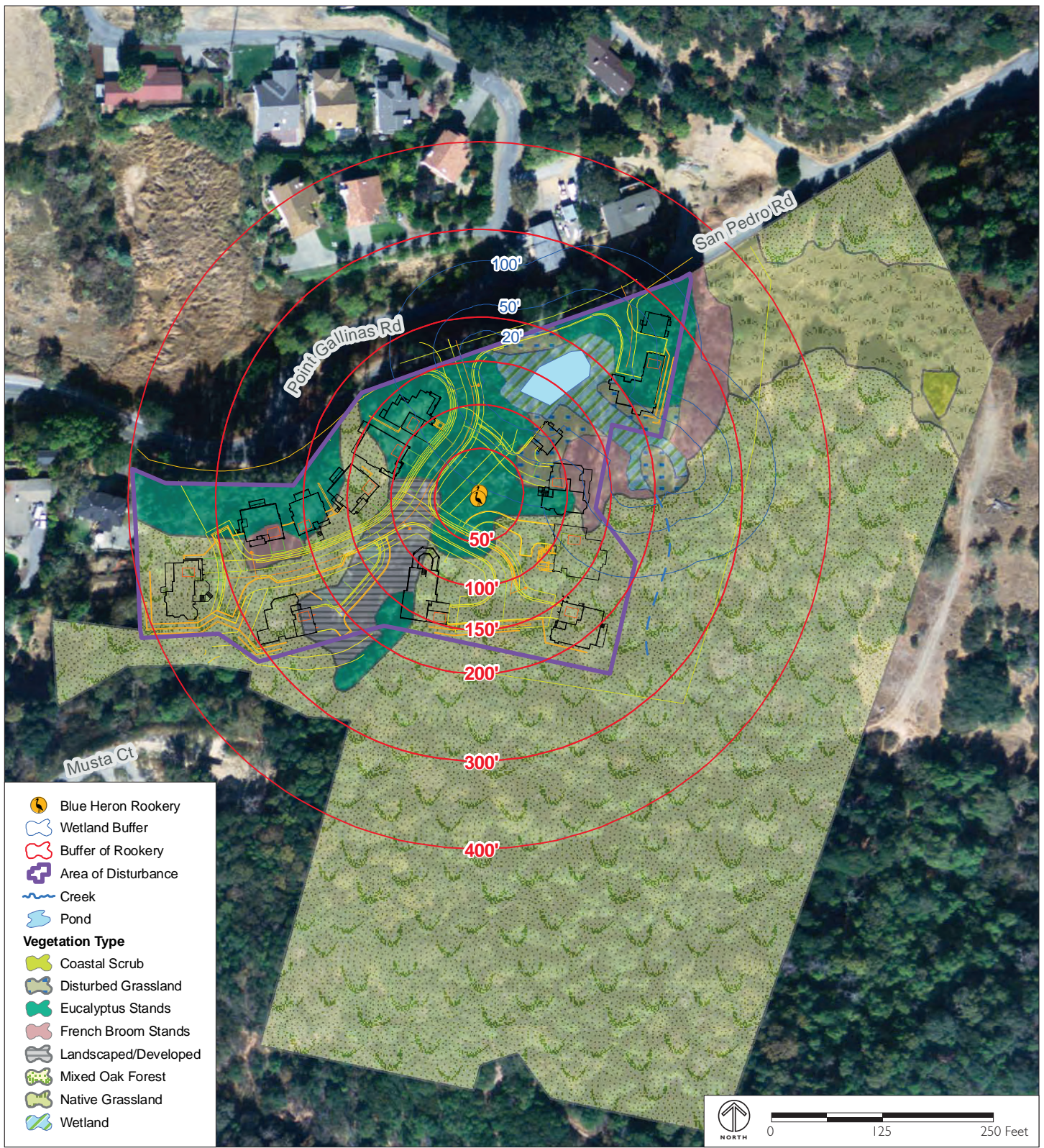
Sixteen special-status wildlife species were identified in the literature and database review with potential to occur on the project site or in the vicinity. Based on the assessment of wildlife habitats conducted during the 2005 field survey, nine of these species were determined to have moderate or high potential to occur on the site. Two of these species, the great blue heron (*Ardea herodias*) (rookery) and Allen's hummingbird (*Selasphorus sasin*) were observed on the project site during the survey. Of the 16 species reported in 2005 with potential to occur on site, four of them, including Allen's hummingbird, are USFWS Species of Concern, which is a category that the agency no longer tracks.

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<sup>15</sup> Garcia and Associates (GANDA), 2005a. *Biological Resources Technical Report for the San Pedro Court Project, Marin County, California*. Prepared for DC&E, June 1.

<sup>16</sup> Garcia and Associates (GANDA), 2005d. San Pedro Court Final Rare Plant Survey. Memo prepared for DC&E, July 15.





Source: Garcia and Associates

FIGURE 4.3-2  
LOCATION OF HERON ROOKER AND WETLAND

The California Natural Diversity Database (CNDDB) documents four special-status species in the vicinity of the project site. Three of these species, the California clapper rail (*Rallus longirostris obsoletus*), California black rail (*Laterallus jamaicensis*) and salt-marsh harvest mouse (*Reithrodontomys raviventris*), occur exclusively in salt marsh and brackish marsh habitats, which are not present on the project site. The fourth species, western burrowing owl (*Athene cunicularia hypugaea*), was reported in 1984 near St. Vincent's School, approximately 1.6 miles northwest of the project site.<sup>17</sup> This species prefers open, flat or gently sloped grasslands and requires burrows for nesting. The grassland on the project site is not favorable habitat for burrowing owls because it occurs mostly on a steep slope surrounded by dense woodland and does not contain suitable burrows. Therefore, this species is not expected to occur on the project site.

a) Great Blue Heron Rookery

There is an active great blue heron rookery on the property. The great blue heron occurs in a variety of habitats where shallow, open water areas or wetlands provide foraging opportunities. Great blue herons hunt for prey along stream and lake shores, marshes, and tidal flats. They breed in colonies (rookeries) and build large stick nests, usually in tall trees. In coastal areas of California, eucalyptus trees are often used as nest sites. Although the great blue heron is not listed as Threatened or Endangered or designated as a Species of Special Concern, the CDFG ~~considers heron rookeries to be sensitive resources~~ includes heron rookeries on their list of Special Animals. The basis is more or less two-fold: per Fish and Game Code Section 3503 it is generally illegal to "needlessly destroy the nest or eggs of any bird." Second, as herons are colonial nesters (and some rookeries have a fairly large number of nests), the impact of destroying or otherwise damaging a single rookery could have potentially substantial effects on local reproduction.<sup>18</sup>

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<sup>17</sup> California Department of Fish & Game (CDFG), 2005a. Natural Diversity Database (RareFind3, Version 3.0.5). Electronic database. Sacramento, CA. Updated in August 2008.

<sup>18</sup> Figura, Peter, Biologist, California Department of Fish & Game (CDFG). Email communication on August 19, 2005.



Nesting great blue herons are sensitive to human disturbance, particularly during the early part of the breeding season.<sup>19</sup> The active great blue heron rookery occurs on the project site in a large eucalyptus tree (#105<sup>20</sup>) located approximately 200 feet northeast of the existing house on the property (Figure 4.3-2). This site provides a favorable nesting location because the nest tree is visually screened and buffered from wind and other sources of disturbance by surrounding tall trees and the hill to the south. In the last several years the foliage in the rookery tree and surrounding trees has thinned, reducing the screening.

The Audubon Canyon Ranch is an independent, non-profit organization that was established in Marin County in 1962 to preserve a large heronry along Bolinas Lagoon. One of their programs is to maintain an atlas that includes individual accounts of all known heronries in the Bay Area (over 150 sites) based on field studies conducted over the last 15 to 37 years. The rookery on the project site is North San Pedro Road #2. Two great blue heron pairs nested in the rookery every year from 2002 to 2008. Additionally, in 2002 a pair of great egrets also nested there.<sup>21</sup> The rookery produced fledglings successfully from 2002 to 2007. In 2008 the rookery produced nestlings, but the nest appeared to fail in May prior to fledging, perhaps from a windstorm in late April.<sup>22</sup> Two pairs of herons were again observed nesting there in February and March, 2009.<sup>23</sup>

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<sup>19</sup> Kelly, J.P. 2002. *A Safe Place to Nest: Disturbance Patterns in Heronries*. The Ardeid 2002: 1-3. Audubon Canyon Ranch Cypress Grove Research Center, Marshall, CA.

<sup>20</sup> MacNair and Associates, 2007. *650 North San Pedro Road Tree Inventory and Evaluation (Revised)*, Marin County, California. Prepared for West Bay Builders, October 7.

<sup>21</sup> Kelly, J.P., et al., 2006. *Annotated Atlas and Implications for the Conservation of Heron and Egret Nesting Colonies in the San Francisco Bay Area*. ACR Technical Report 90-3-17, Marshall, CA, August 2006.

<sup>22</sup> Starkweather, J., Audubon Canyon Ranch Volunteer. Personal communication with County's biological consultant, June 2, 2008.

<sup>23</sup> Starkweather, J., Audubon Canyon Ranch Volunteer. Personal communication with County's biological consultant, 2009.

West Marin Island, a large rookery approximately 3 miles south of North San Pedro Road #2, is the closest known active rookery with great blue herons. North San Pedro Road #1 is a rookery near China Camp State Park that has been inactive since 1997, except for an unsuccessful nesting by a pair of herons in 2003.

### *C. Standards of Significance*

The proposed project site would have a significant impact with regard to biological resources if it would:

- ◆ Adversely impact, either directly or through habitat modifications, any endangered, rare, or threatened species, as listed in Title 14 of the California Code of Regulations (Sections 670.2 or 670.5) or in Title 50, Code of Federal Regulations (Sections 17.11 or 17.12).
- ◆ Have a substantial adverse effect, either directly or indirectly through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- ◆ Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or identified by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- ◆ Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- ◆ Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites.

- ◆ Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- ◆ Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

#### *D. Impact Discussion*

##### **1. Project Impacts**

The identification of potential project impacts on biological resources is based on several sources:

- ◆ Garcia and Associates (GANDA) completed a Biological Resource constraints analysis for this project in June, 2005. The analysis identified several sensitive resources on-site that could be affected by the project.<sup>24</sup> The report noted that the footprint could overlap with the jurisdictional boundaries of a wetland and ephemeral creek. The report also highlighted the native grassland in the northeastern portion of the project site for its potential interest to the CDFG and/or the County, because it contains approximately 20 percent cover of native grasses, including purple needlegrass, and could potentially support special status plant species. The report recommended protection zones around those trees that could be avoided, replanting replacement trees for those that could not, and controlling the spread of French broom. Among the trees on site, the report documented that a eucalyptus tree located near the center of the site supports a heron rookery and that it may not be possible to avoid all impacts to the nesting herons. As stated in the report, even if the nest tree was retained, the suitability of the site for nesting would probably be diminished substantially by the removal of surrounding trees, construc-

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<sup>24</sup> Garcia and Associates (GANDA), 2005a. *Biological Resources Technical Report for the San Pedro Court Project, Marin County, California*. Prepared for DC&E, June 1, 2005.



tion of houses and streets adjacent to the nest tree, and increased human activity on the property.

- ◆ MacNair and Associates prepared a Tree Inventory and Evaluation in 2007. The inventory mapped all trees that would be removed during the project. Of those to be removed, 62 met criteria for protection under the County's Tree Protection and Preservation regulations. Of those 62 trees, nine were determined "exempt" due to poor condition. The report documents that the high density of trees on-site has resulted in overcrowding, excessive shade, and decreased vigor due to competition for limited soil, sunlight, and water resources. Numerous trees are in decline due to overcrowding, decay, and pest and disease problems, with many trees recommended for removal due to their poor health, and/or hazardous structural condition.
- ◆ Garcia and Associates and DC&E engaged in multiple studies and consultations regarding the heron rookery in the eucalyptus tree on-site. Since the heron rookery is a key environmental issue, the following steps were taken to assess its importance and appropriate disposition:
  - Garcia and Associates coordinated with Jeremy Sarrow of CDFG, regulatory lead for Marin County for the California Department of Fish and Game, in May 2008 to discuss potential concerns that the agency could have during formal consultation.<sup>25</sup> Mr. Sarrow had previously visited the project site and knew that the County was reviewing an application for residential development on the property. Mr. Sarrow identified two initial concerns about impacts: the conversion of oak woodlands, and impacts to the heron rookery. Regarding oak woodlands, he emphasized that the CDFG would be looking for details about how much oak woodland would be lost and what the impact would be, particularly with consideration to the cumulative loss of oak woodlands in Marin County. In regards to the heron rookery he suggested that the CDFG would likely consider the rookery to be a

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<sup>25</sup> Sarrow, Jeremy, California Department of Fish & Game (CDFG), Biologist. Personal communication with County's biological consultant, May 30, 2008.

sensitive resource under CEQA. He identified several favorable traits about the rookery that herons would likely not find nearby, such as its protection from the elements by surrounding trees, its position on the hillside, and its proximity to the saltmarsh. Although similar traits may exist nearby that could be favorable to nesting, the specific attributes of this rookery would not exist at those site.

- The applicant's biologist and arborist met on the site with Jeremy Sarrow of CDFG on July 23, 2008. The primary purpose of this meeting was to coordinate with CDFG on potential impacts to sensitive resources on-site, including oak woodlands and the heron rookery. Another purpose was to confirm the current state of health of the blue gum eucalyptus tree containing the heron rookery. The project arborist confirmed his assessment of the tree, as documented in the 2007 Tree Inventory and Evaluation Report, which is that the tree is impaired because it is marginal in both health and structural condition. The tree has root damage from installation of the driveway and is infested with the eucalyptus long-horn borer and the eucalyptus tortoise beetle. The arborist considers the nest tree to be a hazard with a short life-span.<sup>26</sup>
- ♦ Following the July 23 meeting, several other points related to the herons on-site were documented in a memo from Roger D. Harris, Certified Wildlife Biologist. These included:
  - The on-site heron colony has been active since 2002, when there were three nests. In subsequent years, there were only two nests in the colony. The on-site colony was occupied in 2008. However, given that the colony has not grown in the seven years of its existence, it can be considered an un-stable meta-population, but will unlikely increase in occupancy and will unlikely act as a strong social magnet for future

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<sup>26</sup> Memorandum, July 28, 2008. Roger D. Harris, Certified Wildlife Biologist, LSA Associates, to Jeremy Sarrow, California Department of Fish and Game Jennifer Michaud, Prunuske Chatham, Inc., and James MacNair, MacNair & Associates.

use. This is further accentuated by the marginal health and structural condition of the nesting tree that will may continue to decline and not be a viable resource for the herons.

- Prior to 2002, great blue herons nested in two other nearby locations to the project vicinity. The first colony was in valley oak trees in the yard of a farmhouse. In 1991, a second colony site was established in a grove of redwoods halfway up the ridge behind the house. This second colony supported approximately 19 nests in 1991 but steadily declined to two nests in 2003, and was abandoned the following year.
- The main colony in the project vicinity is on the 3.5-acre West Marin Island, 3.7 miles to the southeast, which supports approximately 150 nests.
- The ridge colony and the San Pedro Court colonies may be viewed as “meta-populations” of the main West Marin Island colony. These meta-population colonies tend to be ephemeral. From both a short and long-term perspective, the critical biological value is the main colony. The entire San Rafael Peninsula, including China Camp State Park and the project site, are amply forested with potential nest trees. No single tree or cluster of trees is a particularly unique or limited resource including the on-site blue gum eucalyptus nesting tree.
- ◆ Based on these factors, Jeremy Sarrow (CDFG) expressed the opinion that it may be acceptable to remove the on-site nest tree outside of the breeding season, because the tree may be abandoned in the future and even if the tree were preserved and buffers established around it, once there is more activity in the area the herons may abandon the tree.
- ◆ Mr. Sarrow also expressed the opinion that his agency would be open to exploring compensatory mitigation, which would be of benefit to the heron population and provide a biological alternative.
- ◆ Garcia and Associated followed up with Jeremy Sarrow (CDFG) in November 2008 regarding the feasibility of off-site mitigation. Mr. Sarrow confirmed that the impact of removing the nest tree could be miti-

gated with compensation to restoration efforts on West Marin Island, where a large heron rookery is located.<sup>27</sup>

**Impact 4.3-A Adverse impacts to any endangered, rare, or threatened species either directly or through habitat modifications.**

As shown in Table 4.3-1, implementation of the project would convert 3.5 acres of existing vegetation types to developed/landscaped area and preserve about 9.37 acres of vegetation in open space reserve. No State- or federally-listed plants or animals were identified as occurring on or in the vicinity of the property.<sup>28</sup> The project would have *no impact* on such resources.

**Impact 4.3-B Removal of tree on-site containing the heron nest prior to construction will impact an active great blue heron rookery.**

The great blue heron is the only special status species known to occur on the project site. As explained earlier in this section, the eucalyptus tree that contains the heron rookery is marginal in both health and structural condition. The project arborist confirmed during a July 2008 site visit that he considers the nest tree to be a hazard with a short life-span. The tree represents a hazard to current residents and visitors on the site. ~~and to motorists, bicyclists, and pedestrians traveling on San Pedro Road.~~ Furthermore, if maintained, the tree would be a hazard to contractors during construction and to future occupants of the development.

In compliance with CWP Policy CD-2.8, the tree will be removed prior to project construction to mitigate the existing hazard. Policy CD-2.8 says:

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<sup>27</sup> Email correspondence from John McCarthy, Garcia and Associates (GANDA), November 6, 2008, based on personal correspondence between GANDA and Jeremy Sarrow.

<sup>28</sup> Garcia and Associates (GANDA), 2005a. *Biological Resources Technical Report for the San Pedro Court Project, Marin County, California*. Prepared for DC&E, June 1.

TABLE 4.3-1 **IMPACTS TO VEGETATION**

<b>Vegetation Type</b>	<b>Existing Acres</b>	<b>Acres Proposed for Development</b>	<b>Acres Preserved Outside of Open Space</b>	<b>Acres Preserved in Open Space</b>
Coastal Scrub	0.04	0	0	0.04
Disturbed Grassland	0.25	0.19	0.06	0
Eucalyptus Stands	1.40	1.32	0.09	0
French Broom Stands	0.39	0.15	0.24	0
Landscaped/Developed	0.36	0.36	0	0
Mixed Oak Forest	11.07	1.48	1.32	8.27
Native Grassland	0.96	0.00	0.19	0.77
Wetland	0.29	0	0	0.29
<b>Total</b>	<b>14.76</b>	<b>3.50</b>	<b>1.90</b>	<b>9.37</b>

Source: Garcia and Associates (GANDA), 2005a.

Limit Development in Resource or Hazard Areas. Discourage development in areas with high natural resource value or threats to life or property, and restrict development in such areas to minimize adverse impacts.

Despite the declining state of the tree and the fact that its removal would be consistent with CWP Policy CD 2.8, removal of the rookery would have an impact on the great blue heron rookery. Although the great blue heron is not listed as Threatened or Endangered or designated as a Species of Special Concern, the CDFG considers heron rookeries to be sensitive resources both because Fish and Game Code Section 3503 makes it illegal to “needlessly destroy the nest or eggs of any bird” and because herons are colonial nesters (and some rookeries have a fairly large number of nests), which means that de-

struction or damage to a single rookery could have potentially substantial effects on local reproduction.<sup>29</sup> In addition, nesting herons are protected under the federal Migratory Bird Treaty Act. Given these legal protections for the rookery, removal of the nesting tree would be a *potentially significant impact*.

A series of mitigation measures are recommended to address this potentially significant impact. These measures, as identified below, require that actions be taken both on-site and off-site to reduce the impact to herons caused by removal of the rookery.

### Mitigation Measures

4.3-B.1 Through direct consultation with a CDFG biologist, the applicant shall develop an off-site mitigation program that ~~would~~ will improve the condition of ~~an~~ the existing heron rookery at West Marin Island or other location, if deemed more suitable by CDFG. A preference should be given to sites that have already been identified as potential habitat that would also benefit by further enhancement and protection in the opinion of CDFG. In developing the program and methods for its implementation, the applicant shall coordinate with Jeremy Sarrow, California Department of Fish and Game and officials responsible for monitoring the heron rookery at West Marin Island. Compensatory mitigation on West Marin Island should consider actions such as rat control, invasive weed control, and/or native plant restoration. The program, which would require CDFG approval prior to construction, would create or enhance habitat for great blue heron nesting and would adhere, at a minimum, to the following site specifications and performance standards:

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<sup>29</sup> Figura, Peter, Biologist, California Department of Fish & Game (CDFG). Email communication on August 19, 2005.

- ♦ Predators such as northern raccoons would be controlled so as not to threatened potential eggs and chicks.
- ♦ Trees of suitable stature (> 35 feet tall) and thermal qualities would be available for nesting habitat.
- ♦ Human intrusion during the nesting season would be controlled.
- ♦ The potential nest trees would not be closer than 100 feet to a built structure such as a house or road.
- ♦ Suitable foraging areas would be within acceptable distance (<0.5 mile) from the nest habitat.
- ♦ Native habitat values would be created or enhanced on the site, including but not limited to removal and control of non-native species.
- ♦ Periodic monitoring and adaptive management of habitat values and enhancements would be undertaken at least until such time that a biologist has determined that a stable, suitable habitat for nesting herons can be maintained.

4.3-B.2 Removal and any trimming of the tree containing the rookery shall occur only during the non-nesting season, from September 1 to January 31.

4.3-B.3 The applicant shall revegetate the edges of the wetland on-site with a cluster of tall-growing, riparian tree species., ~~which could provide a location for a future rookery site.~~

4.3-B.4 ~~When managing vegetation for fire control~~ Prior to occupancy and during implementation of the project Vegetation Management Plan, the applicant shall contract a certified arborist to conduct a site visit with the appointed fire prevention specialist. During the site visit, the fire prevention specialist and arborist will collaborate to identify tall trees suitable for heron nesting within the extent of the open space area that could be preserved. Prior to occupancy, the applicant shall present the outcome of this collaboration to the County CDA,

including a list of tree species within the open space to be preserved, approximate location within the open space, and approximate diameter at breast height. ~~property owners shall maintain large trees in the areas designated as open space, so as to provide potential future rookery sites.~~

### **Impact Significance after Mitigation**

Taken together with existing goals, policies and guidelines, the mitigation measures listed above would reduce the potential environmental impact from removal of the heron rookery to a *less-than-significant* level.

#### **Impact 4.3-C Development could impact the channel, bed or banks of the ephemeral creek on-site.**

The project site does not include riparian habitat; however, sensitive habitat does occur on the project site with the ephemeral stream, which is a tributary to the wetland on the property. Though the stream does not meet criteria as a Marin County SCA (Stream Conservation Area), it is jurisdictional under Section 1600 of the California Fish and Game Code. CDFG has jurisdiction over activities that would interfere with the natural flow of, or substantially alter, the channel, bed, or bank of a lake, river, or stream. A 20-foot setback between the limits of development and the top of the creek bank is shown on project plans. However, there are no construction-period provisions in place to ensure that this setback is recognized and maintained. Accidental encroachment by equipment or contractors into the creek corridor during construction could have a *potentially significant impact* on the integrity of the creek's banks or on water quality within the creek.

### **Mitigation Measures**

- 4.3-C.1 Throughout construction, install and maintain temporary fencing or exclusion-zone signs at least 20 feet from the ephemeral stream to ensure consistency with County setback policies.



### Impact Significance after Mitigation

This measure would reduce potential impacts on the channel, bed and banks of the ephemeral creek on-site to a *less-than-significant* level.

#### **Impact 4.3-D Development could affect native grassland habitat, which CDFG tracks because it is declining statewide and provides high value for native plants and wildlife.**

The CDFG has identified Native Grassland and Valley Needlegrass Grassland as plant communities of interest.<sup>30</sup> While these communities have no formal legal protection, the CDFG is interested in tracking their status because they provide high value for native plants and wildlife and are declining statewide. The native grassland (approximately 1 acre) at the northeastern end of the project site could be of interest to the CDFG or the County because it contains approximately 20 percent cover of native grasses, including purple needlegrass, ~~and could potentially support special status plant species.~~ No development is proposed in this area; however, future changes in land uses associated with the project, including possible increases in pedestrian traffic through this area, could affect species composition and habitat quality in this area. This would be a *potentially significant* impact.

### Mitigation Measures

- 4.3-D.1 Preserve at least 0.6-acre of the existing native grassland on the property in the open space reserve to the east of Lot 12. This preserve shall be beyond the lot line for Lot 12.

### Impact Significance after Mitigation

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<sup>30</sup> California Department of Fish & Game (CDFG), 2002. California Wildlife Habitat Relationships System. Electronic database, Version 8.0. California Inter-agency Wildlife Task Group, Sacramento, CA.

The implementation of this mitigation measure would reduce the impact to grassland to a *less-than-significant* level.

**Impact 4.3-E Development would remove mixed oak forest and mature trees.**

Oak woodlands are considered sensitive natural communities by the CDFG because of their high value to wildlife and their continuing decline regionally. Of the 11.1 acres of mixed-oak forest on the property, approximately 1.5 acres would be developed. Project construction would impact mixed oak forest and large, mature, native trees (Table 4.3-1). For site preparation, substantial grading is proposed for much of the developed portion of the property. The removal of mixed oak forest habitat and the loss of native, mature trees is considered a *potentially significant* impact.

**Mitigation Measures**

- 4.3-E.1 Avoid tree removal and minimize impacts to individual trees and oak forest through the following measures. Install fencing at the drip lines of trees to be retained, or other distances approved by a qualified arborist, and avoid operating equipment and vehicles within those buffers. Install fencing along the boundary between proposed private open space and areas to be developed and restrict equipment and vehicles from the areas of proposed private open space.
- 4.3-E.2 Compensate for the loss of 1.5 acres of oak forest by maintaining at least 4.5 acres (3:1 ratio) of mixed oak forest within the 8.6 acres of ~~in~~ open space on the site. Each of the private open space areas shall have deed restrictions on the lots relating to the use and maintenance of the private open space. The deed restrictions will ban the building of any structures or fencing in those areas and require that the areas be maintained in their natural state. The deed restrictions would be permanent and be applicable to future owners.

### Impact Significance after Mitigation

The implementation of these mitigation measures would reduce the impact to a *less-than-significant* level.

#### Impact 4.3-F Substantial adverse effect on federally protected wetlands.

There are several policies in the Countywide Plan related to wetland preservation and improvement. The project's consistency with these policies is discussed in Section 4.1 of this EIR, Land Use and Policy Consistency. This response below is focused on physical impacts to wetlands, the significance of those impacts and related mitigation measures.

##### *i. Ephemeral Creek*

Both the wetland and the ephemeral creek on the project site are jurisdictional waters of the U.S. The ephemeral creek on the property does not meet the County's criteria for a SCA. However, the creek is a natural watercourse that provides benefits to wildlife and is important for site drainage and stormwater conveyance. As shown on the project grading and drainage plan, a 20-foot setback would be maintained from the top of the stream bank. No new homes or grading would occur inside this setback. The only project feature that would encroach into this setback would be a storm water velocity dissipator, which would be constructed approximately 10 feet from the top of the creek bank on the southeastern corner of Lot 9. However, rather than having a potentially adverse impact on the creek banks or water quality within the creek, the dissipator would serve to reduce velocity of storm water as it enters the creek, thereby reducing the potential for bank erosion and sedimentation.

The 20-foot setback reflected on the project plans would be consistent with County Policy BIO-4.1, which recommends a 20-foot setback on ephemeral streams that do not meet SCA criteria. It is possible that during construction, contractors may accidentally encroach into the setback area and possibly impact the stream channel or the quality of water within the stream. This

would be a *potentially significant* impact. Mitigation Measure 4.3-C.1 requires the creation of an avoidance area that would delineate the 20-foot setback area with temporary fencing. This would reduce potential impacts to a *less than significant* level.

Section 401 water quality certification will be needed for the outlet structures, stormwater dissipators and biofiltration system since these would modify the hydrology of the stream and the wetland. As established through the County's standard conditions of approval, a Section 1602 agreement could be required from the CDFG for any filling, culvert installation, or other activities that would affect the stream bed, bank or channel.

Taken together, implementation of Mitigation Measure 4.3-C.1 and compliance with the regulatory requirements specified above would reduce potential impacts on the stream to a *less than significant* level.

*ii. Wetland*

As stated earlier in this section, the jurisdictional wetland on-site consists of the pond, the surrounding pond-margin up to the 34-foot elevation contour, and a zone of wetland vegetation that extends upslope from the pond margin to the outlet of the ephemeral creek.

A portion of the wetland would be permanently affected by construction of a weir outlet that will be placed in the pond for drainage purposes. The 18-inch pipe that functions as the weir outlet structure will represent approximately 10 cubic feet of wetland fill. The structure will provide drainage when water levels exceed 34.2 feet in the pond. Water will be retained in the pond as it is currently when water levels are lower than this. The weir outlet is discussed further in Section 4.4 of this EIR, Hydrology and Water Quality.

The weir outlet structure would be the only project fill within the delineated wetland. As addressed through the County's standard conditions of approval, filling of jurisdictional wetland areas would require Section 404 authorization from the Corps and Section 401 water quality certification or waiver from the

RWQCB. The conditions of approval require that the applicant present proof of agency (Corps, RWQCB) authorization to the Community Development Agency prior to the issuance of a grading permit and that the applicant adhere to regulatory agency requirements throughout construction. Furthermore, consistent with Countywide Policy BIO-3.2, the amount of lost wetland area will be replaced on-site at a 2:1 ratio. Mitigation Measure 4.3-F.1 mitigates the fill impact by requiring that 375 square feet of additional wetland habitat be created on the eastern edge of the wetland, thereby replacing impacted functions and values.

As shown on Figure 4.3-1, the Lot 12 residence and the second unit of Lot 11 are within 20 feet of the wetland. Although these structures and related grading are not within the delineated wetland area, the proximity of the development area is such that potential adverse effects on the function and value of the wetland could occur due to modifying the adjacent upland hydrology, increasing potential run-off from household and vehicle pollutants, reducing the upland buffer, and reducing the value of the wetland as wildlife habitat. Due to these factors, a *potentially significant* impact on the wetland could occur.

Mitigation Measures 4.3-F.1 and 4.3-F.2 address the potential impact to wetlands. Through implementation of these measures, there would be no net loss of wetlands (the resulting wetland will be larger with increased water storage capacity), and the function and value of the wetland would ultimately be improved through the removal of non-native vegetation such as eucalyptus trees and the planting of native wetland species. Furthermore, potential impacts to wetlands from non-point source pollution would be mitigated through Mitigation Measure 4.4-A.1 identified in the Hydrology and Water Quality section of this EIR. Implementation of this measure requires that the current drainage plan be revised to incorporate permanent BMPs for meeting the County's Low Impact Development (LID) standards. Compliance with the LID standards would substantially reduce the concentration of pollutants in stormwater entering on-site and off-site wetlands, lower Gallinas Creek, and ultimately San Pablo Bay. As a result, potentially significant impacts on

wetlands, including the on-site pond, from the introduction of contaminated storm water runoff, would be reduced to a *less-than-significant* level.

### Mitigation Measures

4.3-F.1 Direct impacts to jurisdictional waters associated with installation of the new weir outlet structure in the pond shall be mitigated by providing replacement habitat around the perimeter of the feature. The weir outlet structure would result in approximately 10 cubic feet of fill in the wetland, decreasing the size of the pond and its value for water storage. A minimum of 375 square feet of additional wetland habitat shall be created as replacement habitat by grading to appropriate elevations and establishing native wetland plants. This wetland mitigation shall be accomplished as part of the overall Wetland Mitigation and Enhancement Plan, called for in Mitigation Measure 4.3-F.2.

4.3-F. 2 A detailed Wetland Mitigation and Enhancement Plan (WMEP) shall be prepared by a qualified wetland specialist to mitigate project fill in the jurisdictional wetlands and address potential impacts stemming from the proximity between the wetland boundary and the limits of development. The WMEP shall be approved by regulatory agencies and the County Community Development Agency prior to approval of the final map. The WMEP shall include the following information and provisions:

- ◆ The applicant shall provide evidence to the County Community Development Agency that they have secured appropriate authorizations from CDFG, Army Corps and RWQCB prior to issuance of a grading or building permit for the project. This shall ensure that all appropriate authorizations have been secured, and that the applicant is responsible for addressing any and all additional concerns and conditions of the regulatory agencies.

- ◆ The total area of jurisdictional wetlands affected by proposed improvements (10 cubic feet from installation of the weir outlet structure).
- ◆ The wetland type to be affected (seasonal pond).
- ◆ Mitigation ratios for each wetland type, and the total area of wetlands and adjacent uplands to be created, restored, or enhanced. It is expected that wetlands shall be replaced on-site at a minimum 2:1 ratio consistent with Countywide Policy BIO-3.2. For this project, this shall be achieved through the creation of at least 375 square feet of wetland habitat on the eastern side of and immediately contiguous with the existing, delineated wetland area, surrounded by an upland parcel of at least 0.33 acre.
- ◆ A timeline for creation of the mitigation wetlands, and installation of plantings and other improvements. The additional wetland shall be created by grading within 1 year of starting project construction.
- ◆ Specific performance criteria, maintenance and long-term management responsibilities, monitoring requirements, and contingency measures. A timeline for the monitoring requirements, performance criteria, and associated reports shall also be specified. Monitoring shall be conducted by the consulting wetland specialist for five years; annual monitoring reports shall be submitted to the County until these criteria are met.
- ◆ Performance criteria shall include both the area of the created wetlands, and be based on functional parameters such as the presence of wetland hydrology and hydrophytic vegetation. The area of the created wetlands will be determined by a standard wetland delineation (using methods presented by the Army Corps of Engineers) with the understanding that hydric soil indicators may not develop within the monitoring timeframe. Functional performance criteria shall include dominance of hydrophytic vegetation, and hydrological functioning as a wetland. It is expected that

adequately functioning created wetlands would support an average absolute percent cover of wetland indicator species equal to at least 80 percent of the average percent cover in the existing wetland, with a similar composition and cover of native species; created wetlands would also exhibit similar wetland hydrology. If the final success criteria have not been met within the five-year timeframe, remedial actions will be implemented and monitoring will continue until the criteria are achieved.

- ◆ A comprehensive program to remove invasive exotics and provide enhancement plantings of native wetland indicator, transitional and upland species to improve the overall habitat functions and values of the area surrounding the existing wetlands. The WMEP will specify undesirable invasive weeds and noxious plants species; these plants shall be initially removed within one year of wetland creation. Native species shall be planted in the wetland and transition area immediately following the removal of these species. The monitoring plan will include monitoring and subsequent management of these undesirable species.
- ◆ For the three proposed storm drains that would be directed toward the pond, energy dissipaters and biofiltration structures shall be constructed at the outlet of each drain to treat the water before it enters the pond.
- ◆ The surrounding upland space shall be managed to maintain and enhance the functions and values of the wetland. The WMEP will specify monitoring of this surrounding upland, including issues such as presence of exotics, and general upkeep (e.g. trash, human disturbance, etc.).
- ◆ The WMEP shall specify procedures and responsible parties for implementing any remedial or corrective actions needed for the wetland or upland area throughout the monitoring period. The WMEP shall specify long-term maintenance and monitoring provisions to be managed and funded by the Homeowner's Association.



- ◆ ~~The total area of wetlands and adjacent uplands to be created, restored, or enhanced as part of the wetland. Any replacement wetlands shall be consolidated to improve existing habitat values, and be replaced on site at a minimum 2:1 ratio consistent with Countywide Policy BIO 3.2. For this project, this shall be achieved through the creation of 375 square feet of wetland habitat on the eastern side of and immediately contiguous with the existing, delineated wetland area.~~
- ◆ ~~Performance criteria, maintenance and long term management responsibilities, monitoring requirements, and contingency measures. Monitoring shall be conducted by the consulting wetland specialist for up to five years or until the identified success criteria are met.~~
- ◆ ~~The area surrounding the wetland shall be a common parcel that would encompass at least 0.33 acres. The space shall be managed to maintain and enhance the functional values of the wetland. The WMEP shall specify long term maintenance and monitoring provisions.~~

### Impact Significance after Mitigation

The implementation of these mitigation measures would reduce impacts on wetlands to a *less-than-significant* level.

### Impact 4.3-G Construction could impact nesting birds ~~and bats~~.

Nesting birds could be affected by the project. The removal of trees and other site preparation activities could destroy active nests, harm individual birds, or cause nest abandonment. The Migratory Bird Treaty Act (MBTA) protects most birds, including both common and special-status species, from “incidental take.” Activities that cause abandonment of an active nest are also considered non-permitted take, protected by the MBTA.

~~Bat nurseries could be disturbed by demolition of buildings or other structures. The pallid bat (*Antrozous pallidus*), long-eared myotis (*myotis evotis*), and Yuma myotis (*myotis yumanensis*) could occur on the project site, preferentially nesting in abandoned buildings or other human made structures. If an active bat nursery is present, construction activities could disturb or harm breeding adults or offspring and adversely affect their reproductive success.~~

Existing regulations implemented by permitting agencies, ~~such as the USFWS and CDFG,~~ require a plan to monitor nesting birds ~~or bats~~ during construction. The plan ~~should~~ will be prepared and submitted to the respective agency if there is the potential for destruction of a nest or substantial disturbance to nesting birds ~~or bats~~ due to construction activities. Components of the monitoring plan are included in Mitigation Measure 4.3-G.1.

Taken together, the existing goals, policies and guidelines, and Mitigation Measure 4.3-G.1 would diminish the environmental impact from site development and construction activities on nesting birds ~~and bats~~, to a *less-than-significant* impact.

### Mitigation Measures

4.3-G.1 Clear and grub vegetation and remove structures in the non-nesting season (September 1 to January 15). If vegetation or buildings that provide potential nesting sites for birds ~~or bats~~ must be removed between January 15 and August 31, a qualified wildlife biologist shall conduct pre-construction surveys within one week of planned clearing. If an active nest is found, the species shall be identified and the approximate distance from the closest work site to the nest estimated. No additional measures need be implemented if active nests are more than the following distances from the nearest work site: (a) 300 feet for raptors; or (b) 75 feet for other non-special-status bird ~~and bat~~ species. These protection zones may be modified on a site-specific basis as determined by a qualified biologist or in coordination with CDFG. Active nests within the project area would be

monitored for signs of disturbance. If the biological monitor determines that a disturbance is occurring, construction shall be halted. Disturbance of active nests shall be avoided until it is determined that nesting is complete and the young have fledged.

### Impact Significance after Mitigation

The implementation of this mitigation measure would reduce the impact to a *less-than-significant* level.

#### Impact 4.3-H Site preparation would remove large trees native to Marin County.

The arborist report<sup>31</sup> inventoried 200 ~~larger~~ trees that are proposed to be removed during site preparation, including mature oaks, bay laurels and madrones. The list includes all native species greater than 6 inches dbh and blue gum eucalyptus larger than 12 inches dbh. Of the 200 trees that would be removed, 53 are protected and non-exempt under Marin County tree ordinances.

The Conceptual Tree Mitigation Plan prepared for this project<sup>32</sup> identifies 159 native trees that would be planted on site. This would represent a 3:1 replacement ratio. All of the new trees will be native trees that are either boxed specimen trees have been grown in or 15-gallon-or-greater containers trees, consistent with the County's Tree Replacement Policy.

The arborist report recommends guidelines to minimize damage to existing trees and maximize tree survivorship on the project property. The recom-

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<sup>31</sup> MacNair and Associates, 2007. *650 North San Pedro Road Tree Inventory and Evaluation (Revised)*, Marin County, California. Prepared for West Bay Builders, October 7.

<sup>32</sup> Donald L. Blaney and Associates, 2008. ~~Conceptual~~ *Tree Mitigation Plan*. Prepared for West Bay Builders, ~~March 20~~ August 14.

mended guidelines in the arborist report address issues such as tree protection zones, root pruning and post-project tree planting.

Mitigation measures 4.3-H.1 and 4.3-H.2 would require planting replacement trees and development and implementation of a Tree Protection Plan.

### **Mitigation Measures**

4.3-H.1 To mitigate the loss of 53 protected trees, replant on site with native tree species at a minimum 3:1 ratio (at least 159 trees). Native tree species should include black oak, California buckeye, coast live oak, Oregon white oak and valley oak and will range in size from 4 to 16 feet ~~from 4 to 16 feet~~ when planted, reaching 20 feet to 40 feet when mature. Conduct monitoring for three years following planting.

4.3-H.2 Develop a Tree Protection Plan that details procedures to maximize tree survivability by implementing all of the guidelines recommended in the 2007 Tree Inventory and Evaluation. The plan shall include, at a minimum, the following topics:

- ◆ Developing a Tree Protection Zone (TPZ) around trees to be protected.
- ◆ Construction observation and supervision by a certified arborist, or County designated representative.
- ◆ Installation for tree protection fencing around TPZs.
- ◆ Requirements for demolition and/or site clearing near TPZs.
- ◆ Requirements for site grading, trenching, and root pruning.
- ◆ Requirements for foundation and wall Construction within the TPZ.
- ◆ Requirements for site drainage.
- ◆ Standard requirements for pruning and cabling.
- ◆ Tree damage mitigation requirements.
- ◆ Post-construction recommendations.
- ◆ Recommendations for planting around native oak trees.

The Plan must be approved by the County prior to starting site preparation and construction activities.

### **Impact Significance after Mitigation**

The implementation of this mitigation measure would reduce the impact to a *less-than-significant* level.

#### **Impact 4.3-I    Trimming and removing vegetation and operating track equipment in SOD-infected areas would spread the disease to unaffected areas.**

SOD presence was confirmed on the property through laboratory analysis. Cutting and trimming vegetation could create weeping wounds in residual vegetation that are more susceptible to diseases, such as SOD. Mitigation Measure 4.3-I.1 is proposed to time vegetation clearing in order to avoid impacts to nesting birds (September to December) ~~and also to ensure that vegetation is cut when it is dormant.~~ Cutting dormant-vegetation during this time-frame would minimize the potential of cut surfaces to weep.

Transporting SOD-infected vegetation would encourage its spread. In addition, grading and operating other equipment in soils that are infected with SOD could contribute to its spread when equipment is moved to different job sites. Mitigation Measure 4.3-I.1 is proposed to minimize the susceptibility of residual vegetation to SOD and to minimize the spread of SOD from the project area.

Taken together, the existing goals, policies and guidelines, and mitigation would diminish the potential for the project to conflict with any local policies or ordinances protecting biological resources to a *less-than-significant* impact.

### **Mitigation Measures**

- 4.3-I.1 Minimize the risk of spreading SOD to unaffected areas through the following measures. Retain vegetation on site or haul it to a permitted recycling center in Marin County. Prior to arrival and departure from the project area, all vehicles, equipment, tools and clothing shall be cleaned of vegetation and mud.

### **Impact Significance after Mitigation**

The implementation of this mitigation measure would reduce the impact to a *less-than-significant* level.

- Impact 4.3-J** Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

The property is not managed under any of the plans described. *No impact* would occur.

### ***E. Cumulative Impacts***

#### **Cumulative Biological Impacts**

- Impact 4.3-K** The proposed project, in combination with other development project would result in a cumulative impact on biological resources.

Continued development throughout Marin County, which includes the proposed project, has the potential to cause a substantial adverse change to significant biological resources. However, as this development occurs, it would be consistently subject to policies in the Countywide Plan, as well as federal, State and local laws established to protect biological resources. Based on

compliance with this regulatory framework, this project, in combination with other County projects, would have a *less-than-significant* cumulative impact on biological resources.

COUNTY OF MARIN  
650 NORTH SAN PEDRO ROAD EIR  
BIOLOGICAL RESOURCES



## 4.4 HYDROLOGY AND WATER QUALITY

This section evaluates the hydrology and water quality impacts associated with the proposed project. The development is located in the lower Gallinas Creek watershed in Marin County. Surface runoff generated from the project site ultimately drains to the Gallinas Creek Marsh and San Pablo Bay. This assessment is based primarily on a site reconnaissance conducted by Stetson Engineers Inc. on March 23, 2005, review of the project development plans and project description, review of the January 2008 Grading Plan and Drainage Analysis prepared by I.L. Schwartz Associates (ILS), and background research concerning the storm drain network, geology, groundwater, and flooding conditions in the site vicinity.

### *A. Regulatory Framework*

#### **1. Federal Laws and Regulations**

The Clean Water Act (CWA) has nationally regulated the discharge of pollutants to waters of the United States from any point source since 1972. In 1987, amendments to the Clean Water Act added section 402(p), which established a framework for regulating nonpoint source (NPS)<sup>1</sup> storm water discharges under the National Pollutant Discharge Elimination System (NPDES). The Phase I NPDES storm water program regulates storm water discharges from major industrial facilities, large and medium-sized municipal storm sewer systems (those serving more than 100,000 persons), and construction sites that disturb five or more acres of land.

In 1999, the U.S. Environmental Protection Agency (USEPA) revised the NPDES program to include the Phase II NPDES storm water program. The Phase II program expanded the Phase I program by requiring “small” municipi-

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<sup>1</sup> Nonpoint source (NPS) pollution, unlike pollution from a single point of source such as a sewage treatment plant, comes from dispersed and uncontrolled sources. NPS pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters, and even underground sources of drinking water.

pal storm sewer systems (those serving populations less than 100,000) and construction sites that disturb between 1 and 5 acres of land to implement programs and practices to control polluted storm water runoff through a site-specific plan called the Storm Water Pollution Prevention Plan (SWPPP). The Phase II NPDES program was developed for regulating water quality affected by smaller municipal storm sewer systems and construction projects not covered by the Phase I NPDES program.

Section 303(d) of the federal Clean Water Act requires states to develop lists of impaired water bodies and the constituents for which the water body is impaired. The states must then develop a total maximum daily load (TMDL) for the constituent or determine another method to regulate a listed pollutant appropriately. The USEPA must approve the impairment lists and TMDLs determined by states. The TMDL program examines water quality problems, identifies pollutant sources, and establishes methods to provide solutions. A TMDL defines the quantity of pollutant a water body can tolerate while still meeting water quality standards. Development of TMDLs accounts for all potential sources of a pollutant (e.g. wastewater treatment discharge and urban and agricultural runoff).

## **2. State Laws and Regulations**

### **a. Porter-Cologne Water Quality Control Act**

The Porter-Cologne Water Quality Control Act establishes the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Board (RWQCB) as the principal state agencies having primary responsibility for coordinating and controlling water quality in California. The Porter-Cologne Act establishes the responsibility of the RWQCB for adopting, implementing, and enforcing water quality control plans (Basin Plans), which set forth the state's water quality standards (i.e. beneficial uses of surface waters and groundwater) and the objectives or criteria necessary to protect those beneficial uses. Lands within Marin County fall under the jurisdiction of the San Francisco Bay RWQCB.

b. NPDES Permit Requirements

Section 402 of the CWA establishes a framework for regulating nonpoint source storm water discharges through the NPDES program. In California, the SWRCB and RWQCBs are responsible for administering the NPDES program. Under the NPDES program, an applicant is required to submit a Notice of Intent (NOI) with the SWRCB Division of Water Quality. The NOI includes general information on the types of construction activities that will occur on the site. The applicant is also required to prepare and implement a site-specific plan called a Storm Water Pollution Prevention Plan (SWPPP) to address stormwater management after the project is completed. The SWPPP includes a description of appropriate Best Management Practices (BMPs) to minimize stormwater retention on-site and to minimize discharge of pollutants from the site. It is the responsibility of the applicant to obtain the NPDES permit authorization prior to initiating site construction activities.

c. San Francisco Bay Water Quality Control Plan (Basin Plan)

Per the Porter-Cologne Act, the San Francisco Bay RWQCB is responsible for the development, adoption, and implementation of the Water Quality Control Plan (Basin Plan) for the San Francisco Bay region. The Basin Plan is the master policy document that contains descriptions of the legal, technical, and programmatic bases of water quality regulation in the San Francisco Bay Region. The Basin Plan identifies beneficial uses of surface waters and groundwater within its region and specifies water quality objectives to maintain the continued beneficial uses of these waters. The proposed project will be required to adhere to all applicable water quality objectives identified in the Basin Plan. The project area is located in the northern San Francisco Bay Region drains to the San Pablo Bay subbasin and the Gallinas Creek watershed.

The beneficial uses of Gallinas Creek as recognized in the Basin Plan include cold freshwater habitat, preservation of rare and endangered species, warm freshwater habitat, wildlife habitat, and non-water contact recreation. The beneficial uses of the Gallinas Creek Marsh (a brackish wetland) as recognized

in the Basin Plan include estuarine habitat, preservation of rare and endangered species, water contact recreation, non-water contact recreation, fish spawning, and wildlife habitat. The beneficial uses of San Pablo Bay as recognized in the Basin Plan include industrial service supply, ocean, commercial and sport fishing, shellfish harvesting, estuarine habitat, fish migration, preservation of rare and endangered species, fish spawning, wildlife habitat, water contact recreation, non-water contact recreation, and navigation.

The adopted Basin Plan amendment has established a water quality attainment strategy and Total Maximum Daily load (TMDL) for diazinon and pesticide-related toxicity in the Region's urban creeks, including actions and monitoring necessary to implement the strategy.<sup>2</sup> Diazinon is the only pollutant in Gallinas Creek that was included in the proposed 2006 CWA section 303(d) list of water quality limited segments.<sup>3</sup> Diazinon is a cholinesterase-inhibiting organophosphate pesticide.

### **3. Local Regulations and Policies**

#### **a. Marin County Flood Control and Water Conservation District**

The Marin County Flood Control and Water Conservation District (MCFCWCD), formed in 1955 by an Act of the State Legislature found in Chapter 68 of the State Water Code, oversees management of ten flood control zones. The Marin County Board of Supervisors sits as the Board of Supervisors of the Flood Control District, which is staffed by the Marin County Department of Public Works. Funding is based on assessments of District members. The boundaries of the MCFCWCD are contiguous with those of the County of Marin and ten flood control zones have been established to address specific watershed flooding problems.

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<sup>2</sup> San Francisco Regional Water Quality Control Board, San Francisco Bay Basin Plan amendment, <http://www.swrcb.ca.gov/rwqcb2/TMDL/urbcrksdiazinon/approvedbpa.pdf>. Accessed on June 11, 2008.

<sup>3</sup> San Francisco Bay Regional Water Control Board, Proposed 200566 CWA Section List of Water Quality Limited Segments.

[http://www.waterboards.ca.gov/tmdl/docs/303dlists2006/final/r2\\_final303dlist.pdf](http://www.waterboards.ca.gov/tmdl/docs/303dlists2006/final/r2_final303dlist.pdf). Accessed on June 11, 2008.

b. Flood Zone 7

The Gallinas Creek watershed is within Flood Zone 7 (Santa Venetia), within the MCFCWCD. The District Flood Zone 7 is located within the Santa Venetia neighborhood on hillslope and the former southern floodplain of the Las Gallinas Creek, and is managed and operates separately from other Flood Zones. A levee system was constructed to minimize tidal flooding associated with the lower Las Gallinas Creek and San Pablo Bay. Upon completion of the levee system, the floodplain was segregated from the creek and results in the neighborhood and the adjoining hillslopes comprising an independent watershed. Flood Zone 7 operates and maintains five stormwater pumping stations to evacuate local stormwater runoff. Bypass pipes convey runoff from the adjoining southern hillslopes directly to outlets in Las Gallinas Creek. This reduces the volume of stormwater that must be evacuated by the pump stations, which are subject to occasional obstruction by debris and mechanical or electrical failures.<sup>4</sup>

The jurisdictional boundary of Flood Zone 7 may be amended in the future by the Marin County Flood Control Board to include the entire project site. Owners of property within the proposed development would not be entitled to prevent this boundary amendment from occurring.

c. Federal Emergency Management Agency Flood Insurance Program

The MCFCWCD administers the FEMA flood insurance program for unincorporated areas of Marin County. The National Flood Insurance Act of 1968 and the Flood Disaster Prevention Act of 1973 established the National Flood Insurance Program (NFIP). The Federal Emergency Management Agency (FEMA) administers the NFIP. The NFIP provides insurance coverage to property owners within flood hazard areas. Flood Insurance Rate Maps (FIRMs) delineate both the 100-year and 500-year flood hazard event areas. In some instances, FEMA develops floodway boundaries, defined as the portion of the watercourse and the adjacent land areas that must be reserved

in order to discharge the base flood<sup>5</sup> without cumulatively increasing the water surface elevation more than a designated height, typically one foot<sup>6</sup>. Development is typically not allowed in a floodway. In order to qualify for the NFIP, candidate municipalities and unincorporated county areas must adopt local floodplain development policies and enforce flood control measures for new construction and redevelopment projects within their jurisdictions. A key element for coverage is that municipalities must require that development within a flood hazard area have lowest floor elevations elevated above the base flood elevation (BFE). FEMA prepares Flood Insurance Studies (FIS) and associated FIRM maps to assist communities in local land use planning and flood control decision-making. Marin County entered into the NFIP in 1982, the date the original FIRM maps were published for the incorporated area. Portions of the FIRM map coverage for Eastern Marin were updated in 1997. The FIRM map for the project site and vicinity was published in 1982.

d. Marin County Stormwater Pollution Prevention Program

The Marin County Stormwater Pollution Prevention Program (MCSTOPPP), formed in 1993, is a joint entity of cities, towns, and unincorporated areas constituted to prevent stormwater pollution, protect and enhance water quality in creeks and wetlands, preserve beneficial uses of local waterways, and comply with State and federal regulation governing water quality. MCSTOPPP is composed of unincorporated Marin County, the cities of Belvedere, Larkspur, Mill Valley, Novato, San Rafael, and Sausalito and the towns of Corte Madera, Fairfax, Ross, San Anselmo, and Tiburon. The County's local stormwater program is responsible for implementing MCSTOPPP. The local stormwater program is administered by the Depart-

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<sup>4</sup> County of Marin, Flooding Technical Background Report, Update November 2005, page 15.

<sup>5</sup> Base flood is the flooding event with a one percent chance of occurring in a given year, also called the 100-year flood, and is often referred to as an elevation. When referred to as an elevation it is termed the base flood elevation (BFE).

<sup>6</sup> Code of Federal Regulations, Title 44, Volume 1, Chapter 1, Part 9, Floodplain Management and Protection of Wetlands, Section 9.4, Definitions. October 1, 2006.

ment of Public Works/MCFCWCD staff in cooperation with the Community Development Agency, Environmental Health Services, and Parks and Open Space.

MCSTOPPP participates in benthic invertebrate monitoring (as an indicator of stream health) in the watersheds of east Marin County and participates in periodic monitoring of water quality to help establish total maximum daily loads (TMDL). MCSTOPPP is also a valuable resource for the community. MCSTOPPP can direct interested parties, including residents and developers, to documents such as the Start-at-the-Source Design Guidance Manual to help improve Marin County water quality, stream channel stability, and aquatic habitats. MCSTOPPP's Stormwater Quality Manual for Development Projects in Marin County is a valuable guidance for applicants to apply a low impact development (LID) approach in their project design and prepare submittals that demonstrate their project complies with the NPDES permit requirements.

The County's LID standards require a Stormwater Control Plan that consists of all the information identified in the Stormwater Control Plan checklist in the Manual. This requires calculations for different Drainage Management Areas, a report, and an exhibit, which the applicant would be required to provide as a mitigation measure. The acceptable methods of achieving consistency with the County's LID standards are also discussed in this Manual. There are many ways of achieving compliance with these standards, and the mitigation measure should allow for some flexibility in meeting these standards while being written carefully to identify the goal the mitigation measure will achieve. The Manual encourages the incorporation of LID approach into the project design.

While MCSTOPPP participates in some water quality monitoring and community outreach, they do not enforce implementation of its policies. However, the County and cities are members of MCSTOPPP that utilize BMPs within their programs and implement the requirements for nonpoint source

pollution control<sup>7</sup> and NPDES Phase II permit requirements. County permits for construction projects also require as conditions of approval that erosion control measures are identified on the engineering plans and implemented based on the Association of Bay Area Governments (ABAG) Manual of Standards for Erosion & Sediment Control Measures.

## ***B. Existing Setting***

### **1. Regional Hydrology**

The project site is located in the lower Gallinas Creek watershed, which is within Marin County Flood Zone 7 (Santa Venetia). The Gallinas Creek watershed encompasses an area of approximately 7.7 square miles and contains a significant zone of tidal marsh. Elevations in the watershed range from sea level to nearly 1,100 feet. Because of the tidal influence, the low-lying communities of Santa Venetia and Marin Lagoon, as well as the Contempo Marin, are protected by flood control levees. These communities rely on stormwater pumping facilities to evacuate accumulated stormwater during storm events.

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<sup>7</sup> Marin County Code addresses nonpoint source pollution under Title 24, Development Standards. Section 24.04.625, Erosion and Sediment Control, ensures that BMPs are incorporated into project construction, and when required by the Marin County Community Development Agency, a SWPPP be prepared to address interim (i.e. during construction) and post construction erosion control measures. Section 24.04.627, Surface Runoff Pollution Control Plans, addresses nonpoint source pollution by presenting permanent BMPs that implement *Start-at-the-Source* techniques aimed at improving storm water quality. Permanent BMPs may include but are not limited to, site and drainage design features that route runoff from roofs and paved surfaces to landscaped areas, engineered bioretention facilities, roofs over areas where vehicles are washed or repaired, and facilities for cleaning equipment such as mats used in restaurant kitchens. The MCSTOPPP's Stormwater Quality Manual for Development Projects in Marin County contains specific guidance applicable to varying project categories.



## 2. Site Hydrology

Existing drainage facilities on-site are shown in Figure 4.4-1. The project site is divided into two (2) drainage subareas: Drainage Area 1 (11.55 acres) and Drainage Area 2 (4.28 acres). Figure 4.4-2 shows the 11.55-acre Drainage Area 1 and the 4.28-acre Drainage Area 2 under existing conditions. Both drainage areas discharge to an existing roadside earthen drainage ditch along the south edge of San Pedro Road. Runoff from Drainage Area 1 collects in an existing pond feature before discharging to the ditch. All ditch flows are conveyed to a stormwater pond north of San Pedro Road via existing culverts beneath the road (Comment from County: should not characterize low lying land located between North San Pedro Road and McPhail School as a stormwater pond). The stormwater pond ultimately drains to Gallinas Creek Marsh and San Pablo Bay via the Sunny Oaks drain/flapgate<sup>8</sup>. The project site is primarily mixed evergreen forest dominated by oak and bay with steep slopes, typically more than 30 percent.

### a. Drainage Area 1

Stetson Engineers performed a field inspection of existing on-site and downstream stormwater drainage facilities on March 23, 2005, inspection was one day after a significant rainfall amount, and the existing pond in Drainage Area 1 had a water surface elevation of approximately 34 ft <sup>9</sup> and was spilling (Figure 4.4-3 shows the storage capacity and surface area curves of the existing pond). The existing pond discharges off-site into the roadside ditch along the south edge of San Pedro Road, and then flows to the west about 20-30 ft to the receiving catch basin (CB) inlet, shown in Figure 4.4-1. The catch basin conveys flow directly into an 18-inch-diameter corrugated metal pipe (CMP) culvert that passes beneath San Pedro Road. This culvert connects directly to a very steep 18-inch CMP culvert that passes beneath Las Gallinas Road and

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<sup>8</sup> The Sunny Oaks drain is a County facility. The capacity of the Sunny Oaks drain is approximately 30 cfs. The 50-year runoff that is tributary to the Sunny Oaks drain is approximately 85 cfs. Overflow from the Sunny Oaks drain will flow directly to Flood Control Zone 7 facilities.

<sup>9</sup> Vertical datum for elevation data in this report: add 1.02 feet for NGVD29 (Source: ILS Engineers drawing: Topographic & Boundary Survey).

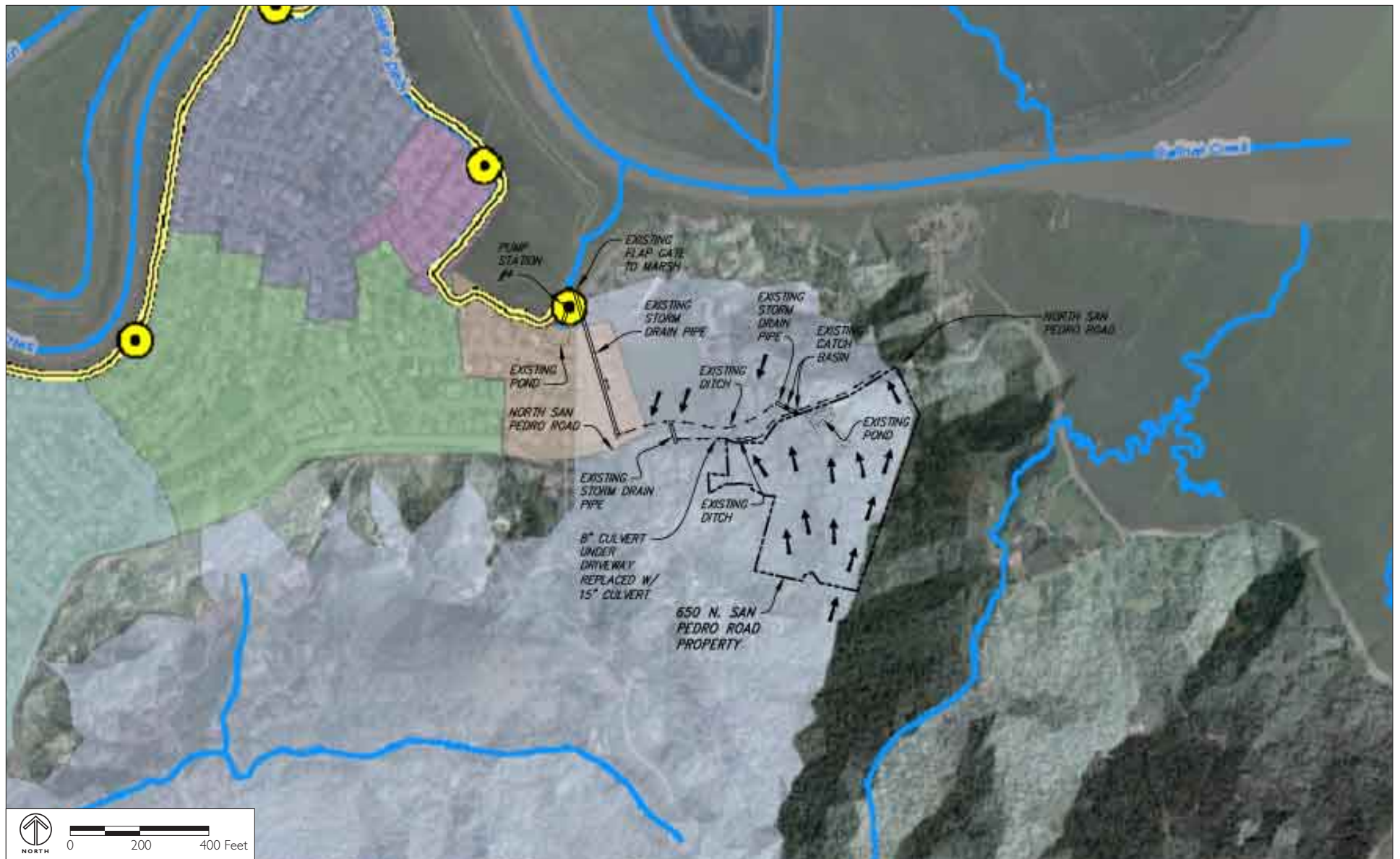
discharges to a constructed, vegetated open swale, tens of feet lower than the site. The existing swale carries flow west to the existing stormwater pond. The stormwater pond ultimately drains to the Gallinas Creek Marsh and San Pablo Bay via the Sunny Oaks drain/flapgate.

b. Drainage Area 2

Under existing conditions, stormwater runoff is carried off-site from Drainage Area 2 as overland flow. All of it discharges off-site into the existing roadside ditch along the south edge of San Pedro Road, shown in Figure 4.4-2. The stormwater then flows to the west in the ditch for about 200 ft to an existing 8-inch-diameter CMP culvert beneath a private residential driveway (630 North San Pedro Road). The existing 8-inch-diameter culvert has completely failed – it is both undermined and substantially deformed.<sup>10</sup> Field observations indicated that the failed 8-inch CMP did not convey all of the stormwater runoff in the ditch during the March 21-22, 2005 runoff which was probably less than the average annual stormwater peak flow. The portion of ditch flow that did not pass through the failed CMP passed onto and over San Pedro Road. The portion of ditch flow that did pass through the failed CMP continued to flow in the ditch downstream about another 200 feet to a minimum ditch elevation (collection point) where a 12-inch-diameter concrete culvert carried flow beneath San Pedro Road to the stormwater pond. Local land-owners recalled that the receiving stormwater pond water surface elevation rises above the inlet elevation of the 12-inch-culvert and floods San Pedro Road during heavy runoff (i.e. every 10 years). The stormwater pond ultimately drains to the Gallinas Creek Marsh and San Pablo Bay via the Sunny Oaks drain/flapgate. The hydraulic capacities of existing drainage facilities are shown in Table 4.4-1.

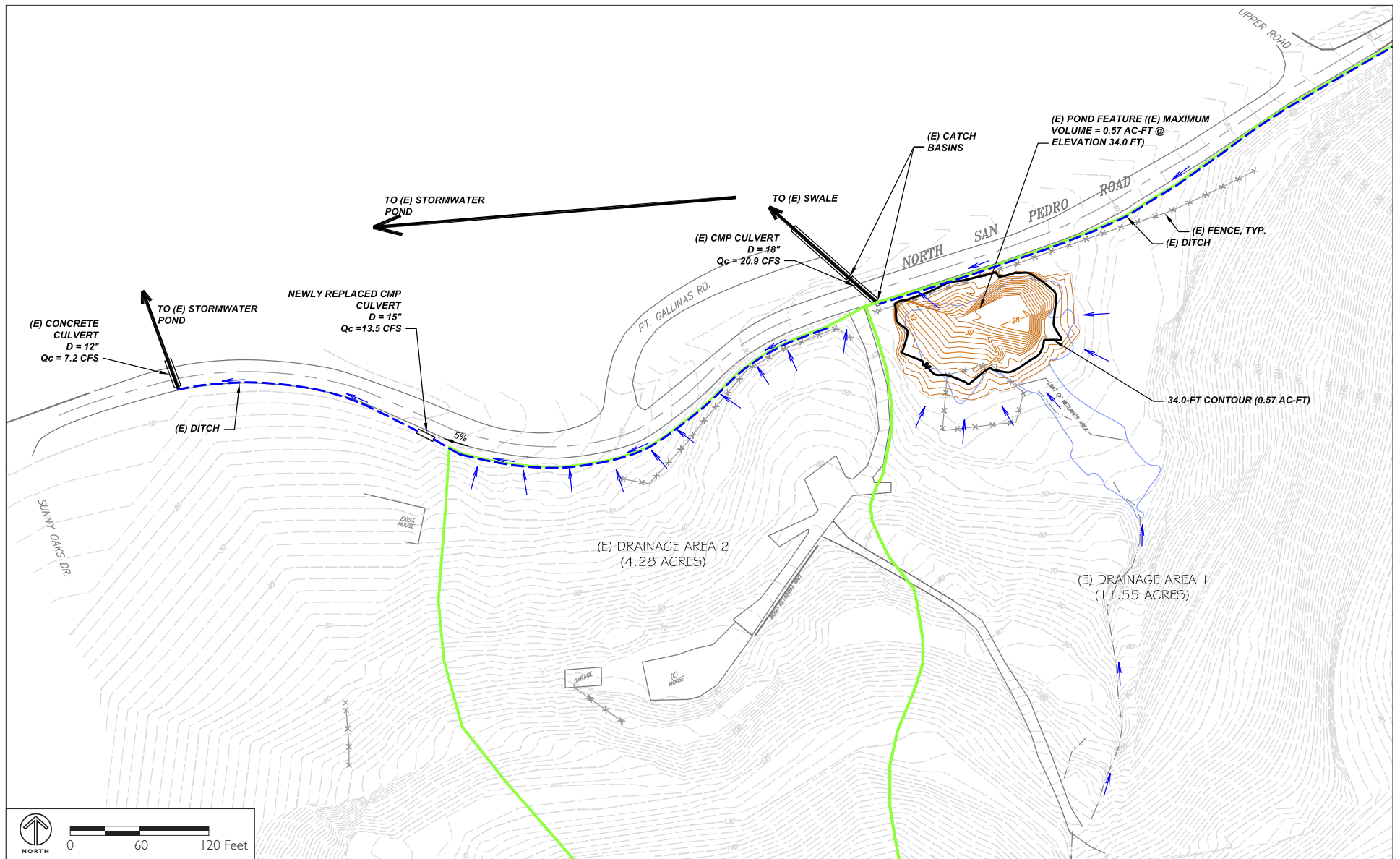
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<sup>10</sup> The collapsed 8-inch diameter CMP culvert under the private residential driveway (630 North San Pedro Road) has recently been replaced with a new 15-inch diameter culvert by the resident since the field inspection on March 23, 2005. Source: Stetson Engineers, 2008.



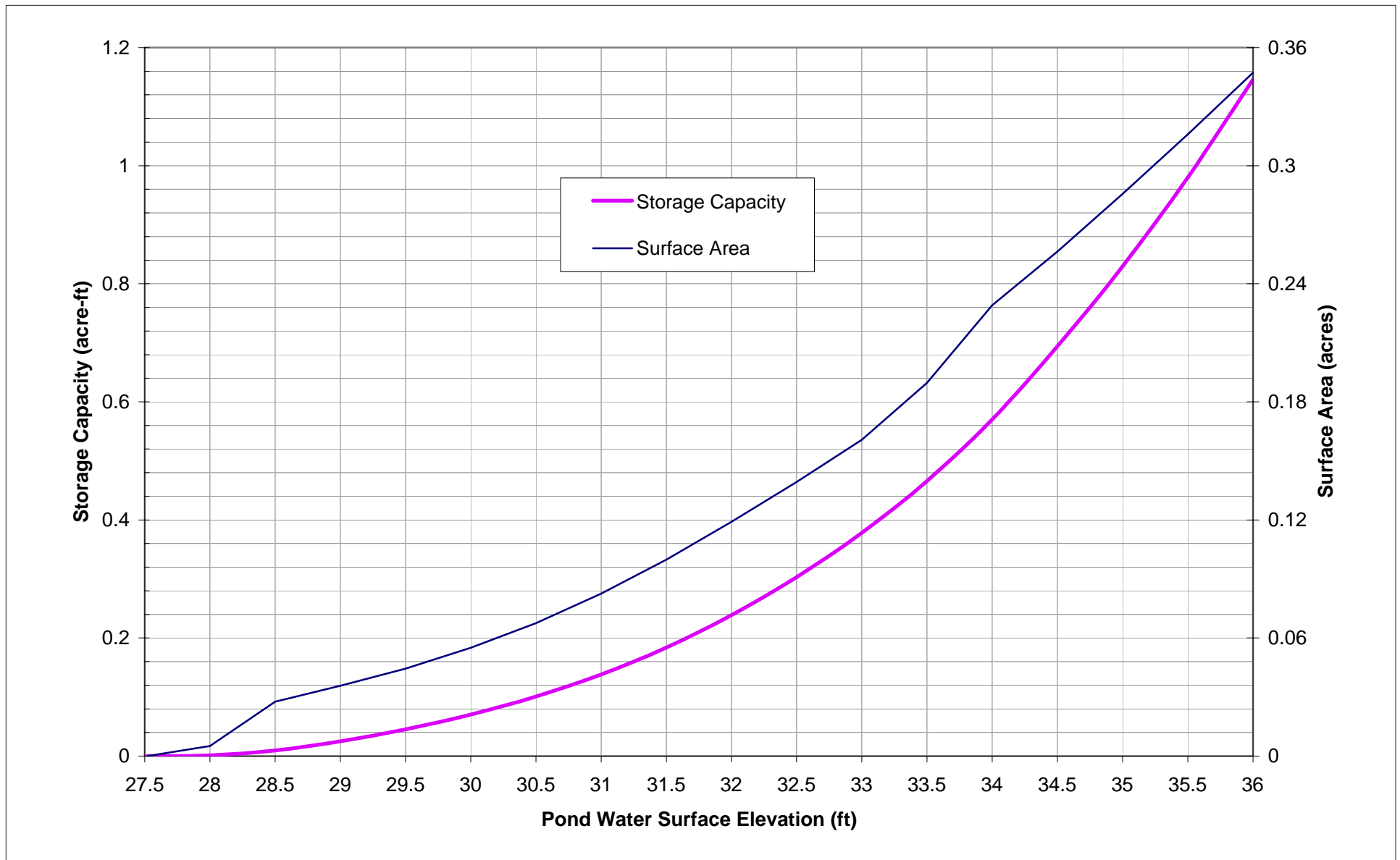
Source: ILS Engineers

FIGURE 4.4-1  
EXISTING DRAINAGE FACILITIES



Source: Stetson Engineers

FIGURE 4.4-2  
EXISTING DRAINAGE



Source: Stetson Engineers

FIGURE 4.4-3  
STORAGE CAPACITY CURVE OF EXISTING POND

TABLE 4.4-1 **HYDRAULIC CAPACITIES OF EXISTING DRAINAGE FACILITIES**

Facility	Diam./ Size (in)	Area (ft)	Allowable Inlet Water Level (ft)	Inlet Invert Eleva- tion (ft)	Outlet Invert Elevation (ft)	Slope	Capacity (cfs)
CMP Culvert	18	1.77	33	27.89	27.37	-	20.9
Newly Replaced CMP Culvert	15	1.23	-	9.30	8.35	0.05	13.5
Concrete Culvert	12	0.79	8	5.55	4.60	-	7.2
San Pedro Rd. Ditch	width=1ft; depth=1 ft; side slope= 1:1.5	2.50	-	-	-	0.05	15.8

Source: Stetson Engineers, Constraints Analysis: Independent Hydrologic Analysis and Hydrology Constraints for the Current Project Development Plan, Stetson Engineers, June 6, 2005.

### 3. Groundwater

Existing groundwater resources in the site vicinity are very limited. Groundwater occurs either in fractures in the Franciscan Formation or in shallow alluvial deposits in valleys. A 1978 study on the groundwater potential of the Ross Valley, the largest contained alluvial deposit in the vicinity of the site, found that the capacity of that source was very limited.<sup>11</sup> Because of this very limited supply, groundwater is not used as a water supply source for the Marin Municipal Water District (MMWD), which would serve the proposed project upon installation of the approved infrastructure.

<sup>11</sup> Urban Water Management Plan 2000, Marin Municipal Water District, February 18, 2003.

#### 4. Flooding

Damaging floods in Marin County have occurred primarily in the lower lying alluvial valleys and bay plains, with varying degrees of severity. From 1950 to 1970, major floods occurred in 1952, 1955, 1958, 1967 and 1970. Significant flooding occurred in the county in January 1982, January and December 1983, February 1986, January 1997, February 1998, and the New Year's Eve in 2005. Of these, the two most severe floods occurred in January 1982<sup>12</sup> and on New Year's Eve in 2005.<sup>13</sup>

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<sup>12</sup> In the storm of January 2-5, 1982, watershed flooding on Corte Madera Creek produced floodplain inundation depths of one to three feet through the Towns of San Anselmo and Ross and the unincorporated areas of Kentfield, and Greenbrae. The same storm produced damaging flooding in portions of the City of Novato along Novato Creek, Warner Creek and Arroyo Avichi. The community of Santa Venetia, which functions as an independent watershed due to its leveed segregation from Gallinas Creek, experienced flooding as watershed runoff and entrained, (i.e. transported by flowing water) hillslope debris obstructed inlet channels and pump station inlets. Nuisance flooding also occurred in San Rafael on the southern tributaries to San Rafael Creek, in the Bret Harte / Picnic Valley and Irwin Street neighborhoods, and on the eastern tributary (i.e., Sisters Creek) to Black Canyon Creek near Dominican College. Along the Pacific Ocean Recreational Corridor, the 1982 storm generated numerous catastrophic landslides and related flooding as land debris obstructed or completely filled drainageways. In general, the watershed flooding in this portion of Marin County area produced minimal damage because of its low population density.

<sup>13</sup> A series of intense storms swept in off the Pacific Ocean saturating the county at the end of December 2005 and beginning of January 2006. The storms caused many of the county's rivers to overtop their banks and flood surrounding areas. Coincident high tides, which helped breach super-saturated levees along San Francisco Bay in the Novato area, worsened flooding in some areas. Intense rainfall also triggered numerous landslides throughout the county. A large landslide in Novato caused damage to homes. Corte Madera Creek through San Anselmo and Ross spilled onto its historical floodplain causing millions of dollars in damage as businesses and homes were flooded. Flooding occurred throughout the Point Reyes National Seashore in West Marin, with Lagunitas Creek flooding many residences in the area. For complete coverage of the flooding, including press releases, disaster relief information and PDF files showing individual parcels damaged by flooding within Marin County please visit: <http://www.co.marin.ca.us/depts/ES/Disaster06/index.cfm>.

Two forms of flooding occur in Marin County: *tidal flooding* and *watershed flooding*. Tidal flooding develops when high tides exceed either the top of bank elevation of tidal sloughs and channels, or the crests of bay levees. Watershed flooding occurs in response to severe runoff-inducing rainfall over the tributary watershed of one of the region's stream channels. Rainstorms of three to four days duration, including nested periods of high intensity rainfall that occur over much of the tributary watershed typically generate major watershed floods. Such rainstorms occur primarily during the wet winter season. When watershed flooding occurs in conjunction with high bay tides, the extent and/or depth of overbank flooding or levee overtopping can increase due to an upward adjustment in the floodwater surface due to an increase in the surface elevation of bay water.

In the low-gradient downstream reach of Gallinas Creek, the hydrologic impacts that typically accompany floodplain development are compounded by the extent of tidal influence. The tidal influence reduces much of the floodwater conveyance potential of the channel and the lower flow velocities increase the rate of channel sedimentation, which further decreases channel capacity. Thus, levees have been constructed to contain floodwaters during significant rainstorms and/or coincident high tides, stormwater pumping stations have been installed to dewater floodplain areas that cannot drain naturally when storm drain outlets are inundated, and periodic dredging of the tidal channel and influent tributary ditches is required.

### *C. Standards of Significance*

According to Appendix G of the State CEQA Guidelines, the project would result in a significant hydrologic or water quality impact if it would:

- ◆ Violate any water quality standards or waste discharge requirements.
- ◆ Otherwise substantially degrade water quality.
- ◆ Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer



volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

- ◆ Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site;
- ◆ Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site.
- ◆ Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
- ◆ Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- ◆ Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map (FIRM) or other flood hazard delineation map.
- ◆ Place a structure within a 100-year flood hazard area which could impede or redirect flood flows.
- ◆ Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.
- ◆ Be at risk of inundation by seiche, tsunami, or mudflow.

Based on Appendix N of the Marin County Environmental Review Guidelines, the project would also have a significant impact related to hydrology and water quality if it would:

- ◆ Propose facilities that would be located in flood-prone areas.

- ◆ Propose facilities that would increase off-site flood hazard, erosion or sedimentation.
- ◆ Propose uses or facilities that would substantially degrade or deplete groundwater resources.
- ◆ Propose facilities that would interfere substantially with groundwater recharge.
- ◆ Propose uses or facilities that would substantially degrade surface or groundwater quality.

#### *D. Impact Discussion*

The following discussions of the project impacts correspond directly to the Standards of Significance criteria listed above.

#### Water Quality

##### **Impact 4.4-A Post development nonpoint source pollution.**

After construction, project development would increase the resident population at the site, therefore requiring more waste treatment, potentially hazardous materials storage, and disposal. Wastewater would be routed into the sewer system<sup>14</sup> and therefore be subject to discharge requirements of the sewer agency. The impact of the project on water quality standards or on waste discharge requirements would depend on the adequacy of infrastructure for liquid waste disposal and maintenance of standards for solid waste and garbage disposal. Closed containment facilities will be important in ensuring that waste does not spill out onto the ground.

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<sup>14</sup> The project site is in the process of being annexed into the Las Gallinas Valley Sanitary District.

The project would also increase the potential for surface contamination to spread from nonpoint source (NPS) pollutants by increasing impermeable surface area and the potential for increased runoff velocities. NPS pollutants are washed by rainwater from rooftops, landscape areas, sidewalks, driveways, streets, and parking lots into the drainage network. Increased levels of NPS pollutants and litter entering downstream drainage facilities, and ultimately, Gallinas Creek Marsh and San Pablo Bay, could have adverse effects on wildlife, fauna, and human health. This is considered a *significant* impact.

NPS pollutants from the proposed project would likely be consistent with those from suburban medium-density residential areas and parking lots. Increases in the levels of sediment, organic compounds, nutrients, trace metals, bacteria and viruses, and oil and grease compounds on the project site are likely. Sediment sources include roads and parking lots, as well as destabilized landscape areas, unprotected slopes and denuded or disturbed areas. Organic compounds are derived from sources such as automotive fluids, pesticides, and herbicides. Nutrients include nitrogen, phosphorus, and other organic compounds from sources such as organic litter, fertilizers, food waste, sewage, and sediment. Sources of trace metals include motor vehicles, roofing and construction materials, and chemicals. Pet waste and solid waste disposal areas contribute bacteria and viruses. Sources of oil and grease compounds include motor vehicles. Project impacts associated with increased NPS pollutants are considered to be *significant*.

As mentioned in the State Laws and Regulations section, diazinon is the only pollutant in Gallinas Creek that was included in the proposed 2006 CWA section 303(d) list of water quality limited segments. The proposed residential development would have no impact to the TMDL for diazinon because residential uses of diazinon in the United States were prohibited in 2004. As part of an agreement between the U.S. EPA and diazinon registrants to phase out and eliminate all residential uses of the insecticide diazinon, as of December

31, 2004, it will be unlawful to sell diazinon outdoor, non-agricultural products in the United States.<sup>15</sup>

The applicant proposes to include the existing pond as a wet pond to naturally treat stormwater runoff.<sup>16</sup> Wet ponds treat incoming stormwater runoff by settling and biological uptake. The primary removal mechanism is settling as stormwater runoff resides in the pond pool of water, but pollutant uptake, particularly of nutrients, also occurs to some degree through biological activity in the pond. The conceptual drainage plan (Figure 4.4-4) shows that the pond outlet will be designed to detain the stormwater runoff from a water quality design storm to allow particles and associated pollutants to settle. According to the 2003 California Stormwater Best Management Practices Handbook,<sup>17</sup> adequate stormwater quality protection and enhancement would be provided if the stormwater pond were large enough to both capture 85 percent of total annual runoff volume, and provide 48-hour long retention. Stetson Engineers estimated that the minimum required pond volume to achieve these objectives in Drainage Area 1 is estimated to be about 0.62 acre-feet. The corresponding required water elevation of the existing pond is estimated to be about 34.2 feet to create the pond volume of 0.62 acre-feet (see Figure 4.4-3). The existing pond has an existing earthen berm along the south edge of San Pedro Road with an estimated elevation of about 34.0 feet and a maximum existing capacity of 0.57 acre-feet. To meet the runoff volume requirement of 0.62 acre-feet, the berm will be modified and raised. The elevation of the top of the modified berm will be 35.2 feet and will allow for 1-foot

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<sup>15</sup> U.S. Environmental Protection Agency, Pesticides: Topical & Chemical Fact Sheets, <http://www.epa.gov/pesticides/factsheets/chemicals/diazinon-factsheet.htm>. Accessed on June 11, 2008.

<sup>16</sup> Wet ponds (a.k.a. stormwater ponds, retention ponds, wet extended detention ponds) are constructed basins that have a pool of water throughout the year (or at least throughout the wet season). Wet ponds treat incoming stormwater runoff by settling and biological uptake. The primary removal mechanism is settling as stormwater runoff resides in this pool, but pollutant uptake, particularly of nutrients, also occurs to some degree through biological activity in the pond. Wet ponds are among the most widely used stormwater practices. The existing pond functions as a wet pond with a pool elevation at about 34.0 feet.

<sup>17</sup> California Stormwater Quality Association, 2003.

of free board above the normal pool elevation. The modified berm will increase the normal pool elevation of water to 34.2 feet with a corresponding storage volume of 0.62 acre-feet (see the cross section drawing on Figure 4.4-4).

In addition to utilizing the existing pond as a wet pond to mitigate stormwater quality, the applicant also proposes to apply different BMPs in its grading and drainage plan (Figure 4.4-4), including proposed three headwalls<sup>18</sup> for improving entrance flow conditions and controlling erosion potential by recessing the outflows of the discharge pipes, two discharge pipe outlet dissipators for reducing discharge velocity and hence erosion potential, three biofiltrations<sup>19</sup> for filtering particulate pollutants (suspended solids and trace metals), and integration of the two existing catch basins for controlling the amount of sediment and debris transported into receiving waters.

### Mitigation Measures

4.4-A.1 The final drainage plan for the project should incorporate the following Best Management Practices (BMPs) to ensure that project development does not result in an increase in NPS pollutants to on-site and off-site wetlands, to lower Gallinas Creek, and ultimately, to San Pablo Bay.

- ◆ The existing pond within Drainage Area 1 of the site has been designated as a wetland. The runoff from Drainage Area 1 needs to be treated before it reaches the pond, or it might potentially

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<sup>18</sup> The normal functions of a headwall are to recess the inflow or outflow end of the culver barrel into the fill slope, to improve entrance flow conditions, to anchor the pipe and prevent disjuncting due to excessive pressures, to control erosion and scour resulting from excessive velocities and turbulences and to prevent adjacent soil from sloughing into the waterway opening.

<sup>19</sup> Biofiltration refers to several techniques including vegetated swales, filter stripes, and buffers that remove pollutants from stormwater runoff as it flows through the vegetation. Pollutant removal mechanisms include filtration, absorption, and gravity sedimentation.

pollute the wetland. This is also true for the off-site wetland across North San Pedro Road. The runoff from Drainage Area 2 of the site goes into a culvert under North San Pedro Road and then into the off-site wetland. To avoid the potential of pollutants entering the pond, All stormwater should be treated for water quality before it reaches any wetland. The current drainage design needs to be revised to incorporate permanent BMPs for meeting the County's Low Impact Development ~~LID~~ standards. This may require more substantial changes to the landscape design. Permanent BMPs for meeting the County's Low Impact Development ~~LID~~ standards may include but are not limited to site and drainage design features that route runoff from roofs and paved surfaces to landscaped areas, engineered bioretention facilities, roofs over areas where vehicles are washed or repaired, facilities for cleaning equipment such as mats used in restaurant kitchens, use of permeable concrete and asphalt surfaces for driveways and roads, and construction of a drainage swale along the west side of the new two-way driveway. Permanent BMPs for treating the stormwater runoff before it reaches the reconfigured pond and the off-site wetland may include but are not limited to: installation of one continuous deflective separation (CDS) unit to remove silt and pollutants from stormwater at each of the three storm drain pipes discharging to the reconfigured pond and at the fire turn around for the storm drain that discharges to the roadside ditch adjacent to North San Pedro Road. The MCSTOPPP's Stormwater Quality Manual for Development Projects in Marin County contains specific guidance applicable to the project category.

- ◆ The applicant should prepare a Stormwater Control Plan that consists of all the information identified in the Stormwater Control Plan checklist in the MCSTOPPP's Stormwater Quality Manual for Development Projects in Marin County. This requires calculations for different Drainage Management Areas, a report, and an exhibit, which the applicant would be required to

provide to the County. The acceptable methods of achieving consistency with the County's LID standards are also discussed in this Manual. The Manual encourages the incorporation of LID approach into the project design.

- ◆ The applicant should prepare an operation and maintenance plan of stormwater facilities and identify how and what entity would operate and maintain the storm pond.
- ◆ The applicant should prepare informational literature and guidance on residential BMPs to minimize pollutant contributions from the proposed development. This information should be distributed to future employees and residences at the project site. At a minimum the information should cover: (1) Proper disposal of household and commercial chemicals; (2) Proper use of landscaping chemicals; (3) Clean-up and appropriate disposal of yard cuttings and leaf litter; and (4) Prohibition of any washing and dumping of materials and chemicals into storm drains.

#### **Impact Significance after Mitigation**

The implementation of these mitigation measures would reduce the impact to a *less-than-significant* level.

#### **Impact 4.4-B Degradation of water quality.**

Beyond potentially significant impacts to water quality identified above, the project would not otherwise degrade surface water or groundwater quality. Therefore *no impact* would occur.

#### **Impact 4.4-C Groundwater supply and recharge.**

The proposed development would utilize the municipal water supply source. No new wells are proposed that would directly interfere with groundwater and, since the municipal supply would not draw from nearby wells, there should be no impact from groundwater extraction or pumping as a result of

the project. Although the project development would result in the construction of additional impervious surfaces (e.g., rooftops, streets, parking lots, etc) which decrease the land area available for infiltration of rainfall, thereby reducing groundwater recharge, the impact on groundwater recharge would be *less than significant* because groundwater resources in the site vicinity are very limited and are not used as a water supply source.

**Impact 4.4-D Construction-related erosion and siltation and water quality impact.**

During construction, vegetative cover that stabilizes the soil would be removed by grading and earthmoving activities. Stormwater would mobilize and transport exposed soil to nearby drainageways. Other pollutants, which may be bound to soil particles (e.g., oils and pesticides), could be transported as well. Building materials may contain potentially hazardous preservative treatments. There will also be concrete work, painting, use of heavy machinery requiring fuels and other materials that are potentially hazardous, especially to the aquatic environment of the receiving waters. Construction equipment and materials could also contaminate soil that would later spread should there be rainfall or another runoff generating source. This represents a potentially *significant* impact.

Project construction would require earthwork and grading activities that could lead to construction-related erosion. Soils will be disturbed and positive drainage maintained from the site to the adjoining storm drain network. Project impacts associated with construction-related erosion are considered to be *significant*.

Siltation could result from loose disturbed soil being mobilized by storm water that could clog adjacent storm drains and waterways and adversely affect the aquatic environment. This is likely to occur on steep slopes where the potential for erosion and sediment transport is highest. Since the project site is relatively steep, this risk is considered high during site grading when bare



soils are disturbed and exposed. As a result, the project is considered to have a *significant* impact in terms of erosion and siltation.

### Mitigation Measures

4.4-D.1 The project applicant is required to comply with all NPDES Permit requirements for the construction period. Under the NPDES program, the applicant is required to submit a Notice of Intent (NOI) with the State Water Resource Control Board's (SWRCB) Division of Water Quality. The NOI includes general information on the types of construction activities that will occur on the site. The applicant will also be required to prepare a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP will include a description of appropriate BMPs to minimize the discharge of pollutants from the site. BMPs appropriate for construction activities can be organized into four major categories:

- 1) Erosion Control: Measures that prevent erosion and keep soil particles from entering stormwater, lessening the eroded sediment that must be trapped, both during and at completion of construction.
- 2) Sediment Control: Feasible methods of trapping eroded sediments so as to prevent a net increase in sediment load in stormwater discharges from the site.
- 3) Site Management: Methods to manage the construction site and construction activities in a manner that prevents pollutants from entering stormwater, drainage systems or receiving waters.
- 4) Materials and Waste Management: Methods to manage construction materials and waste that prevent their entry into stormwater, drainage systems or receiving waters.

The SWPPP shall fully comply with RWQCB requirements and shall contain specific BMPs to be implemented during project construction to reduce erosion and sedimentation to the maximum ex-

tent practical. Typical BMPs to be required on-site during construction include, but are not limited to, the following:

- ◆ Performing major vehicle maintenance, repair jobs, and equipment washing at appropriate off-site locations;
- ◆ Maintaining all vehicles and heavy equipment and frequently inspecting for leaks;
- ◆ Designating one area of the construction site, well away from streams or storm drain inlets, for auto and equipment parking and routine vehicle and equipment maintenance;
- ◆ Cleaning-up spilled dry materials immediately. Spills are not to be “washed away” with water or buried;
- ◆ Using the minimum amount of water necessary for dust control;
- ◆ Cleaning-up liquid spills on paved or impermeable surfaces using “dry” cleanup methods (e.g. absorbent materials such as cat litter, and/or rags);
- ◆ Cleaning-up spills on dirt areas by removing and properly disposing of the contaminated soil;
- ◆ Storing stockpiled materials, wastes, containers and dumpsters under a temporary roof or secured plastic sheeting;
- ◆ Properly storing containers of paints, chemicals, solvents, and other hazardous materials in garages or sheds with double containment during rainy periods;
- ◆ Applying concrete, asphalt, and seal coat during dry weather. Keeping contaminants from fresh concrete and asphalt out of the storm drains and creeks by scheduling paving jobs during periods of dry weather and allowing new pavement to cure before storm water flows across it;
- ◆ Covering catch basins and manholes when applying seal coat, slurry seal and fog seal.

BMPs identified in the SWPPP shall also include soil stabilization techniques such as: hydroseeding and short-term biodegradable erosion control blankets; silt fences or some kind of inlet protection at downstream storm drain inlets; post-construction inspection of all drainage facilities for accumulated sediment; and post-construction clearing of all drainage structures of debris and sediment. Finally, the project applicant will be required to submit a Notice of Termination (NOT) when site soils are stable and permanent erosion and sediment control is in place.

### **Impact Significance after Mitigation**

The implementation of this mitigation measure would reduce the construction-related impacts to a *less-than-significant* level.

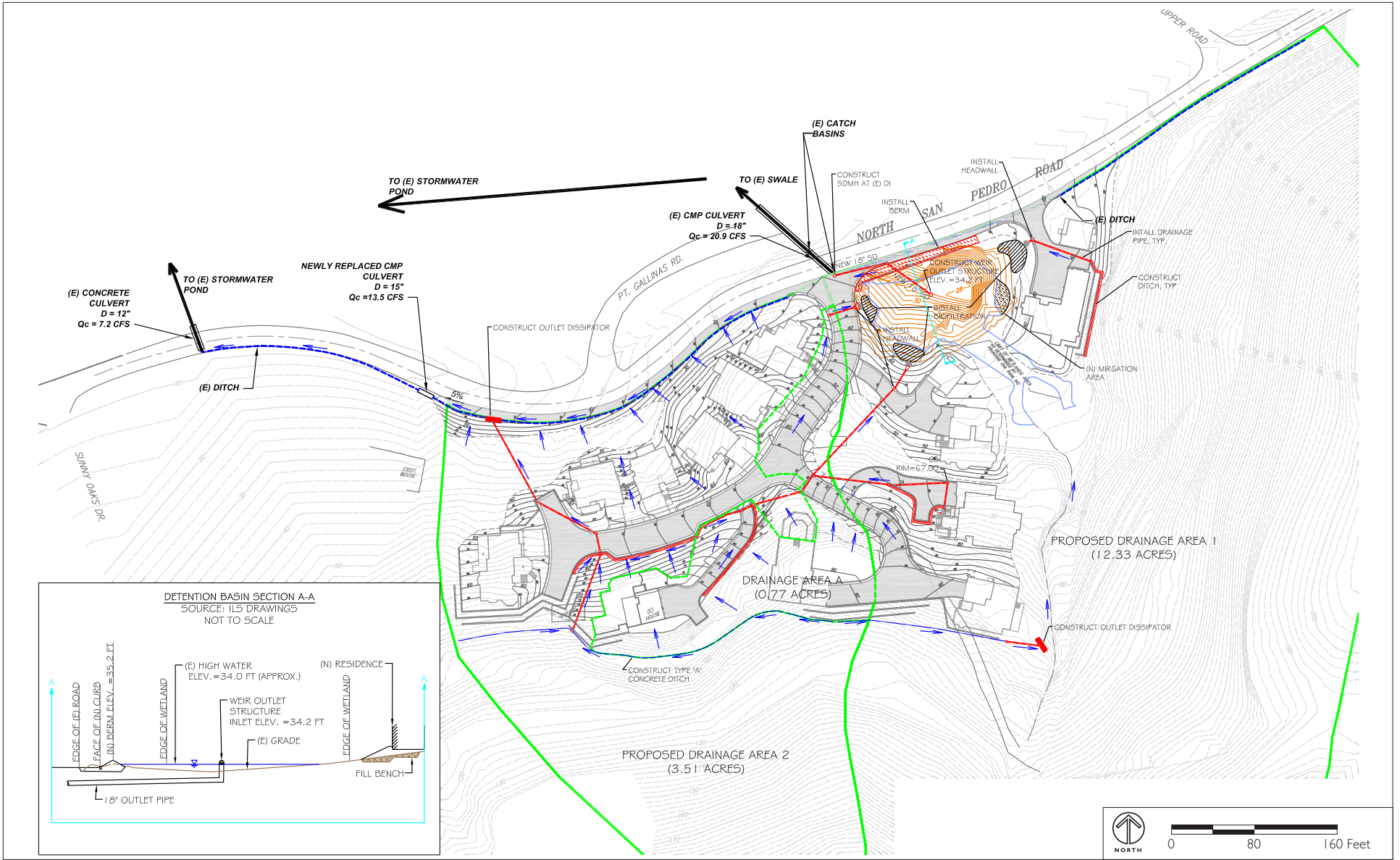
### **Stormwater Runoff and Drainage**

#### **Impact 4.4-E Increased peak runoff and changes in drainage pattern**

The proposed project would increase the percentage of the site covered by impermeable surfaces and therefore has the potential to increase peak flows discharging to the ditch and other existing off-site, downstream drainage facilities.

After development, the size of Drainage Area 1 will be increased by adding Drainage Area A (0.77 acres), which will be removed from Drainage Area 2. Figure 4.4-4 shows the proposed drainage concept design, which is a system of collection and conveyance of surface runoff from the upper elevations of the property to lower elevation discharge points.

As shown in Figure 4.4-2, the ephemeral creek in Drainage Area 1 is the only significant natural drainage channel on the site. This ephemeral creek would be utilized as a component of the proposed drainage design (see Figure 4.4-4). This ephemeral creek is not a blue-line stream and, therefore, is not subject to



Source: Stetson Engineers

FIGURE 4.4-4

**PROPOSED DRAINAGE**

TABLE 4.4-2 **PEAK FLOW RATES FOR DESIGN 25- AND 100-YEAR RAIN-STORM EVENTS**

		Drainage Area 1	Drainage Area 2
Area (acres)	Existing	11.55	4.28
	Post-Project	12.33	3.51
25-year Peak Flow (cfs) <sup>a</sup>	Existing	18.50	7.3
	Post-Project	21.00	6.5
	Change	+2.50	-0.8
100-year Peak Flow (cfs) <sup>b</sup>	Existing	23.40	9.30
	Post-Project	26.60	8.20
	Change	+3.20	-1.10

<sup>a</sup> Source: Stetson Engineers.

<sup>b</sup> Source: ILS Civil Engineers.

the *Marin Countywide Plan* policies governing Stream Conservation Areas (SCA). The ephemeral creek is a natural watercourse with a short, steep gradient that drains a small watershed. Consequently, the creek dries out fairly early in the dry season and does not support riparian vegetation. Marin County policy BIO-4.1 recommends a 20-foot setback on ephemeral streams that do not meet SCA criteria, as proposed in Mitigation Measure 4.3-C.1. In addition, drainage setbacks specified in Title 24 of the County Development Code require 20-feet from the top of bank or twenty feet plus twice the channel depth measured from the toe of the near embankment, whichever is greater.<sup>20</sup> As a result of this mitigation and County policy, potential impacts

<sup>20</sup> Marin County Code Section 24.04.560.

resulting from alterations to the site's drainage patterns would be *less than significant*.

Development of this project would result in an increase in impervious surface area on the project site, which would result in an increase in peak runoff. The calculated 25-year and 100-year peak runoffs for pre- and post-development conditions are presented in Table 4.4-2. These peak flows were calculated following the procedures in the Marin County Department of Public Works Hydrology Manual (September 8, 2008)<sup>21</sup>. The estimated 100-year peak flow for Drainage Area 1 under the post-development condition is about 26.6 cubic feet per second (cfs), which is about 3.2 cfs or 13.7 percent higher than the pre-development condition (23.4 cfs). This is considered a *significant* impact.

The estimated 100-year peak flow for Drainage Area 2 under the post-development condition is about 8.2 cfs, which is about 1.1 cfs or 11.8 percent lower than the pre-development condition (9.3 cfs). These changes in 100-year peak flows result in large part from the removal of drainage area from Drainage Area 2 (-0.77 acres) and corresponding addition of the drainage area to Drainage Area 1 (+0.77 acres).

The applicant proposes to include the existing pond as a stormwater detention pond to mitigate stormwater quality as well as peak flows. Based on the NRCS TR-55 method,<sup>22</sup> Stetson Engineers estimated that the required minimum storage for reducing the 100-year post-development peak flow from Drainage Area 1 to the pre-development level is estimated to be approximately 0.13 acre-feet. As discussed in Impact 4.4-A, the pond berm will be modified and raised to elevation 35.2 feet with 1-foot freeboard above the normal pool elevation 34.2 feet. The storage volume between the normal

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<sup>21</sup> Appendix C in this chapter provides detailed information and calculations, which include the ILS Drainage Report and the Stetson Engineers Peer Review.

<sup>22</sup> Natural Resources Conservation Service (NRCS), 1986. Urban Hydrology for Small Watersheds, TR-55.

pool elevation and elevation at 34.7 feet is estimated to be about 0.13 acre-ft (see Figure 4.4-3), indicating that the modified pond berm will still have a freeboard of 0.5-foot after attenuating the 100-year peak flows even if the pond water is at normal pool elevation prior to a 100-year storm event. Therefore, the proposed design of the pond for storm water quality protection and enhancement would also be adequate to offset peak flow increases from Drainage Area 1.

### Mitigation Measures

4.4-E.1 Design pond to meet a peak flow reduction objective of 0.62 acre-feet for Drainage Area 1. Ongoing maintenance of the pond, including debris removal, and monitoring the structural integrity of the berm, and the proper functioning of the weir inlet shall be the responsibility of a Homeowners Association.

### Impact Significance after Mitigation

The implementation of this mitigation measure would reduce the impact to a *less-than-significant* level.

### Impact 4.4-F Stormwater drainage system capacities.

Figure 4.4-4 shows the proposed drainage concept design. The proposed development would link to the same existing off-site storm drain network. The conceptual on-site drainage design includes several pipes leading to a weir outlet structure within the wetland area, and a stormwater pipe leading to an outlet dissipater located along San Pedro Road. The existing ephemeral creek in Drainage 1 would still be utilized as a component of the proposed on-site drainage system.

The existing 18-inch-diameter CMP culvert downstream from Drainage Area 1 has an estimated minimum hydraulic capacity of 20.9 cfs, which is adequately sized to convey the estimated 25-year peak flows, the capacity evalua-

tion criterion used by the County for the stormwater drainage systems at the site vicinity.<sup>23</sup> Neither the existing constructed swale nor the downstream stormwater pond limits conveyance through the 18-inch-diameter CMP culvert beneath San Pedro Road. The impact on downstream stormwater drainage system capacities from an increase in peak storm water runoff in Drainage Area 1 is considered *less than significant*.

As a reduced area of Drainage Area 2, post-development runoff will decrease compared to the pre-development condition. Although development in Drainage Area 2 could increase erosion and sedimentation and thus could reduce the capacity of downstream drainage facilities and drainageways, the impact from the development in Drainage Area 2 would be *less than significant* due to reduced runoff and implementation of the proposed BMPs, including the proposed dissipater at the outlet of Drainage Area 2. The dissipater, shown in Figure 4.4-4, will be used to reduce discharge velocity and hence downstream erosion potential.

### Flooding

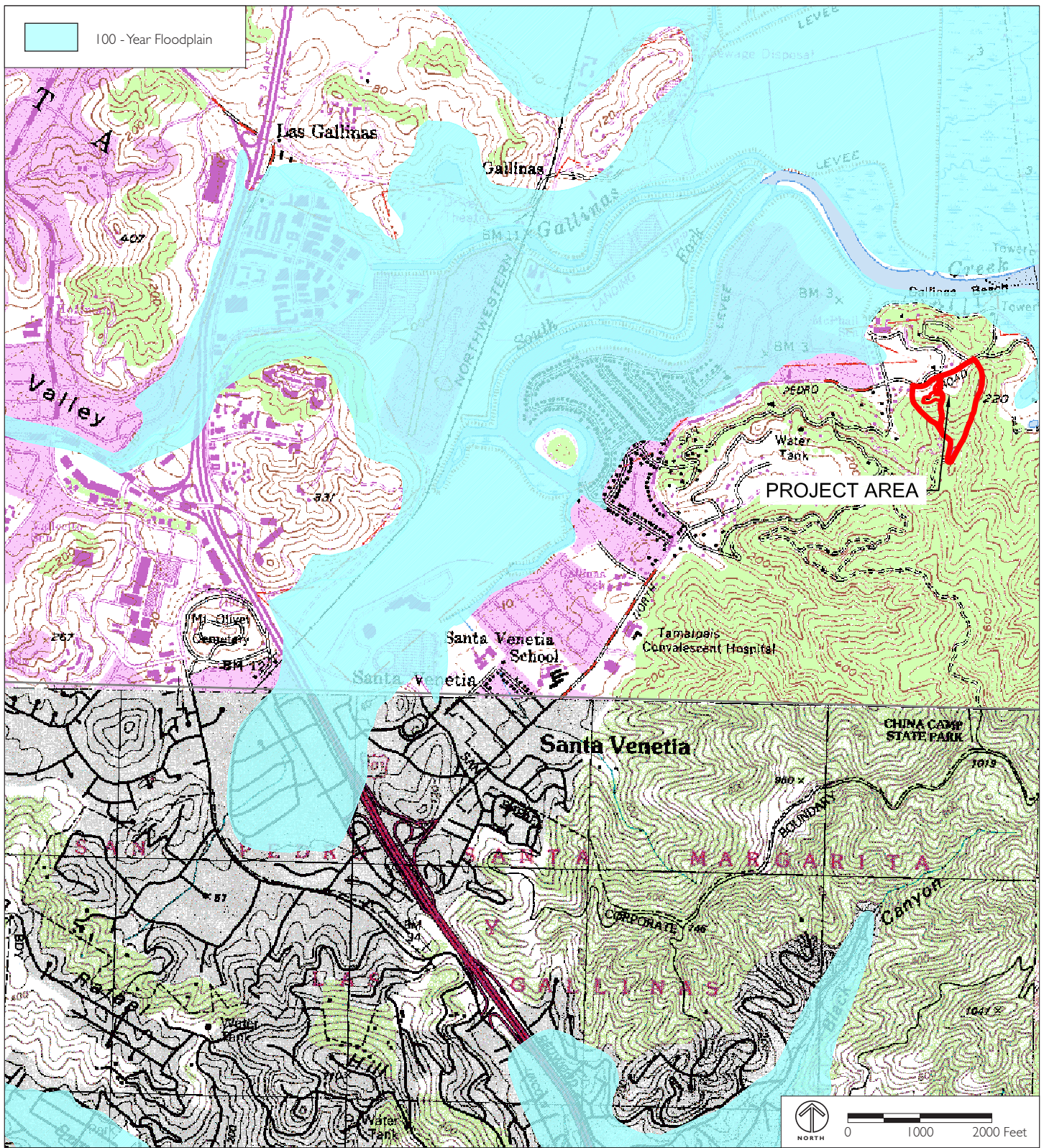
#### **Impact 4.4-G Housing within a 100-year flood hazard zone.**

According to the latest available FEMA Flood Insurance Rate Map for the area, the project site is not located within a 100-year flood hazard zone, as shown in Figure 4.4-5. The nearest 100-year flood zone for Gallinas Creek is approximately 500 feet from the northeast corner of the site. Flooding was recently recorded within the county following the powerful New Year's Eve storm of 2005, but did not impact the project area. Therefore, the project would have *no impact* in relation to the construction of housing inside a 100-year flood zone.

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<sup>23</sup> Stetson Engineers, Constraints Analysis: Independent Hydrologic Analysis and Hydrology Constraints for the Current Project Development Plan, Stetson Engineers, June 6, 2005.





Source: Stetson Engineers

FIGURE 4.4-5

100 - YEAR FLOODPLAIN

**Impact 4.4-H Risk of loss, injury or death from flooding, including as a result of the failure of a levee or dam.**

The project site is not next to a levee or below a dam. Since the project site is not located within a 100-year flood hazard area and did not flood during the powerful New Year's Eve storm of 2005 which is estimated to have a recurrence interval of once every 50 to 100-years, the impact is considered to be *less than significant*.

**Impact 4.4-I Inundation by seiche, tsunami, or mudflow.**

The closest body of open water to the project site is San Pablo Bay, which is located approximately 0.5 miles to the north. Because of the distance, the site is not susceptible to a tsunami. The project site is not in close enough proximity to a large body of enclosed water, such as a reservoir, to be susceptible to a seiche. The potential for a mudflow to occur on site or in nearby areas is minimal because it is not anticipated that soils would achieve the necessary degree of saturation during a storm event for such a phenomenon to occur. Therefore, there is considered to be *no impact*.

***E. Cumulative Impacts***

**Cumulative Impervious Surface Area**

**Impact 4.4-J The proposed project, in combination with other development project would increase the impervious surface area throughout the watershed.**

The proposed development, in combination with other planned and pending developments within the Gallinas Creek watershed, would greatly increase the amount of impervious surface area throughout the watershed. This is a potentially significant cumulative hydrologic impact due to the potential for an increase in the overall volume of surface runoff as well as peak flows. However, the county requires that post-development peak discharges be re-

duced to at or below pre-development level for any individual development. Implementation of this requirement on all new development within the Gallinas Creek watershed would reduce cumulative impacts to area hydrology to a level considered *less than significant*.

#### **Cumulative Sedimentation and Nonpoint Source Pollution**

**Impact 4.4-K    The proposed project, in combination with other development project would potentially increase sedimentation and nonpoint source pollution.**

With respect to surface water quality, construction activity associated with cumulative development would increase sedimentation. In addition, new development would increase the generation of urban NPS pollutants that may adversely affect water quality in the long term. However, compliance with the NPDES program requirements and the County's LID standards and other RWQCB regulations would reduce NPS pollution to at or below pre-development level for any individual development. Implementation of these standards and requirements on all new development within the Gallinas Creek watershed would reduce cumulative impacts to area water quality to a level considered *less than significant*.

COUNTY OF MARIN  
650 NORTH SAN PEDRO ROAD EIR  
HYDROLOGY AND WATER QUALITY

## 4.5 AIR QUALITY

This section describes potential local and regional air quality impacts from the proposed project and has been prepared using methodologies and assumptions recommended within the current CEQA Guidelines issued by the Bay Area Air Quality Management District (BAAQMD).

### *A. Regulatory Setting*

#### **1. Federal and State Air Quality Regulations**

The Federal and California Clean Air Acts have established ambient air quality standards for different pollutants. National ambient air quality standards (NAAQS) were established by the federal Clean Air Act of 1970, (amended in 1977 and 1990), for six criteria pollutants, including carbon monoxide (CO), ozone, nitrogen dioxide (NO<sub>2</sub>), inhalable particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), sulfur dioxide, and lead. California established ambient air quality standards in 1969 through the Mulford-Carrell Act. Pollutants regulated under the California Clean Air Act are similar to those regulated under the Federal Clean Air Act. In many cases, California standards are more stringent than the national ambient air quality standards. A brief description of five common criteria air pollutants is as follows:

- ◆ **Ozone.** Ground-level ozone is the principal component of smog. Ozone is not directly emitted into the atmosphere, but instead forms through a photochemical reaction of reactive organic gases (ROG) and nitrogen oxides (NO<sub>x</sub>), which are known as ozone precursors. Ozone levels are highest from late spring through autumn when precursor emissions are high and meteorological conditions are warm and stagnant. Motor vehicles create the majority of reactive organic gas and nitrogen oxide emissions in the Marin County region. Diesel powered farm equipment and petrochemical-based agricultural sprays also are significant sources of smog forming compounds.
- ◆ **Carbon Monoxide.** CO is a non-reactive pollutant that is highly toxic, invisible, and odorless. It is formed by the incomplete combustion of fuels. The largest sources of CO emissions are motor vehicles, wood stoves, and fireplaces. Unlike ozone, CO is directly emitted to the at-

mosphere. The highest CO concentrations occur during the nighttime and early mornings in late fall and winter. CO levels are strongly influenced by meteorological factors such as wind speed and atmospheric stability.

- ◆ **Nitrogen Dioxide.** Nitrogen dioxide is a reddish-brown gas that is a by-product of combustion processes. Automobiles and industrial operations are the primary sources of nitrogen dioxides. Nitrogen dioxide contributes to ozone formation.
- ◆ **Inhalable Particulates.** Inhalable particulate, or PM<sub>10</sub>, refers to a wide variety of solid or liquid particles in the atmosphere. PM<sub>10</sub> is particulate matter 10 microns or less in diameter, and PM<sub>2.5</sub> is particulate matter 2.5 microns or less in diameter. PM<sub>2.5</sub> is a subset of PM<sub>10</sub>, and government officials have regulated it in the past few years because PM<sub>2.5</sub> is especially hazardous to human health. Inhalable particulates come from smoke, dust, aerosols, and metallic oxides. Although particulates are found naturally in the air, most particulate matter found in the Sonoma Valley are emitted either directly or indirectly by motor vehicles, industry, construction, agricultural activities, and wind erosion of disturbed areas. Most PM<sub>2.5</sub> is comprised of combustion products such as smoke.
- ◆ **Toxic Air Contaminants.** TACs are commonly found in ambient air. There are about 200 recognized TACs regulated by state and federal law. Sources include industry, agriculture, motor vehicles, and commercial operations. These contaminants tend to be localized and are found in relatively low concentrations in ambient air. However, they can result in adverse chronic health effects, including cancer, if exposure occurs for long periods. Diesel exhaust is the predominant TAC in the BAAQMD region.<sup>1</sup>

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<sup>1</sup>ARB Almanac 2005 – Chapter 5: Toxic Air Contaminant Emissions, Air Quality, and Health Risk. California Air Resources Board, 2006.

## 2. Regional Air Quality Regulations

The BAAQMD regulates air quality in Marin County. The County is part of a region-wide nonattainment area, in which ambient levels exceed the respective State or federal air quality standard, for ground-level ozone, PM<sub>2.5</sub>, and PM<sub>10</sub>. Additionally, ozone precursors generated in Marin County often move to other communities, where smog is formed several hours later. Thus, the BAAQMD tries to minimize local emissions that will contribute to an existing violation of state and federal standards in any part of the Bay Area.<sup>2</sup>

To protect public health, the BAAQMD has adopted plans to achieve ambient air quality standards. The BAAQMD must continuously monitor its progress in implementing attainment plans and must periodically report to the California Air Resources Board and the EPA. It must also periodically revise its attainment plans to reflect new conditions and requirements.

Air quality plans addressing the California Clean Air Act are developed about every three years. The plans are meant to demonstrate progress toward meeting the more stringent 1-hour O<sub>3</sub> California Ambient Air Quality Standards (CAAQS). The latest plan, which was adopted in January 2006, is called the *Bay Area 2005 Ozone Strategy*. This plan includes a comprehensive strategy to reduce emissions from stationary, area, and mobile sources. The Plan's objective is to indicate how the region would make progress toward attaining the stricter state air quality standards, as mandated by the California Clean Air Act. The plan is designed to achieve a region-wide reduction of O<sub>3</sub> precursor pollutants through the expeditious implementation of all feasible measures. The plan proposes implementation of transportation control measures (TCMs) and programs such as Spare the Air. Spare the Air is a public outreach program designed to educate the public about air pollution in the Bay Area and promote individual behavior changes that improve air quality. Some of these measures or programs rely on local governments for implementation.

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<sup>2</sup> Marin Countywide Plan, Air Quality Technical Background Report. Marin County Community Development Agency, April 2002.

## ***B. Existing Setting<sup>3</sup>***

This section describes the climate, regulatory setting, and existing conditions of air quality in Marin County.

### **1. Climate**

The prevailing weather patterns in Marin County include warm, dry summers and cool, rainy winters. The County's climate is largely controlled by the Pacific High; the high pressure system in the eastern Pacific Ocean. During summer months, the Pacific High produces higher interior temperatures and cool, foggy weather along the coast. The average summer temperatures range from high 50s to 70s along the coast and the 70s to 80s in the interior valleys. As the Pacific High weakens during winter months, polar jet streams generate strong winds, precipitation and cloudy conditions. Annual precipitation is greatest in the interior and lower along the coast. Annual average precipitation in the County is between 30 to 50 inches. Average winter temperatures range from highs in the 50s to lows in the 30s. Winds in Marin County are primarily from the northwest. Average wind speeds are about 8 to 10 miles per hour along the coast and 5 miles per hour in the inland areas.

### **2. Existing Air Quality Conditions**

Ambient air pollution concentrations in Marin County are determined by pollutant emissions and atmospheric mixing. Mixing is influenced by meteorological conditions such as wind speed, atmospheric stability, and mixing height. Long-term air quality variations typically result from changes in emissions and short-term variations result from changes in atmospheric conditions.

In general, pollution potential in Marin County is moderate due to the influx of relatively clean air from the Pacific Ocean and the unspoiled, vegetated

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<sup>3</sup> Unless otherwise noted, information within this section is attributed to Marin Countywide Plan, Air Quality Technical Background Report. Marin County Community Development Agency, April 2002.



environment of surrounding natural areas, such as the Pt. Reyes National Seashore. Higher pollution levels on summer days can result from stagnant atmospheric conditions during which emissions from motor vehicles and other sources have a potential to build up. Nocturnal inversions, where a mass of warmer air traps a cooler layer below it, can occur in Marin County at almost any time of year. These inversions can trap pollutants and allow levels closer to the ground to build up to unhealthy concentrations. Geographic and topographical features can augment inversions by inhibiting lateral air movement. Light winds and stable conditions during the late fall and winter contribute to the buildup of particulate matter (PM) and CO. Sources of winter air pollution include motor vehicles and residential wood combustion.

The closest continuous air monitoring station to the project site is operated in San Rafael by the BAAQMD. The highest local air pollutant levels measured over the past three years (2004 to 2006) are reported in Table 4.5-1. The air pollutants of greatest concern are ground-level ozone, PM<sub>10</sub>, and PM<sub>2.5</sub>, because health standards for these compounds are exceeded in the Bay Area. CO, lead, and NO<sub>2</sub> standards have been achieved, primarily through cleaner fuels, more efficient motor vehicles, and evolving regulations. As shown in Table 4.5-1, measurements of ozone and CO in San Rafael did not exceed air quality standards during the monitoring period (2004 to 2006). Measurements of PM<sub>10</sub> exceeded California air quality standards on one day in 2004.<sup>4</sup>

### C. Standards of Significance

Appendix G of the State CEQA Guidelines provides that, when available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make determinations of significance. The following are the significance criteria that the

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<sup>4</sup> Bay Area Air Quality Management District, *Bay Area Air Pollution Summary* – 2004.

TABLE 4.5-1 **MEASURED AIR POLLUTANT CONCENTRATIONS IN SAN RAFAEL (2004-2006)**

Pollutant	Avg. Time	National Ambient Air Quality Standard	California Ambient Air Quality Standard	Measured Levels		
				2004	2005	2006
San Rafael						
Ozone (O <sub>3</sub> )	1-Hour	–	0.09 ppm	0.09 ppm	0.08 ppm	0.09 ppm
	8-Hour	0.08 ppm	0.07 ppm	0.06 ppm	0.06 ppm	0.06 ppm
Carbon Monoxide (CO)	1-Hour	35 ppm	20 ppm	3.2 ppm	3.0 ppm	2.6 ppm
	8-Hour	9 ppm	9.0 ppm	2.0 ppm	1.7 ppm	1.5 ppm
Respirable Particulate	24-Hour	150 µg/m <sup>3</sup>	50 µg/m <sup>3</sup>	52 µg/m <sup>3</sup>	39 µg/m <sup>3</sup>	68 µg/m <sup>3</sup>
Matter (PM <sub>10</sub> )	Annual	50 µg/m <sup>3</sup>	20 µg/m <sup>3</sup>	17.9 µg/m <sup>3</sup>	16.5 µg/m <sup>3</sup>	18.1 µg/m <sup>3</sup>

Notes: ppm = parts per million  
µg/m<sup>3</sup> = Micrograms per cubic meter

Source: Bay Area Air Quality Management District (BAAQMD).

BAAQMD has established to determine project impacts. The proposed project would have a significant effect on the environment with respect to air quality if it would:

- ◆ Create substantial volumes of (PM<sub>10</sub>) airborne dust during construction;
- ◆ Cause or contribute to carbon monoxide (CO) concentrations exceeding the State Ambient Air Quality Standard of 9 parts per million (ppm) averaged over 8 hours or 20 ppm for one hour;
- ◆ Generate criteria air pollutant emissions in excess of the BAAQMD annual or daily thresholds of 15 tons/year or 80 pounds/day for reactive organic gases (ROG), nitrogen oxides (NO<sub>x</sub>), or PM<sub>10</sub>;

- ◆ Frequently expose members of the public to objectionable odors; or
- ◆ Expose sensitive receptors or the general public to substantial levels of toxic air contaminants.

Based on Appendix N of the Marin County Environmental Review Guidelines, the project may also have a significant impact related to air quality if the project would:

- ◆ Cause or contribute substantially to existing or projected air quality violations.
- ◆ Result in exposure of sensitive receptors (i.e. individuals with respiratory diseases, the young, the elderly) to substantial pollutant concentrations.
- ◆ Include toxic air contaminants (TAC's) that would cause a significant health risk above the Air Pollution Control District's level of significance, if any (e.g. cancer risk of more than one in a million).

#### *D. Impact Discussion*

This section discusses potential impacts on air quality from the proposed project. The numbered responses below correspond to the numbered BAAQMD criteria above.

##### *Short-Term Construction Impacts*

**Impact 4.5-A** Construction of the new homes could generate temporary emissions of PM<sub>10</sub> that could cause localized exceedances of ambient air quality standards and contribute to regional violations of the ambient air quality standards.

The BAAQMD significance threshold for construction-period air quality impacts is based on the appropriateness of construction dust controls that would

be implemented. The BAAQMD guidelines provide feasible PM<sub>10</sub> control measures for construction emissions.<sup>5</sup>

Construction air pollutant emissions occur in the form of both exhaust from equipment and dust produced by ground disturbance. Construction activities would generate emissions from the following construction activities: grading, construction worker travel to and from the project site, delivery and hauling of construction supplies and debris, fuel combustion by on-site construction equipment, and fugitive emissions from paints and solvents. Soil can also be tracked out onto paved roads where it is entrained in the air by passing cars and trucks.

The extent of dust emissions is related to the type and size of ground disturbance, meteorological conditions, and soil conditions. Construction activities can result in locally elevated concentrations of PM<sub>10</sub>, which can and affect regional levels of PM<sub>10</sub>. High levels of PM<sub>10</sub> can lead to adverse health effects, nuisance concerns among nearby sensitive receptors, and reduced visibility at residences located close to the project site. Although these construction-related emissions would be temporary in duration, and would be localized for the most part, the temporary impact on air quality is considered *potentially significant*.

### Mitigation Measures

4.5-A.1 During construction, the developer should implement all of the following measures that are feasible to control dust and PM<sub>10</sub> from construction activities:

- ◆ Water all active construction areas at least twice daily and more often during windy periods. Active areas adjacent to residences should be kept damp at all times.

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<sup>5</sup> Bay Area Air Quality Management District, *BAAQMD CEQA Guidelines Assessing the Air Quality Impacts of Projects and Plans*, page 15.

- ◆ Cover all hauling trucks or maintain at least 2 feet of freeboard. Dust-proof chutes should be used as appropriate to load debris onto trucks during demolition.
- ◆ Pave, apply water at least twice daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas.
- ◆ Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas and sweep streets daily (with water sweepers) if visible soil material is deposited onto the adjacent roads.
- ◆ Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously-graded areas that are inactive for ten days or more).
- ◆ Enclose, cover, water twice daily, or apply (non-toxic) soil binders to exposed stockpiles.
- ◆ Limit traffic speeds on any unpaved roads to 15 mph.
- ◆ Replant vegetation in disturbed areas as quickly as possible.
- ◆ Opacity is an indicator of exhaust particulate emissions from off-road diesel powered equipment. The project should ensure that emissions from all construction diesel powered equipment used on the project site do not exceed 40 percent opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately.
- ◆ The contractor shall install temporary electrical service as soon as possible to avoid the need for independently powered equipment (e.g. diesel-powered compressors).
- ◆ Diesel equipment standing idle for more than three minutes shall be turned off. This would include trucks waiting to deliver or receive soil, aggregate or other bulk materials. Rotating drum concrete trucks could keep their engines running continuously as long as they were on-site and away from residences.

- ◆ Properly tune and maintain equipment for low emissions.

### Impact Significance After Mitigation

The incorporation of these mitigation measures into the project would reduce the air quality impacts of construction emissions to a *less-than-significant* level.

#### Carbon Monoxide Air Quality Impacts

**Impact 4.5-B** Vehicle trips to and from the project site on local roadways could result in an increase in levels of carbon monoxide.

For local air quality impacts, CO is the pollutant of primary concern. Violations of an ambient CO air quality standard, either 1-hour or 8-hour, would be considered a significant impact. Elevated CO concentrations are usually associated with roadways that are congested with heavy traffic volumes. A CO hotspot is an area, typically an intersection, where air quality standards would be exceeded from vehicle emissions under congested conditions. Elevated background CO levels contribute to the localized impacts of motor vehicle emissions at a congested area. Typically, traffic at a specified congested intersection with very high traffic volumes has to increase by 10 percent or more for a CO hotspot to occur.<sup>6</sup> According to the traffic analysis completed for the proposed project, included in Section 4.6 of this Draft EIR, traffic volumes on local streets will not increase by more than 15 trips in any peak hour period. These volumes would not cause congestion at any intersection where it does not already exist. Therefore, no CO standard violations are anticipated and any impacts to local air quality would be *less than significant*.

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<sup>6</sup> Marin Countywide Plan, Air Quality Technical Background Report. Marin County Community Development Agency, April 2002.

Regional Air Quality Impacts

**Impact 4.5-C The project would contribute to ozone precursor emissions within the region.**

Ozone precursor emissions, i.e. reactive organic gases and nitrogen oxides, are considered regional air pollutants. PM<sub>10</sub> emissions from traffic are also known to affect air quality on a regional basis. Quantitative thresholds for operational emissions are shown in Table 4.5-2. These thresholds are from the BAAQMD CEQA Guidelines. Operation of the proposed project would have a significant impact on regional air quality if the combined emissions exceeded a threshold for any of the criteria pollutants (ROG, NO<sub>x</sub>, PM<sub>10</sub>) identified in Table 4.5-2. Operational emissions from the project would be those associated with vehicle trips, the operation of interior heating, air conditioning, and laundry equipment, and maintenance and upkeep of the residences and grounds.

While these factors would collectively contribute to emissions of each of the criteria pollutants, the types and aggregate volumes of emissions generated by the project during its operation would not approach or exceed the pounds/day threshold identified in Table 4.5-2. This conclusion is supported by a review of the Project Screening section in the BAAQMD CEQA Guidelines. Table 6 in BAAQMD Guidelines identifies the size of different projects likely to generate 80 pounds per day (lb/day) of NO<sub>x</sub>. For single-family residences, a project would need to include 320 units to approach or exceed the 80 lb/day threshold, which is 97 percent more houses than the 12 proposed single-family homes. For a multi-family housing, a project would need to include 510 units to approach the 80 lb/day threshold, which is 99 percent more than the two units that would include accessory dwelling units.<sup>7</sup>

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<sup>7</sup> BAAQMD 1999 CEQA Guidelines, Table 6, Projects with Potentially Significant Emissions, page 25.

TABLE 4.5-2 **BAAQMD OPERATIONAL EMISSION THRESHOLDS**

<b>Pollutant</b>	<b>Pounds per Day Threshold</b>
Reactive Organic Gases (ROG)	80
Nitrogen Oxide (NO <sub>x</sub> )	80
Particulate Matter <sub>10</sub> (PM <sub>10</sub> )	80

Source: BAAQMD CEQA Guidelines, Table 3, page 16.

Furthermore, based on consultation with the Air Quality Management District, the threshold for NO<sub>x</sub> is the most likely of the three criteria pollutants to be exceeded first. Threshold levels for ROG and PM<sub>10</sub> are generally less likely to be exceeded.<sup>8</sup>

As a result, emissions from operation of the project would be well below the BAAQMD thresholds for regional criteria pollutants and have a *less-than-significant* impact on regional air quality.

#### Objectionable Odors

**Impact 4.5-D** Objectionable odors may be created on the site during project construction.

The project does not include uses that would expose its occupants or other members of the public to objectionable odors, which more typically associated with certain types of commercial or industrial uses. The usage of certain materials during construction, such as sealants and adhesives could result in the localized emission of odors, however the use of such materials would be

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<sup>8</sup> Greg Tholen, Senior Environmental Planner, Bay Area Air Quality Management District, personal communication with DC&E, April 26, 2007.



intermittent and the areas exposed to such odors would be largely limited to the site. It is not expected that the volume or intensity of use of odorous materials would be such that downwind areas would be adversely affected. As a result, impacts related to objectionable odors would be *less than significant*.

#### Toxic Air Contaminants

#### **Impact 4.5-E The operation of diesel-powered construction equipment would generate toxic air contaminants.**

The project does not include any uses that would result in the exposure of sensitive receptors or the general public to substantial levels of toxic air contaminants. Diesel emissions would be generated by construction equipment during activities such as excavation, grading, and movement of fill on-site. However, these emissions would be limited to the construction period and the use of diesel equipment during construction would be intermittent. Furthermore, as required by Mitigation Measure AIR-1, the contractor would be required to ensure that emissions from all diesel powered construction equipment used on the project site do not exceed 40 percent opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately.<sup>9</sup> In addition, Mitigation Measure AIR-1 requires that the contractor shall install temporary electrical service as soon as possible to avoid the need for independently powered equipment (e.g. diesel-powered compressors).

During operation, emissions from motor vehicles and home utility equipment (e.g. furnaces and air conditioners) would not constitute substantial levels of toxic air contaminants. As a result, potential impacts related to exposure to toxic air contaminants would be *less than significant* during both construction and operation.

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<sup>9</sup> Opacity refers to the state of being impenetrable to light. The Ringelmann scoring refers to a chart which is used to determine whether emissions of smoke (judging its darkness or opacity) are within allowable limits.

#### *E. Cumulative Impacts*

This section analyzes potential impacts that could occur from a combination of the proposed project with other reasonably foreseeable projects in the near vicinity. The list of projects considered in this section is shown in Chapter 4.0.

#### *Cumulative Regional Air Quality Impacts*

**Impact 4.5-F Emissions from development of the project are not expected to exceed BAAQMD thresholds.**

The project would contribute to cumulative emissions in Marin County and the Bay Area Region. However, as stated in response to criteria 3), the proposed project would not have a significant impact to regional air quality since the predicted increase in emissions of ozone precursor pollutants and PM<sub>10</sub> is below the BAAQMD thresholds. Because the project would not, by itself, result in a significant impact to air quality during either construction or operation, the project would not make a substantial contribution to a cumulative impact. A *less-than-significant* cumulative impact would occur.

#### *Cumulative Green House Gas Emissions*

##### a. Global Climate Change<sup>10</sup>

Most scientists believe global climate change (GCC) to be caused by green house gases (GHG), which are gases that trap heat in the atmosphere. Briefly stated, GCC is a change in the average weather of the earth that may be measured by changes in wind patterns, storms, precipitation, and temperature. The baseline by which these changes are measured originates in histori-

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<sup>10</sup> Association of Environmental Professionals, Alternative Approaches to Analyzing Greenhouse Gas Emissions and Global Climate Change in CEQA Documents, June 29, 2007.

cal records identifying temperature changes that have occurred in the past, such as during previous ice ages.

The United Nations Intergovernmental Panel on Climate Change (IPCC) has constructed several GHG emission trajectories needed to stabilize global temperatures and trigger climate change impacts. The IPCC predicted that the range of global mean temperature change from 1990 to 2100, given six scenarios, could range from 1.1 degrees Centigrade (°C) to 6.4°C. Regardless of analytical methodology, global average temperature and sea level are expected to rise under all scenarios.<sup>11</sup>

b. Greenhouse Gases<sup>12</sup>

Common GHG include water vapor, carbon dioxide, methane, nitrous oxides, chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, ozone, and aerosols. Natural processes and human activities emit GHG. The accumulation of GHG in the atmosphere regulates the earth's temperature. Without the natural heat trapping effect of GHG, the earth's surface would be about 34°C cooler.<sup>13</sup> However, it is believed that emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

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<sup>11</sup> Intergovernmental Panel on Climate Change. 2007. R.B. Alley, et al. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Summary for Policymakers. [www.ipcc.ch/WG1\\_SPM\\_17Apr07.pdf](http://www.ipcc.ch/WG1_SPM_17Apr07.pdf).

<sup>12</sup> Association of Environmental Professionals, Alternative Approaches to Analyzing Greenhouse Gas Emissions and Global Climate Change in CEQA Documents, June 29, 2007.

<sup>13</sup> State of California, Final 2006 Climate Action Team Report to the Governor and Legislature, 2006.

c. Current Regulatory Setting<sup>14</sup>

California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The latest amendments were made in October 2005 and currently require new homes to use half the energy they used only a decade ago. Energy efficient buildings require less electricity, and electricity production by fossil fuels results in greenhouse gas emissions. Therefore, increased energy efficiency results in decreased greenhouse gas emissions.

California Assembly Bill 1493 enacted on July 22, 2002, required the California Air Resources Board (CARB) to develop and adopt regulations that reduce GHG emitted by passenger vehicles and light duty trucks. Regulations adopted by CARB will apply to 2009 and later model year vehicles. In 2004 CARB estimated that the regulation will reduce climate change emissions from light duty passenger vehicle fleet by an estimated 18 percent in 2020 and by 27 percent in 2030. California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels. The California Climate Action Team's (CAT) Report to the Governor contains recommendations and strategies to help ensure the targets in Executive Order S-3-05 are met.

In 2006, the California State Legislature adopted AB 32, the California Global Warming Solutions Act of 2006 and the Governor signed it into law. AB 32 focuses on reducing GHG in California. GHG as defined under AB 32 include: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, per-

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<sup>14</sup> Association of Environmental Professionals, Alternative Approaches to Analyzing Greenhouse Gas Emissions and Global Climate Change in CEQA Documents, June 29, 2007.

fluorocarbons, and sulfur hexafluoride. AB 32 requires CARB to adopt rules and regulations that would achieve greenhouse gas emissions equivalent to statewide levels in 1990 by 2020. On or before June 30, 2007, CARB is required to publish a list of discrete early action GHG emission reduction measures that can be implemented by 2010. AB 32 also requires that by January 1, 2008, the State Board determines what the statewide greenhouse gas emissions level was in 1990, and approve a statewide greenhouse gas emissions limit that is equivalent to that level, to be achieved by 2020.

CARB published its Proposed Early Actions to Mitigate Climate Change in California, which describes recommendations for discrete early action measures to reduce GHG emissions. The measures will become part of California's strategy for achieving GHG reductions under AB 32. CARB estimates that by 2020, the reductions from those three measures would be approximately 13 to 26 million metric tons of carbon dioxide equivalent.

Executive Order S-01-07 was approved by the Governor on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. It also requires that a Low Carbon Fuel Standard for transportation fuels be established for California.

d. Inventory<sup>15</sup>

In 2004 it was estimated that total worldwide GHG emissions was 20,135 teragrams (Tg) CO<sub>2</sub> Eq., excluding emissions/removals from land use, land use change, and forestry.<sup>16</sup> In 2004, GHG emissions in the U.S. were 7074.4

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<sup>15</sup> Association of Environmental Professionals, Alternative Approaches to Analyzing Greenhouse Gas Emissions and Global Climate Change in CEQA Documents, June 29, 2007.

<sup>16</sup> United Nations Framework Convention on Climate Change. 2006. Greenhouse Gas Emissions Data, Predefined Queries, Annex I Parties - GHG total without LULUCF (land use, land-use change, and forestry).

[http://unfccc.int/ghg\\_emissions\\_data/predefined\\_queries/items/3841.php](http://unfccc.int/ghg_emissions_data/predefined_queries/items/3841.php)

Tg CO<sub>2</sub> Eq.<sup>17</sup> In 2005, total U.S. GHG emissions were 7,260.4 Tg CO<sub>2</sub> Eq., a 16.3 increase from 1990 emissions. Emissions rose from 2004 to 2005, increasing by 0.8 percent. The main causes of the increase were strong economic growth in 2005, leading to increased demand for electricity and an increase in the demand for electricity due to warmer summer conditions.<sup>18</sup> However, a decrease in demand for fuels due to warmer winter conditions and higher fuel prices moderated the increase in emissions.<sup>19</sup>

California is a substantial contributor of GHG as is estimated by the California Energy Commission (CEC) to be the second largest contributor in the U.S. and the sixteenth largest in the world. In 2004, California produced 492 Tg CO<sub>2</sub> Eq., which is approximately seven percent of U.S. emissions.<sup>20</sup> The major source of GHG in California is transportation, contributing 41 percent of the State's total GHG emissions. Electricity generation is the second largest source, contributing 22 percent of the State's GHG emissions.

e. GHG and Marin County

The 2007 Marin Countywide Plan includes a target for reducing greenhouse gas emissions by 15 percent by 2015 and for County government sources 15

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<sup>17</sup> U.S. Environmental Protection Agency, Office of Atmospheric Programs. April 2006. The U.S. Inventory of Greenhouse Gas Emissions and Sinks: Fast Facts. <http://epa.gov/climatechange/emissions/downloads06/06FastFacts.pdf>

<sup>18</sup> U.S. Environmental Protection Agency. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2005. Executive Summary. April 2007. USEPA #430-R-07-002 <http://www.epa.gov/climatechange/emissions/usinventoryreport.html>

<sup>19</sup> U.S. Environmental Protection Agency. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2005. Executive Summary. April 2007. USEPA #430-R-07-002 <http://www.epa.gov/climatechange/emissions/usinventoryreport.html>

<sup>20</sup> California Energy Commission. December 2006. Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004. Staff Final Report. CEC-600-2006-013-SF. <http://www.energy.ca.gov/2006publications/CEC-600-2006-013/CEC-600-2006-013-SF.PDF>

to 20 percent.<sup>21</sup> To achieve these targets, the Countywide Plan contains numerous goals, policies, and programs that would help minimize carbon dioxide and other greenhouse gas emissions. New projects, such as that proposed, need to be assessed as to how they affect the County's ability to meet this target.

The Single-Family Residential Design Guidelines of Marin County require that new construction include provisions to reduce energy demand. Through the implementation of various design and construction techniques, new residential units are rated to ensure environmental efficiency. The minimum points required is determined by the size of the project, and achieving that number will result in the project becoming “certified.” New projects have the ability to achieve higher standards of certification, including “platinum,” “gold,” and “silver” further by increasing energy efficiency design components. The project is consistent with the Countywide Plan. Design Guidelines applied for this project are expected to adequately reduce this project’s incremental contribution to green house gas, consistent with the Countywide Plan policy.

**Impact 4.5-G Emissions from the project and other development in the County would generate greenhouse gases that would contribute to global warming.**

Manufacturing of materials to be used for project construction, construction of the Project, future residential use of the site including consumption of materials and energy, and vehicle trips to and from the site would all generate GHG that would contribute to climate change. The project as proposed would generate GHG more than many other types of new housing for at least the following reasons:

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<sup>21</sup> Marin Countywide Plan, The Natural Systems and Agriculture Element, page 2-110.

- ◆ Residences may require more energy to heat and cool, thereby generating more GHG than smaller homes. The average size of the new homes, not including the two secondary units, would be 2,937 square feet.
- ◆ It is expected that the homes would include landscaping, which would require more water than smaller home sites. Pumping and treatment of water generates GHG.
- ◆ The project would remove 53 mature trees from the site. Disposal, including burning, of these trees would generate GHG. The trees themselves are carbon sinks. However, the project will be responsible for replanting new trees, which would over time offset the loss of the on-site trees.
- ◆ The project location is such that vehicle trips would be required to access shopping, schools, employment centers, and other destinations, thereby motor vehicles are significant generators of GHG.

Despite these factors, the project's contribution to GHG would be negligible in relation to that generated by current and future development occurring in Marin County or on a larger scale (e.g. statewide, nationally). The project represents an incremental component in the cumulative development of the County and statewide that would contribute to GHG and global warming. The project's negligible contribution is due in part to its consistency with the Countywide Plan. Consistent with the Plan, Design Guidelines applied to this project are expected to adequately reduce this project's incremental contribution to green house gas to a negligible level.

Furthermore, the project applicant completed a GreenPoint Rated checklist<sup>22</sup> to evaluate the energy efficiency of the project. GreenPoint Rated is an assessment tool developed by Build It Green to rate a development in terms of efficiency and green features and assigns points for different features incorporated into a project. In order for a construction project to be certified as

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<sup>22</sup> Built It Green, GreenPoint Rated, website, <http://www.builditgreen.org/greenpointrated>, accessed on April 9, 2008.



GreenPoint Rated, a minimum of 50 points must be achieved. The project surpassed the minimum and achieved 90 points. As a result, the project would utilize energy, oil and natural gas in an efficient manner. For further discussion of energy conservation and efficiency, please refer to Chapter 4.12, Energy Conservation, of this EIR.

Based on the nature and scope of the project in relation to other cumulative development in the County and at a larger scale (e.g. statewide or nationally), and the inclusion of energy-efficiency components, the project would have a *less-than-significant* cumulative impact on green house gas emissions and global climate change.

COUNTY OF MARIN  
650 NORTH SAN PEDRO ROAD EIR  
AIR QUALITY

## 4.6 TRAFFIC AND CIRCULATION

This section addresses traffic conditions on North San Pedro Road near the project site and at three nearby intersections: North San Pedro Road at Merrydale Road, at Civic Center Drive and at Meadow Drive. The intersections to be analyzed were identified through direct coordination with the Marin County Department of Public Works.<sup>1</sup>

### *A. Regulatory Setting*

#### **1. Marin County Code**

This section utilizes the County's significance standards for traffic impacts, including the level of service standard for intersection operation. The County of Marin has established level of service (LOS) D as the minimum acceptable intersection service level.<sup>2</sup>

Marin County Code Title 24 parking standards applicable to this project require two on-site spaces per single family dwelling unit. The Code also requires that each second unit also have two on-site spaces per unit.<sup>3</sup>

#### **2. Marin Countywide Plan**

The Marin Countywide Plan is the County's long range guide for use of land and protection of natural resources. The Plan, adopted in November 2007, establishes policies and programs to be used by the public, planning staff, and decision makers when reviewing and analyzing proposed development. The Plan balances current and future needs for urban, rural and natural uses throughout Marin County. The Plan provides specific policy direction in regards to maintaining transportation service standards, improvements, shar-

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<sup>1</sup> Nutt, Jason. Marin County Department of Public Works, Traffic Operations Division, memo to Tim Haddad, Marin County Environmental Coordinator, dated July 7, 2004.

<sup>2</sup> Marin Countywide Plan, Built Environment Element, page 3-147.

<sup>3</sup> Marin County Code, Title 24, Sec. 24.04.340 (b).

ing the cost for improvements, and managing travel demand for land in unincorporated areas of Marin County.

### **3. Marin County Code Title 15.07**

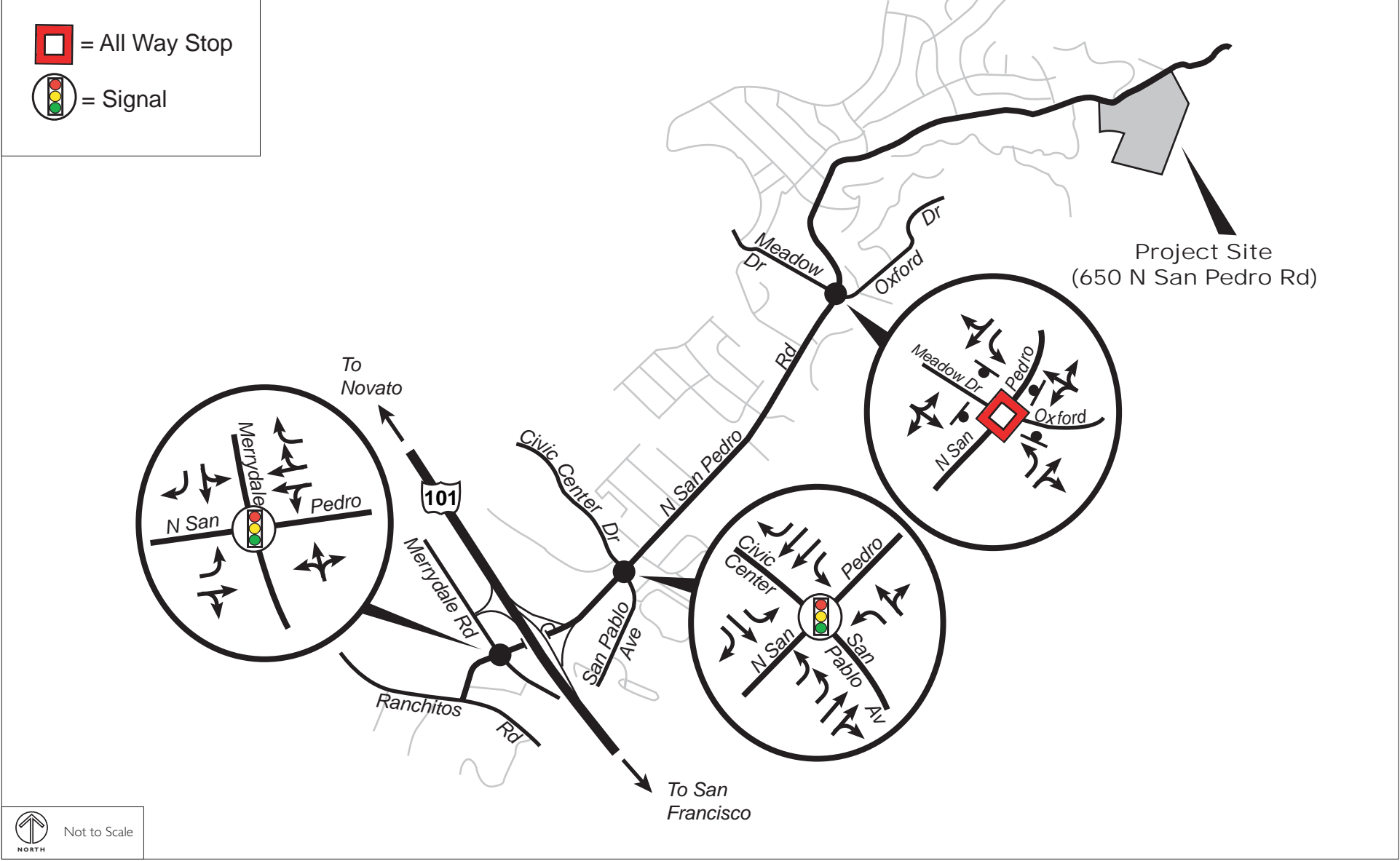
Title 15.07 of the Marin County Code establishes the use of public transportation facilities fees to pay for needed public transportation facilities. The fees are established on the issuance of development permits for development in the County to pay for needed public transportation facilities and improvements.

## ***B. Existing Setting***

### **1. Roadways and Driveways**

Regional access to the project site is provided by North San Pedro Road and its interchange with U. S. Highway 101. As shown on Figure 4.6-1, the three intersections studied in this section are along North San Pedro Road between the project site and Highway 101. The following are the main roadways in the project vicinity, which are shown on Figure 4.6-1.

- ◆ **North San Pedro Road** is a two-lane, east-west roadway that serves the Marin Civic Center and the north side of the San Pedro Peninsula. At the project site the roadway consists of two 10-foot-wide travel lanes, 2-foot or less wide unpaved shoulders, no parking, and no pedestrian or bicycle routes. The roadway climbs at approximately an 8 percent grade from west to east just west of the project site's existing, westerly driveway. Roadway alignment is curvilinear and sight distance is somewhat restricted at the project site. In the vicinity of the project site, the posted speed limit is 30 miles per hour (mph). A traffic count and speed study conducted on North San Pedro Road east of Point Gallinas Road was conducted by Marks Traffic Data in January 2007 and found a daily traffic count of 880 total vehicles, which included both eastbound and westbound traffic, and the 85<sup>th</sup> percentile speed over a two day period to be



Source: Robert L. Harrison Transportation Planning

FIGURE 4.6-1  
TRAFFIC INTERSECTIONS

34.5 mph.<sup>4</sup> Due to the proximity of China Camp State Park, traffic counts are known to be 10 to 15 percent higher in the Summer as compared to Winter conditions.

- ◆ **Merrydale Road** is a north-south undivided two-lane collector street running parallel to Highway 101. Merrydale Road provides the connection from North San Pedro Road to and from southbound Highway 101.
- ◆ **Civic Center Drive** is a north-south divided arterial north of North San Pedro Road that provides access to the Marin Civic Center. The street is four lanes wide at its intersection with North San Pedro Road.
- ◆ **San Pablo Avenue** is a north-south undivided two lane local road that forms the fourth leg of the intersection of North San Pedro Road and Civic Center Drive.
- ◆ **Meadow Drive** is a two-lane north-south residential street that provides access to much of the Santa Venetia neighborhood.
- ◆ **Oxford Drive** forms the fourth leg of the intersection of North San Pedro Road and Meadow Drive. Oxford Drive is a two-lane undivided local street that provides access to small neighborhood shopping center and a residential area.

## 2. Traffic Volumes

Weekday AM peak period (7:00 to 9:00 a.m.) and PM peak period (4:00 to 6:00 p.m.) turning movement traffic counts were conducted in June 2005. These counts were found to be about 10 percent higher than more recent counts conducted in January 2007. The January 2007 counts were conducted from 4:00 p.m. to 6:00 p.m. Daily counts were also collected in 2007 on January 4th and 5th for 24-hour periods. The higher June 2005 counts are used in this analysis in order to provide a more conservative baseline against

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<sup>4</sup> The 8<sup>th</sup> Percentile speed is the speed at or below which 85% of vehicles are moving. It is frequently used in traffic engineering as the design speed.

which to compare project trip estimates.<sup>5</sup> Existing peak hour volumes are shown in Figure 4.6-2.

### 3. Intersection Operation

Intersection capacity is typically the controlling factor in the operation of a developed area street system. Intersection operation is graded using the letter grades A through F where LOS A and B indicate little or no congestion and LOS E and F indicate severe congestion and long delays for motorists. A description of level of service for signalized and unsignalized intersections is shown in Table 4.6-1. Level of service at signalized and at 4-way stop control intersections is reported as an average condition for all vehicles entering the intersection. Existing level of service of six intersections in the vicinity of the project site is shown in Table 4.6-2.

As shown in Table 4.6-2, the two signalized intersections studied currently operate at LOS C in both the AM and PM peak hours. The four-way stop controlled intersection studied operates at LOS B in both the AM and PM peak hour. LOS B and LOS C are acceptable service levels because the County's minimum acceptable condition is LOS D.

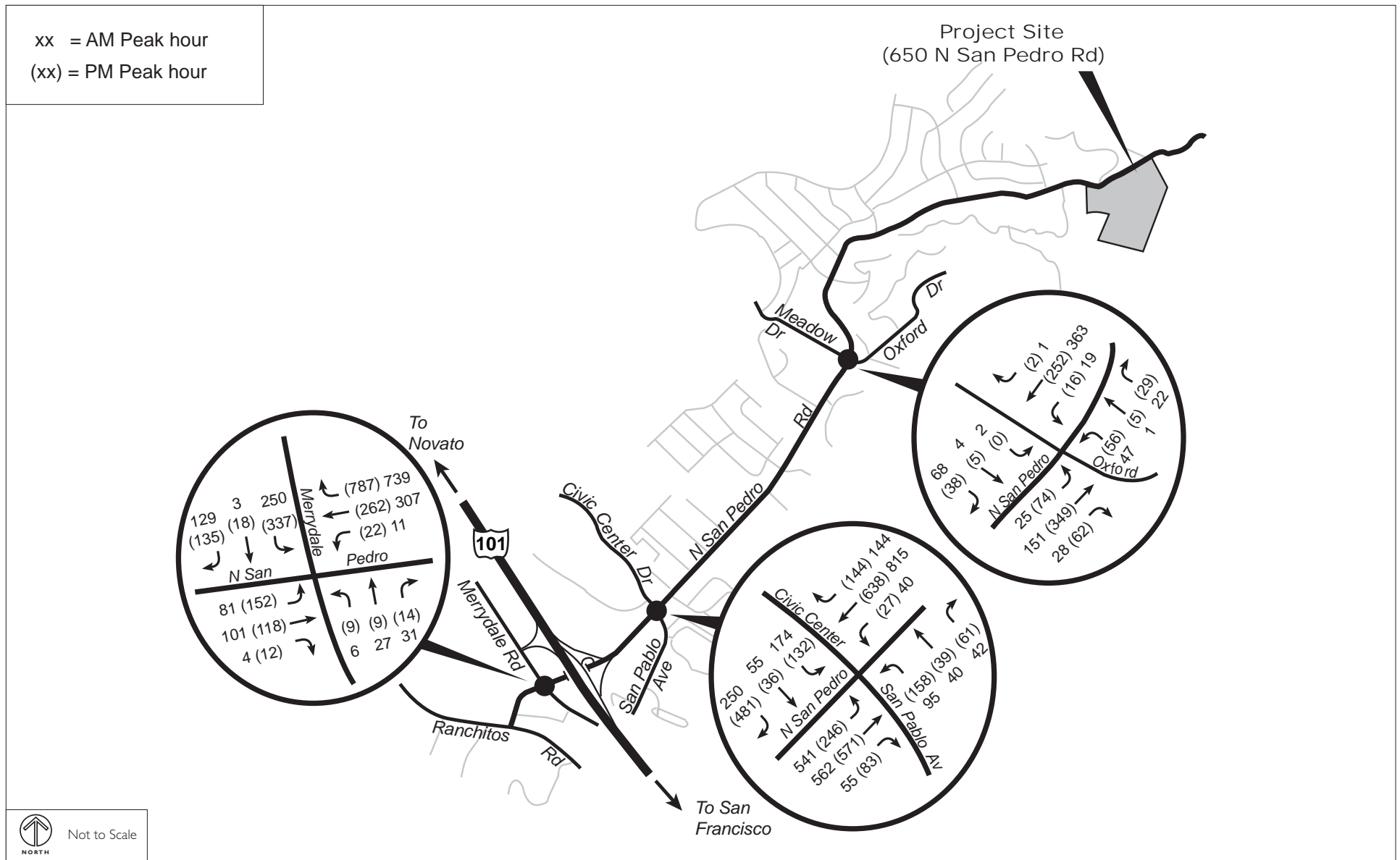
### 4. Signal Warrant Evaluation

Traffic signals are used to provide an orderly flow of traffic through an intersection. In many instances, signals are needed to offer side-street traffic an opportunity to access a major road where high volumes and/or high vehicle speeds block crossing or turn movements. Signals can also cause an increase in traffic accidents if installed at inappropriate locations.

There are eight possible tests for determining whether a traffic signal should be considered for installation. These tests, called "warrants," consider criteria such as actual traffic volume, pedestrian volume, presence of school children

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<sup>5</sup> Robert Harrison Transportation Planning, written communication received by DC&E on January 16, 2008.



Source: Robert L. Harrison Transportation Planning

FIGURE 4.6-2  
EXISTING PEAK HOUR VOLUMES



TABLE 4.6-1 **DEFINITION OF INTERSECTION LEVEL OF SERVICE**

Level of Service	Signalized	Unsignalized	Description
	Delay (Seconds/ Vehicle)	Delay (Seconds/ Vehicle)	
A	0 – 10.0	0 – 10.0	Little or no congestion and delay.
B	10.1 – 20.0	10.1 – 15.0	Short term congestion and delay.
C	20.1 – 35.0	15.1 – 25.0	Average congestion and delay.
D	35.1 – 55.0	25.1 – 35.0	Longer but acceptable congestion and delay.
E	55.1 – 80.0	35.1 – 50.0	Very long unacceptable congestion and delay.
F	> 80.0	> 50.0	Extreme unacceptable congestion and delay.

Source: Transportation Research Board, Highway Capacity Manual 2000.

and accident history.<sup>6</sup> Usually, two or more warrants must be met before a signal is installed. The data available for this report is sufficient to study the Peak Hour volume warrant, Warrant 3. When Warrant 3 is met there is a strong indication that an analysis covering all eight warrants is appropriate. This comprehensive analysis is described in the *2003 Manual on Uniform Traffic Control Devices* by the Federal Highway Administration.

The North San Pedro Road intersection with Meadow/Oxford Drives serves as an indicator for traffic volumes at other intersections in the vicinity of the project site because all traffic is funneled through this intersection if traveling east-west on North San Pedro Road. Currently, traffic volumes at the North San Pedro Road intersection with Meadow/Oxford Drives do not meet the Peak Hour signal warrant criteria during either the weekday AM or PM peak traffic hours.

<sup>6</sup> Caltrans 2003 Manual on Uniform Traffic Control Devices, Chapter 9 – Traffic Signals and Lighting. Paragraph 9-01.2 Traffic Signal Warrants.

TABLE 4.6-2 INTERSECTION LEVEL OF SERVICE, EXISTING AND EXISTING + PROJECT CONDITIONS

Intersection of North San Pedro Road with:	Existing		Existing + Project	
	LOS	Delay (Seconds/ Vehicle)	LOS	Delay (Seconds/ Vehicle)
<i>Weekday AM Peak Hour</i>				
Merrydale Road (Signalized)	C <sup>a</sup>	20.9	C	20.9
Civic Center Drive / San Pablo Avenue (Signalized)	C	25.9	C	25.9
Meadow Drive / Oxford Drive (4-way Stop Control)	B	11.4	B	11.6
<i>Weekday PM Peak Hour</i>				
Merrydale Road (Signalized)	C <sup>a</sup>	22.9	C	22.9
Civic Center Drive / San Pablo Avenue (Signalized)	C <sup>a</sup>	27.6	C	27.7
Meadow Drive / Oxford Drive (4-way Stop Control)	B	12.7	B	13.0

<sup>a</sup> Based on consultation with the City of San Rafael in November, 2008, the Level of Service (LOS) at these three intersections was identified as B. The LOS at these intersections was LOS C when the project traffic analysis was originally completed. As confirmed by the project traffic consultant, R.L. Harrison Transportation Consulting, regardless of the LOS at these intersections, project trip volumes (from 650 North San Pedro Road) would not be such that LOS would degrade from one level to another at these intersections, whether that be B to C or C to D. As stated in this section, the volume of project trips would be negligible in relation to exiting traffic loads at these intersections and LOS would not worsen from B to C. Average delay per vehicle would be increased by no more than 0.3 seconds at any of the intersections studied due to the addition of project traffic.

Source: Robert L. Harrison Transportation Planning.

## 5. On-Street Parking Supply

There is no on-street parking available near the project site. The roadway pavement on North San Pedro Road is just 20 feet wide and the unpaved shoulders are 3 feet or less in width and thus cannot support any on-street parking.

## 6. Transit Service

There is no regularly scheduled public transit service to the project site. The nearest bus stop is about 1,100 feet west of the site at the intersection of Vendola Drive and North San Pedro Road. Service is provided to this stop by the Marin County Transit Local Shuttle 233 on an hourly schedule from 7:28 to 10:28 a.m. and from 2:28 to 5:28 p.m., on weekdays only.

## C. Standards of Significance

The proposed project would have a significant impact related to traffic and circulation if it would:

- ◆ Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections).
- ◆ Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways.
- ◆ Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- ◆ Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- ◆ Result in inadequate emergency access.
- ◆ Result in inadequate parking capacity.

- ◆ Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

Based on Appendix N of the Marin County Environmental Review Guidelines, the project may also have a significant impact related to transportation and circulation if the project would:

- ◆ Significantly impact intersection level of service resulting in an unacceptable service level (e.g. below LOS D).
- ◆ Not provide adequate parking and internal circulation capacity to accommodate projected traffic so that off-site areas are not adversely affected.
- ◆ Not include provisions for pedestrian and bicycle circulations and bicycle and motorcycle parking and security.

#### *D. Impact Discussion*

##### Roadway Operations

**Impact 4.6-A** During the AM or PM peak hour, the volume of truck trips required could result in a substantial, temporary increase of truck trip volumes on San Pedro Road in relation to existing conditions. The increase, although temporary, would be notable in relation to the existing traffic load.

Project trip-related trip volumes were estimated using the Institute of Transportation Engineers (ITE) publication, Trip Generation. For ITE Land Use 210, Single-Family Detached Housing, the average trip rates are 9.57, 0.75 and 1.01 trip ends per dwelling unit for the daily, AM peak hour and PM peak hour time periods, respectively.

The project would include 12 detached single family residences and two detached second units. For the purposes of estimating trip generation and to ensure project trips are not underestimated, the second units were considered equivalent to the primary single family units. Using the ITE rates, the 14 dwelling unit project would generate 134 daily, 11 AM peak hour and 15 PM peak hour trips. Project trip generation estimates are shown in Table 4.6-3.

As stated in the Project Description, site preparation will include excavation, grading and off-hauling of ~~5,735~~ 4,500 cubic yards of soil from the project site. For purposes of this analysis, it is assumed that earthwork and clearing will take place over the course of five months or 100 working days. Assuming that each truck will have a capacity of 20 cubic yards, approximately ~~287~~ 225 truck trips (round trips) would be sufficient to remove ~~5,735~~ 4,500 yards of soil.

Exporting soil from the project site would not necessarily require consecutive days of truck trips because soil can be stockpiled on-site. Truck trips could be staggered to avoid a concentrated period of trips over the course of 100 working days. Over the course of five months, the addition of approximately 287 total truck trips to the existing street system would increase vehicle trips and congestion at intersections depending on how many truck trips occur each day. For example, staggering truck trips to and from the project site could result in five roundtrip truck trips to the site each day for 58 working days or ten trips over approximately 29 days. The volume of truck trips required could result in a substantial, temporary increase of truck trip volumes on San Pedro Road in relation to existing conditions. The increase, although temporary, would be notable in relation to the existing traffic load. As a result, a *significant* impact would occur.

TABLE 4.6-3 PROJECT TRIP GENERATION

Project	Quantity/Use	Weekday AM Peak Hour Trips				Weekday PM Peak Hour Trips			
		Inbound		Outbound		Inbound		Outbound	
		Rate/ Unit <sup>a</sup>	Volume	Rate/ Unit <sup>a</sup>	Volume	Rate/ Unit <sup>b</sup>	Volume	Rate/ Unit <sup>b</sup>	Volume
650 North San Pedro Road	12 Single-Family Residences	0.19	3	0.56	8	0.64	9	0.37	6
	Two Second Unit Residences								
<b>Total Volume</b>			<b>3</b>		<b>8</b>		<b>9</b>		<b>6</b>

<sup>a</sup> When the Weekday AM Inbound Rate/Unit of 0.19 is combined with the AM Outbound Rate/Unit of 0.56, it totals 0.75 daily trip ends per dwelling unit.

<sup>b</sup> When the Weekday PM Inbound Rate/Unit of 0.64 is combined with the PM Outbound Rate/Unit of 0.37, it totals 1.01 daily trip ends per dwelling unit.

Source: Robert L. Harrison Transportation Planning.

## Mitigation Measures

4.6-A.1 The applicant should be required to develop a traffic management plan that includes the following provisions:

- ◆ Truck trips to and from the site for purposes of transporting fill would be prohibited during AM and PM peak hours;
- ◆ No more than two trucks would be allowed to receive soil from the project site at one time;
- ◆ In the event of lane closures in front of the project site for purposes of truck parking, an adequate number of flaggers and the appropriate signage would be required to ensure the safe passage of vehicles, bicyclists, and pedestrians.
- ◆ If construction activity, equipment, vehicles and/or material delivery and storage cause damage to any existing facility (e.g. pavement, curb, gutter, sidewalk, landscaping) beyond normal wear and tear, as determined by the agency, then the permitted shall be responsible for the repair of the same. In order to ensure repair, the agency may require cash deposits prior to issuance of permits or may place holds on interim or final inspections.
- ◆ The applicant should identify locations for contractor parking on site for the duration of the construction period so that spillover parking does not occur along North San Pedro Road or on adjacent streets (e.g. Pt. Gallinas Road).
- ◆ Trucks that would be used to haul earthen material away from the site should be used to transport replacement trees to the site.
- ◆ The applicant should be required to use trucks with a capacity of at least 20 cubic yards (cy) in order to limit the amount of truck trips.

### **Impact Significance after Mitigation**

The implementation of this mitigation measure would reduce the impact to a *less-than-significant* level.

#### **Impact 4.6-B The project would increase existing traffic load.**

Project trips are assigned to each study intersection using the existing turning movements as a guide. All project trips are assumed to enter and leave the project site on North San Pedro Road to and from the west. All project trips would pass through the Meadow / Oxford Drives intersection on an east-west route. About 60 percent of project trips would use the Highway 101 freeway south, about 20 percent would use the freeway north, about 15 percent would use Civic Center Drive and about 5 percent would travel on North San Pedro Road through to Ranchitos Road. Project trip assignment is shown on Figure 4.6-3.

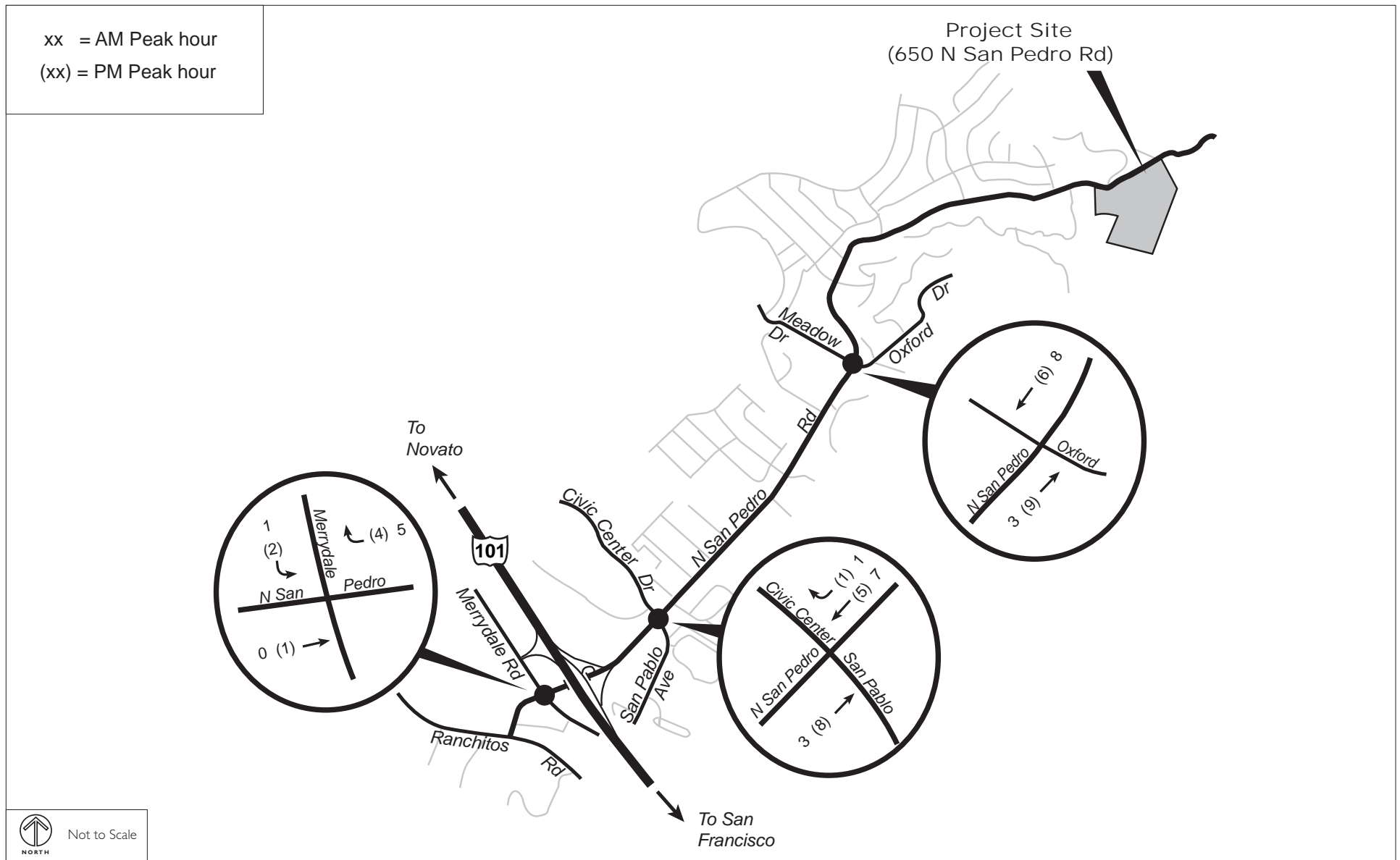
During the operational phase, the project would add no more than 15 trips to existing traffic loads in any peak hour at the only unsignalized intersection studied, North San Pedro Road with Meadow/Oxford Drives. This increase in traffic would not be sufficient to fulfill the peak hour signal warrant at this intersection.

The project would result in a *less-than-significant* impact to the existing traffic load and capacity of the street system.

#### **Impact 4.6-C Increase of service on existing roadways.**

The project impact on intersection level of service is shown in Table 4.6-2. The project would not degrade the existing satisfactory level of service at any of the intersections studied. Average delay per vehicle would be increased by no more than 0.3 seconds at any of the intersections studied due to the addition of project traffic. As a result, the project would not exceed the County





Source: Robert L. Harrison Transportation Planning

FIGURE 4.6-3  
TRIP ASSIGNMENT

level of service standard (LOS D) either by itself or in combination with other projects. Therefore, a *less-than-significant* impact would occur.

### Air Traffic

#### **Impact 4.6-D Air traffic patterns.**

The project would not result in changes to existing air traffic patterns. Private aircraft associated with the San Rafael Airport, which is the closest aviation facility to the project site, and located approximately one mile to the northwest, would be traveling on a flight path that would avoid any possible safety impacts associated with glare or obstructions. No other potential impacts to air traffic would occur. Therefore, *no impact* would occur.

### Sight Distance

#### **Impact 4.6-E Failure to provide the required 250 feet of sight distance at the project driveway, Bay Creek Drive, to the west is considered a *significant* impact.**

The project proposes two private driveways connecting to North San Pedro Road. The more westerly driveway, Bay Creek Drive, would serve 11 residences and one second unit and be designed as a minor residential road.<sup>7</sup> This two-lane driveway would be 28 feet wide with curbs and gutters on both sides and climb into the project site at a maximum grade of 18 percent. Although not required as mitigation, it is recommended by the Department of Public Works (DPW) traffic engineer that at the time of project approval, a stop sign meeting DPW standards be considered for placement where this driveway meets North San Pedro Road. The easterly project driveway would be 16 feet

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<sup>7</sup> Minor Residential Road is defined in Marin County Code Title 24, Sec. 24.04.110. "Road Classification" includes the class minor residential road and specifies a width of 28 feet.

wide with a curb on the westerly side only and serve one single family home and a second unit.

Based on current design, adequate sight distance to and from the west would not exist at the intersection of the primary project driveway and North San Pedro Road. Sight distance is used to describe the ability of a driver to see or to be seen when either approaching or exiting the driveway. The Caltrans Highway Design Manual defines sight distance as "the continuous length of a highway ahead visible to the driver. . . . Sight distance is measured from the driver's eyes, which are assumed to be 3.5 feet above the pavement surface, to an object 0.5-foot-high on the road.<sup>8</sup> The design manual also specifies the setback for the driver on the cross road as a minimum of 15 feet from edge of the traveled way."<sup>9</sup>

Two definitions of required sight distance are used at local road intersections. These are *corner sight distance* and *stopping sight distance*. When the available sight distance exceeds the corner sight distance, a driver can cross or enter a highway from a stop at a crossroad without the driver on the highway changing speed. When the available sight distance is greater than the stopping sight distance, a driver on the through road traveling at the design speed would have room to brake to avoid a collision with a vehicle entering from a side road.

a. Required Sight Distance

For private road intersections, the Highway Design Manual defines the minimum corner sight distance as the stopping sight distance. Because the primary project driveway will be a private road, the required sight distance is the stopping sight distance.

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<sup>8</sup> California Department of Transportation. *Highway Design Manual*, page 200-1.

<sup>9</sup> California Department of Transportation. *Highway Design Manual*, page 400-1.

The sight distance required at the project site is based on the measured speed of traffic passing the project's intersections. Speed studies conducted over a two day period on North San Pedro Road at the project site found the existing 85<sup>th</sup> percentile speed to be 34.5 mph. The design speed for this section of road is, therefore, 35 mph. The Highway Design Manual defines the stopping sight distance at 35 mph to be 250 feet. The required sight distance to and from the project driveways is therefore 250 feet.

b. Available Sight Distance

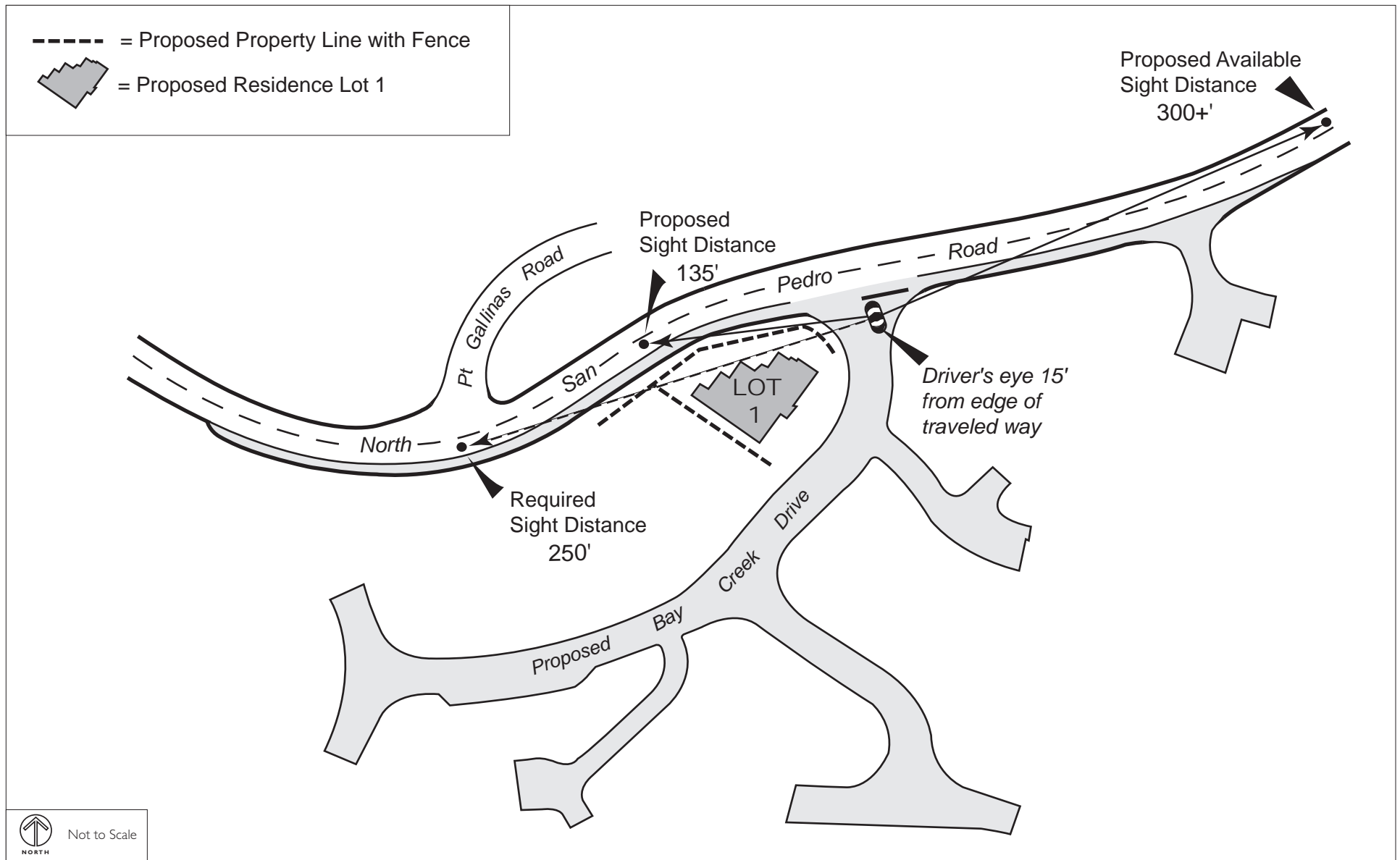
The existing available sight distance at the project site is very limited by topography and vegetation. Sight distance from the standard driver's eye at the existing site's driveway is 30 feet to the west and 20 feet to the east. Assuming a vehicle is driven forward to the very edge of the traveled way, a standard driver's sight distance is 60 feet to the west and 180 feet to the east. All of the existing sight distances specified above fall below the 250 feet required by the Highway Design Manual.

Proposed sight distances were evaluated based on a review of the Grading and Drainage Plan for the project, completed by ILS Associates, Inc. in March, 2007.<sup>10</sup> The grading plan proposes significant removal of material at the project's main driveway and removal of all existing trees and fences at both of the project's driveways. The project proposes to widen North San Pedro Road for the 700-foot length of the site frontage by 7 feet. This would provide a deceleration shoulder area for vehicles entering the project driveways from the west. There are no other improvements planned for the roadway segments and intersections addressed in this study. This shoulder area would provide a deceleration zone for traffic entering the project from the west.

Sight distance proposed at the intersection of Bay Creek Drive and North San Pedro Road is shown on Figure 4.6-4. The removal of existing vegetation and fences would provide more than 300 feet of sight distance to and from the east

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<sup>10</sup> The grading and drainage plan was updated in May 2008, however it did not include any changes affecting site distance to or from the site.



Source: Robert L. Harrison Transportation Planning

FIGURE 4.6-4  
SIGHT DISTANCE

at this intersection. However, as shown on Figure 4.6-4, the proposed rear yard fence at Lot 1 would limit sight distance at this intersection to the west to 135 feet. This would be an unacceptable sight distance and constitute a *significant impact*.

With the removal of the existing trees, vegetation and fences at the project's easterly driveway, the required 250 feet sight distance to and from this driveway would be provided. Therefore, the project would provide adequate sight distance at the easterly driveway. The sight distance easement to and from this driveway is illustrated in Figure 3-75 in the Project Description.

### Mitigation Measures

- 4.6-E.1 ~~Project Lot 1 should be redesigned to allow~~ The rear yard fence of Project Lot 1 should be relocated to approximately 10 feet south of the location currently shown on the Grading and Drainage Plan. If necessary, the footprint of the proposed residence on Lot 1 should also be redesigned.

Prior to grading activity for road and driveway construction being undertaken, the applicant shall submit for review and approval of the DPW traffic engineer, detailed engineering cross sections of the roadway frontage and detailed plan specifications with traffic engineering graphic data that more specifically depicts driveway configurations and sight distance from driveway exit points. Confirmation of adequate sight distance would be required prior to the start of construction.

### Impact Significance After Mitigation

The implementation of this mitigation measure would provide the required 250 feet of sight distance and reduce the impact to a *less-than-significant* level. The change in the location of the fence would not result in any impacts not already identified. Furthermore, as explained in the Project Description, ade-

quate sight distance from project driveways to applicable distance points along North San Pedro Road would be preserved through the establishment of sight easements. The purpose of these easements would be to prevent future landscaping or development that would limit the sight distance required for vehicles to safely enter and exit the project site. The easements are shown on Figure 3-5.

### **Emergency Access**

#### **Impact 4.6-F Result in inadequate emergency access.**

The project would not conflict with emergency access. Both during and following project construction, North San Pedro Road would remain open at all times to allow for the passage and transport, if necessary, of emergency vehicles and equipment. Furthermore, the project layout would not preclude the safe evacuation of residents from the new homes or the site in the event of an emergency. During construction, it may be necessary to periodically close one lane of San Pedro Road to ensure safety. Flaggers and signage would be utilized to ensure the continued, safe passage of traffic. As a result, *no impact* would occur.

Although not required as mitigation, it is recommended by the County DPW traffic engineer that at the time of project approval, plans designate one side of private streets with a width of less than 24 feet (MCC 24.04.110) and turn-arounds needed for fire apparatus as a “No Parking” zone.

### **Parking Capacity**

#### **Impact 4.6-G Result in inadequate parking capacity.**

Parking as provided would meet the requirements of the Marin County zoning code. The project would provide two covered and two guest parking spaces for 11 of the 12 proposed single-family units. The remaining lot would have three covered and three guest parking spaces. A single uncovered park-

ing space would be provided for each of the second residential units. An additional four parallel parking spaces would be provided along Bay Creek Drive near the intersection with Bay Creek Court. Therefore, although each of the second units would have only one space, as opposed to the two required by Title 24 of the Marin County Code, the availability of four guest parking spots on-site would address this deficiency. The project's parking plan is therefore adequate to meet County code requirements and *no impact* would occur.

#### Alternative Transportation

**Impact 4.6-H** Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

The project does not conflict with any policies, plans, or programs supporting alternative transportation. *No impact* would occur.

#### Circulation Capacity

**Impact 4.6-I** Internal circulation capacity.

In terms of internal circulation, the project proposes two driveways from North San Pedro Road. The more westerly driveway, Bay Creek Drive, would serve 11 residences and be designed as a minor residential road. The design of this driveway meets the Title 24 requirements of the County for a minor residential road with its maximum grade not to exceed 18 percent, a roadway width of 28 feet and engineered drainage structures including curb and gutter on both sides of the street. A hammer-head style turnaround would be provided at the end of Bay Creek Drive.

The easterly driveway would serve a single residence and second unit and be 16 feet wide with a curb on the westerly side only. This driveway has been designed as a standard single residence vehicle access. *No impact* would occur



in relation to parking or internal circulation such that off-site areas would be adversely affected.

**Impact 4.6-J Provisions for pedestrian and bicycle circulation.**

Sidewalks would be included on one side of Bay Creek Drive and Bay Creek Court that would be 4.5 feet wide in each case. These facilities would enhance bicycle and pedestrian movement throughout the site and provide connections from the development to San Pedro Road. While the project does not include any designated areas for bicycle storage or the parking of motorcycles, these could be adequately stored in garage spaces. *No impact* would occur.

Although not required as mitigation, it is recommended by the County DPW traffic engineer that at the time of project approval, plans demonstrate that bicycle access (facilities) are designed in accordance with relevant specifications in the Highway Design Manual.

***E. Cumulative Impacts***

This section analyzes potential impacts that could occur from a combination of the proposed project with other reasonably foreseeable projects in the near vicinity. The list of projects considered in this section is shown in Chapter 4.0.

**Cumulative Traffic Increase**

**Impact 4.6-K The proposed project, in combination with other development project would increase vehicle trip generation.**

There are three projects currently under review or under construction in the North San Pedro Road area. Table 4.6-4 shows the trip generation for these projects. The largest project under review, Sequoia Heights Homes, includes the removal of a 33,000 square-foot office building. The removal of this trip

TABLE 4.6-4 CUMULATIVE PROJECTS TRIP GENERATION

Project	Weekday AM Peak Hour Trips			Weekday PM Peak Hour Trips		
	Inbound		Outbound	Inbound		Outbound
	Rate	Vol.	Rate	Vol.	Rate	Vol.
Edgehill at San Rafael	0.19	1	0.56	3	0.64	4
					0.37	2
Nebout Development	0.19	1	0.56	3	0.64	4
					0.37	2
Sequoia Heights Homes	0.10	9	0.41	34	0.40	33
33 San Pablo Avenue	1.36	-45	0.19	-6	0.25	-9
					1.24	-41
<b>Total Volume</b>		<b>-34</b>		<b>34</b>		<b>32</b>
						<b>-18</b>

Note: Trip rate per Unit for Residential and per 1,000 sq.ft. for Office.  
Source: Robert L. Harrison Transportation Planning.

generator results in a net reduction of trips for some turning movements at the intersections along North San Pedro Road. The resultant cumulative intersection level of service is shown in Table 4.6-5. As shown in the table, cumulative traffic volumes would not change level of service from existing conditions. In some cases, intersections would operate more efficiently under cumulative traffic loads. In no case would the average delay be increased by more than 0.3 seconds per vehicle. The impact on cumulative level of service would be *less than significant*.

TABLE 4.6-5 **INTERSECTION LEVEL OF SERVICE EXISTING AND CUMULATIVE CONDITIONS**

Intersection of North San Pedro Road with:	Existing		Cumulative	
	Level of Service	Delay (Seconds/ Vehicle)	Level of Service	Delay (Seconds/ Vehicle)
<i>Weekday AM Peak Hour</i>				
Merrydale Road (Signalized)	C	20.9	C	20.6
Civic Center Dr./ San Pablo Avenue (Signalized)	C	25.9	C	25.7
Meadow Drive / Oxford Drive (4-way Stop Control)	B	11.4	B	11.5
<i>Weekday PM Peak Hour</i>				
Merrydale Road (Signalized)	C	22.9	C	23.1
Civic Center Dr./ San Pablo Avenue (Signalized)	C	27.6	C	27.4
Meadow Drive/ Oxford Drive (4-way Stop Control)	B	12.7	B	13.0

Source: Robert L. Harrison Transportation Planning.

## 4.7 PUBLIC SERVICES

This section describes potential impacts from the proposed project on public services including fire, police, recreation and parks and schools.

### A. *Fire and Emergency Services*

#### 1. **Regulatory Setting**

##### a. State Regulations

There are no State fire protection regulations that are applicable to the proposed project. However, the County has adopted the statewide California Fire Plan, which is discussed below under local regulations.

##### b. Local Regulations

##### i. *Marin County Fire Management Plan*

The Marin County Fire Management Plan evaluates the County's geographic environment to reduce fire danger. The Marin County Fire Department has adopted the California Fire Plan including the following five objectives:

1. To create wildfire protection zones that reduce the risks to citizens and firefighters.
2. To assess all wildlands, not just the State responsibility areas. Analyses will include all wildland fire service providers: federal, State, local government, and private.
3. To identify and analyze key policy issues and develop recommendations for changes in public policy.
4. To focus and monitor the wildland fire protection system in fiscal terms.
5. To translate the analyses into public policies.

##### ii. *Socioeconomic Element of the Marin Countywide Plan*

The Socioeconomic Element of the Marin Countywide Plan includes policies to encourage effective response in the event of emergencies or disasters.

## 2. Existing Setting

This section describes the current condition of fire protection services within the service area of the project site.

### a. Fire Prevention Services<sup>1</sup>

The City of San Rafael Fire Department (SRFD) is under contract with Marin County to provide fire and paramedic services to unincorporated areas in San Rafael's Sphere of Influence. The SRFD provides fire and emergency medical services to County Service Area 19 (CSA 19) which includes Santa Venetia, Los Ranchitos, St. Vincent's neighborhoods and unincorporated areas, including the project site.

There are three firefighters (one captain, one engineer, one firefighter) per shift at each station operated by the SRFD. The SRFD consists of 75 fire suppression staff, including 24 paramedics, and 90 fire department staff. Firefighters aim to respond to the site of a fire within an eight-minute Total Reflex Time from one of the six fire stations located in San Rafael.

The SRFD has six fire stations located in the following areas: Downtown (Station 1), Montecito (Station 2), East San Rafael (Station 4), Peacock Gap near Point San Pedro (Station 5), Upper Terra Linda (Station 6), and County Civic Center (Station 7). The SRFD station closest to the project site is Station 7, located at 3530 Civic Center, approximately 2 miles from the project site.

The location of the other five stations and their approximate distance from the project site are as follows:

- ◆ Station 1 is located at 1039 C Street approximately 3 miles southwest of the project site.

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<sup>1</sup> County of Marin, 2003, *Marin Countywide Plan Community Facilities Element Technical Background Report*, San Rafael, pages CF-52 to CF-53.

- ◆ Station 2 is located at 210 3<sup>rd</sup> Street approximately 3 miles southwest of the project site.
- ◆ Station 4 is located at 46 Castro Avenue approximately 3.5 miles south of the project site.
- ◆ Station 5 is located at 955 Point San Pedro Road approximately 3 miles southeast of the project site.
- ◆ Station 6 is located at 650 Del Ganado approximately 3 miles west of the project site.

All six stations have a fire engine that can pump 1,500 gallons per minute. Additionally, the Civic Center station (Station 7) has a 75-foot aerial ladder truck and the Peacock Gap Station (Station 5) has a 100-foot aerial ladder truck. Station 7 would primarily respond to calls at the project site due to proximity, with back up response provided by other stations listed above.

### **3. Standards of Significance**

Based on criteria from Appendix G of the State CEQA Guidelines the proposed project would have a significant impact if it would:

- ◆ Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services.

Based on Appendix N of the Marin County Environmental Review Guidelines, the project may also have a significant impact related to fire protection if the project would:

- ◆ Require additional fire staff, facilities or equipment to maintain an acceptable level of service (e.g. response time, rating, other).

#### 4. Impact Discussion

##### Project Impacts

**Impact 4.7-A Result in substantial adverse physical impacts which could cause significant environmental impacts.**

According to San Rafael Fire Department, Station 7 would be able to provide service to the project site without a significant impact to overall service. The proposed project would not result in the need for expanded fire protection services or degrade existing fire protection services levels and/or ratios. The proposed project would be adequately serviced by existing fire protection services. Since no additional facilities, staff, or equipment would be needed, there would be *no impact* related to fire protection services.<sup>2</sup>

**Impact 4.7-B Require additional fire staff, facilities or equipment to maintain an acceptable level of service (e.g. response time, rating, other).**

As discussed in response to criteria a), the project would not require the San Rafael Fire Department to increase staffing levels, facilities or equipment to maintain an eight-minute response time. As a result, an acceptable level of service would be maintained, and *no impact* would occur.

#### 5. Cumulative Impacts

##### Cumulative Fire and Emergency Services Impacts

**Impact 4.7-C The proposed project would combine with other development project to result in cumulative impacts to fire and emergency services.**

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<sup>2</sup> Shoenthal, Keith. Division Chief, San Rafael Fire Department. Personal communication with DC&E, February 1, 2008.



This section analyzes potential impacts to fire services that could occur from the proposed project in combination with other reasonably foreseeable projects in the near vicinity. The list of projects considered in this section is shown in Chapter 4.0.

The proposed project and other projects considered in the cumulative analysis are likely to result in increased demand for fire prevention and response services throughout Marin County. Collectively, the projects could have a significant cumulative impact if increased demand were such that existing facilities would need to be expanded or new facilities constructed and these facilities would result in significant environmental impacts.

Because the potential level of increased future demand cannot be clearly defined, it is speculative as to whether new or expanded facilities would, in fact, be required. At this time, no fire stations are currently planned for construction.<sup>3</sup> Should any facility expansions or new construction be required, such projects would be subject to future CEQA review, which would identify potentially significant impacts and recommend measures, as necessary, to mitigate such impacts. Further, facility expansions would likely take place adjacent to existing fire stations that have already been disturbed due to development. These sites are less likely to contain environmentally sensitive resources.

As a result, the proposed project would not result in a significant cumulative impact in combination with other projects. A *less-than-significant* impact would occur.

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<sup>3</sup> Toci, Diana. Administrative Assistant to the Fire Chief, San Rafael Fire Department. Personal communication with DC&E, October 31, 2008.

*B. Police*

**1. Regulatory Setting**

a. State Regulations

There are no State regulations that are applicable to the proposed project.

b. Local Regulations

The Marin Countywide Plan includes policies to encourage community involvement in crime control and improving infrastructure to discourage crime.

**2. Existing Setting**

a. Police Services

The Marin County Sheriff's Office provides law enforcement in unincorporated areas of Marin County, which includes the project site, with the exception of traffic enforcement, traffic complaints, vehicular accidents and auto theft investigations. Traffic and automobile related incidents are primarily the responsibility of the California Highway Patrol. Traffic enforcement and traffic complaints are a secondary responsibility for the Sheriff's Office.

The project site is located within Beat 31 of the Marin County Sheriff's Office Area 3 Patrol District, which includes the Civic Center area, the Santa Venetia area, and other areas in the vicinity. Deputies are headquartered and dispatched from the Civic Center Main Station, located at 3501 Civic Center Drive in San Rafael. Response times to the project site vary from a few minutes to up to ten minutes, depending on the location of the responding patrol car, time of day, and traffic.

Staff at the Civic Center Main Station includes 16 sworn officers, four supervisors and three lieutenants. During each shift, three officers, one supervisor and one lieutenant are on duty.<sup>4</sup>

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<sup>4</sup>Marziano, Fred. Sergeant, Marin County Sheriff's Office. Personal communication with Kyle Simpson, DC&E, January 30, 2008.

Support is available to the Main Station staff from a variety of nearby agencies. The agencies in closest proximity to the station are the San Rafael Police Department and the Novato Police Department. The two police departments and the Marin County Sheriff's Department work collaboratively to provide service. There are interagency SWAT teams and Special Response Teams that work together as needed.<sup>5</sup>

b. Crime Statistics

The statistics shown in Table 4.7-1 are for central/northern Marin County, including the Santa Venetia neighborhood and Civic Center area. The project site is within the Santa Venetia neighborhood.

**3. Standards of Significance**

Based on criteria from Appendix G of the State CEQA Guidelines, the proposed project would have a significant impact if it would:

- ◆ Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services.

Based on Appendix N of the Marin County Environmental Review Guidelines, the project may also have a significant impact related to police protection if the project would:

- ◆ Require additional police/sheriff staffing, facilities or equipment to maintain acceptable service ratios.

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<sup>5</sup> Medina, Susan. Crime Analyst, Marin County Sheriff's Office. Personal communication with Carey Stone, DC&E, November 8, 2007.

TABLE 4.7-I **MARIN COUNTY CRIME STATISTICS FOR AREA III<sup>a</sup>**

Offense	2006	2007
Homicide	0	0
Rape	4	1
Robbery	8	3
Aggravated Assault	51	43
Commercial Burglary	21	11
Residential Burglary	58	48
Larceny	180	158
Vehicle Theft	1	0
TOTAL	323	264

<sup>a</sup> Area III includes the Civic Center Area, Santa Venetia, Point San Pedro, Los Ranchitos, Marinwood, Lucas Valley, Bel Marin Keys, and North Novato.

Source: Marin County Sheriff's Office, website,  
[http://www.marinsheriff.org/about.aspx?gi\\_id=129](http://www.marinsheriff.org/about.aspx?gi_id=129), accessed January 30, 2008

#### 4. Impact Discussion

##### Project Impacts

**Impact 4.7-D Result in substantial adverse physical impacts which could cause significant environmental impacts.**

The Marin County Sheriff's Main Station, is located relatively close to the proposed project site. Currently, the Main Station would be able to provide service to the project site without a significant impact to overall service. According to Marin County Sheriff Department, the proposed project would

not trigger a need for new or expanded police facilities.<sup>6</sup> The Marin County Sheriff's Department calculated an increase of two to three calls per year as a result of the project. This increase in calls would not impact staffing, response time or equipment needs. As a result, a *no impact* is anticipated.

**Impact 4.7-E    Require additional police/sheriff staffing, facilities or equipment to maintain acceptable service ratios.**

As discussed in response to criteria a) above, the project would not require additional sheriff staff, facilities or equipment, resulting in *no impact*.

## **5. Cumulative Impacts**

### Cumulative Police Impacts

**Impact 4.7-F    The proposed project and development of other projects would result in a cumulative increase in police services.**

This section analyzes potential impacts to County Sheriff services that could occur from a combination of the proposed project with other reasonably foreseeable projects in the near vicinity. The list of projects considered in this section is shown in Chapter 4.0.

The proposed project and other projects considered in the cumulative analysis are likely to result in increased demand for County Sheriff services throughout Marin County. Collectively, the projects could have a significant cumulative impact if increased demand were such that existing facilities would need to be expanded or new facilities constructed and these facilities would result in significant environmental impacts.

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<sup>6</sup> Medina, Susan. Crime Analyst, Marin County Sheriff. Personal email communication with Carey Stone, DC&E, October 11, 2007.

Construction of future stations would be on an as-needed basis, in order to adequately serve the community. No stations are currently being planned or constructed within the County.<sup>7</sup> Because the potential level of increased future demand cannot be clearly defined, it is speculative as to whether new or expanded facilities would, in fact, be required. Should any facility expansions or new construction be required, such projects would be subject to future CEQA review, which would identify potentially significant impacts and recommend measures, as necessary, to mitigate such impacts. Further, facility expansions would likely take place adjacent to existing Sheriff offices that have already been disturbed due to development. These sites are less likely to contain environmentally sensitive resources.

As a result, the proposed project is not likely to result in a significant cumulative impact in combination with other projects.

### *C. Recreation and Parks*

#### **1. Regulatory Setting**

##### **a. State Regulations – Quimby Act**

Cities and counties have been authorized since the passage of the 1975 Quimby Act (California Government Code §66477) to pass ordinances requiring that developers set aside land, donate conservation easements or pay fees for park improvements. Revenues generated through the Quimby Act cannot be used for the operation and maintenance of park facilities.<sup>8</sup> A 1982 amendment (AB 1600) requires agencies to clearly show a reasonable relationship between the public need for the recreation facility or park land and the type of development project upon which the fee is imposed. The Quimby Act establishes a minimum of 3 acres of parkland for every 1,000 residents.

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<sup>7</sup> Wilbanks, Gary. Sergeant, Marin County Sheriff's Office. Personal Communication with DC&E, July 23, 2008.

<sup>8</sup> California State Parks, website, <http://www.parks.ca.gov/pages/795/files/quimby101.pdf>. Accessed on April 2, 2008.

b. Local Regulations

Marin County requires parkland dedication or payment of an in-lieu fee to be included at the time of a Tentative Map approval for a project.<sup>9</sup> The Marin County Code, establishes the County's compliance with the Quimby Act by affirming the standard of 3 acres of parkland for every 1,000 residents.<sup>10</sup> The Marin Countywide Plan requires between three and five acres of neighborhood and community parkland for every 1,000 County residents. Furthermore, Marin County is also trying to achieve National Park Association requirements of 10 acres of parkland per 1,000 residents.

Subdivisions are required to dedicate parkland in areas indicated in the Marin Countywide Plan, Local Coastal Plan, or any community Plan or Specific Plan.<sup>11</sup> In instances where parks or recreational facilities are not designated or when a subdivision proposes 50 or fewer parcels, Marin County requires the developer to pay fees in lieu of parkland dedication.<sup>12</sup> Accordingly, the applicant for the proposed project would be required to pay in lieu fees.

## 2. Existing Setting

Residents of Marin County have access to a variety of parks and open space. The Marin County Department of Parks and Open Space manages 15 parks and the Marin County Open Space District, operates 33 preserves throughout the county. The Marin County Department of Parks and Open Space manages approximately 800 acres of park lands, 925 acres of conservation lands and 15,508 acres of open space lands.

Non-county parks and open space lands account for approximately 184,211 acres of all land in Marin County, which is approximately 47 percent of the County's total land area. Most of this land is located in west Marin and includes Point Reyes National Seashore, Golden Gate National Recreation

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<sup>9</sup> Marin County Code Section 22.98.040, Parkland Dedications and Fees.

<sup>10</sup> Marin County Code Section 22.98.040[C].

<sup>11</sup> Marin County Code Section 22.98.040[D].

<sup>12</sup> Marin County Code Section 22.98.040[G].

Area, Bolinas Lagoon Preserve, Mount Tamalpais State Park, Samuel P. Taylor State Park and Marin Municipal Water District Watershed lands.<sup>13</sup>

The Marin Countywide Plan identifies 932 acres of developed parks used for the purposes of active recreation. City-owned and county-owned parks are both included in this acreage. Table 4.7-2 further breaks down the total parks by planning areas within the county. As shown in Table 4.7-2, the proposed project is located within the Las Gallinas planning area, which is not currently meeting the County's goal of five acres of parkland per 1,000 people.

The parks and open space areas closest to the proposed project site are China Camp State Park, San Pedro Ridge preserve, Santa Margarita Island and Santa Venetia Marsh, Barbier Park, McNear's Beach Park and the Civic Center Lagoon Park.

China Camp State Park is the largest park in the vicinity of the project site. The entrance to the park is approximately 6 miles from the project site via North San Pedro Road, however the overland boundary of the park is approximately ¼-mile from the project site. China Camp forms a natural watershed along the shores of San Francisco Bay. Natural features of this park include an extensive intertidal salt marsh, meadow and oak woodland habitats. Active and passive recreational amenities include walk-in camping sites, a museum, 15 miles of hiking trails, wildlife-viewing, swimming, boating, windsurfing, and 25 developed picnic sites.

San Pedro Ridge is an open space preserve situated to the southwest of the project site. The entrance to the preserve is located on North San Pedro Road, approximately 1 mile east of the project site. San Pedro Ridge's forested slopes are visible from southbound Highway 101. There are many trails in the preserve which connect to the adjacent Henry Barbier Park and to China Camp State Park.

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<sup>13</sup> *Marin County Parks and Open Space Department Comprehensive Strategic Plan: Existing Conditions Needs and Assessment Report*, June 2007, pages 4-1 to 4-2.



TABLE 4.7-2 **PARK ACREAGE BY MARIN COUNTYWIDE PLAN PLANNING AREA COMPARED WITH QUIMBY ACT AND NATIONAL PARK ASSOCIATION REQUIREMENTS**

Planning Area <sup>a</sup>	Devel- oped Park Acreage <sup>b</sup>	Quimby Act Require- ments (5 acres per 1,000 people)	Quimby Act Sur- plus or Deficit	National Require- ments (10 acres per 1,000 people)	National Require- ments Surplus or Deficit
Novato	153	273	(120)	545	(392)
Las Gallinas <sup>c</sup>	60	143	(82)	286	(225)
San Rafael Basin	211	200	11	400	(189)
Upper Ross Valley	124	128	(4)	256	(132)
Lower Ross Valley	74	170	(95)	340	(265)
Richardson Bay	262	260	2	521	(285)
West Marin	45	62	(17)	123	(78)
Total	932	1,236	(304)	2,473	(1,541)

<sup>a</sup> Planning Area descriptions are located in Section 3.12 of the Marin Countywide Plan.

<sup>b</sup> Developed for the purpose of active recreation. Includes city-owned parks.

<sup>c</sup> Project site is within the Las Gallinas Planning Area.

Source: Marin Countywide Plan, Figure 4-41.

Santa Margarita Island and Santa Venetia Marsh are two bayside preserves located to the north of the project site. Trailheads for both of these amenities are within 1 mile of the project site. Today, the level trail around Santa Margarita Island and the path atop the levee at Santa Venetia Marsh are used by local residents for walking and jogging. Birdlife, including waterfowl and shorebirds, is abundant within these preserves.

McNear's Beach Park, located off Point San Pedro Road and about 4 miles from the proposed project site, is one of the most popular County Parks. The park includes a swimming pool, tennis courts, family and group picnic sites, a sandy beach, lawn areas, snack bar and a 500-foot-long fishing pier.

The Civic Center Lagoon Park is located immediately adjacent to the Marin County Civic Center, which is located approximately 2 miles from the project site via San Pedro Road. The park, which is managed by the Marin County Department of Parks and Open Space, offers picnic areas, children's play structures and fishing. Non-motorized boating is also permitted in the 11-acre lagoon. In the summer, much of the park becomes the site of the Marin County Fair.<sup>14</sup>

John F. McInnis Park is located approximately 4 miles from the project site via San Pedro Road and Highway 101 North. The park is located on Smith Ranch Road in San Rafael approximately ½-mile from the Highway 101 interchange. This 441-acre park contains a 25,000-square-foot skate park, two softball fields (one lighted), two soccer fields, a canoe launch, four tennis courts, a group picnic area and nature trails. This park also includes the McInnis Park Golf Center, including a nine-hole course, driving range, miniature golf, batting cages, clubhouse, pro shop and restaurant.<sup>15</sup>

### 3. Standards of Significance

Based on criteria from Appendix G of the State CEQA Guidelines, the proposed project would have a significant impact if it would:

- ◆ Result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered governmental facilities, the construction of which

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<sup>14</sup> Marin County Parks and Open Space Department Comprehensive Strategic Plan: Existing Conditions Needs and Assessment Report, June 2007, page 4-15.

<sup>15</sup> Marin County Parks and Open Space website: <http://www.co.marin.ca.us/depts/PK/Main/pos/pdjfmkns.cfm>, accessed April 7, 2008.

could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for park and recreational services.

Based on Appendix N of the Marin County Environmental Review Guidelines, the project may also have a significant impact related to parks and recreation if the project would:

- ◆ Require designation of additional parkland to remain in conformance with locally acceptable or adopted park standards?

#### 4. Impact Discussion

##### Project Impacts

**Impact 4.7-G Result in substantial adverse physical impacts which could cause significant environmental impacts in maintaining acceptable service ratios for park and recreational services.**

Based on Policy CD-8.3 in the Community Development Element of the Countywide Plan, the average household size in the County of Marin is assumed to 2.3 people.<sup>16</sup> Based on this figure, the project would house approximately 29.9 people. There are 12 proposed single-family houses which would house 27.6 people and it is assumed the two accessory dwelling units would house a combined 2.3 people due to their reduced size.

The County of Marin has not adopted an official standard or guideline for parks and open space acreage.<sup>17</sup> The Marin Countywide Plan suggests five acres per 1,000 people to meet Quimby Act standards, and 10 acres per 1,000 people to meet National Park Association standards. According to the Plan,

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<sup>16</sup>Marin Countywide Plan, Community Development Element, page 3-34.

<sup>17</sup> *Marin County Parks and Open Space Department Comprehensive Strategic Plan Existing Conditions and Needs Assessment*, page 4-3.

1,236 acres of parks and recreation facilities would be required to meet the Quimby Act Requirements and 2,473 acres would be required to meet the National Requirements.

As shown in Table 4.7-2, residents of Marin County have access to approximately 932 acres of park and recreational acreage which is a deficit of 304 acres in relation to the Quimby Act and a deficit of 1,541 acres in relation to the National Requirements.

The Marin Countywide Plan examines park supply by Planning Area as shown in Table 4.7-2. The Novato, Lower Ross Valley and Las Gallinas Planning Areas have the greatest deficits. The Las Gallinas Planning Area, which encompasses the project site, has a deficit of 82 acres in relationship to the Quimby Act and a deficit of 225 acres in relationship to the National Requirements.

Assuming that all future residents of the proposed project were to move to Marin County from other jurisdictions and use County parks, the estimated increase in population of 29.9 people would represent a minimal increase in relation to the number of existing park users and is not expected to have a significant impact on the availability or quality of existing parks. Although the project would potentially increase the number of County residents experiencing a park acreage deficit, it would not require new parks or additional facilities, the construction of which would have significant environmental effects. Similarly, the project population would not place a substantial new demand on the County recreational facilities or those located in San Rafael, such as municipal tennis courts or soccer fields at McInnis Park.

It is not expected that the entire project population would move from outside the County or opt to use such active recreation facilities. However, assuming that all future residents of the project are new users who regularly utilized such facilities, an additional 29 people would not constitute a substantial increase in relation to the existing numbers of County/City residents that cur-

rently use those facilities. As a result, a *less-than-significant* impact would occur.

**Impact 4.7-H    Require designation of additional parkland to remain in conformance with locally acceptable or adopted park standards.**

The project applicant would be required to pay the County a fee in lieu of a parkland dedication. A *less-than-significant* impact would occur.

## **5. Cumulative Impacts**

### **Cumulative Increase in Demand for Use if Park and Recreational Facilities**

**Impact 4.7-I    The proposed project and other development projects would result in a cumulative impact to park and recreational facilities.**

This section analyzes potential impacts to parks and recreation that could occur from a combination of the proposed project with other reasonably foreseeable projects in the near vicinity. The list of projects considered in this section is shown in Chapter 4.0.

Marin County currently has a deficit of parkland, as shown in Table 4.7-2. With development of this project, in conjunction with other cumulative projects in the vicinity, there would be increased usage of park and recreational facilities that could result in a significant impact on the availability or condition of parkland in the County. The proposed project, as well as other cumulative projects would be required to establish public parkland or contribute parkland fees, until a sufficient amount of parkland is available to meet the Quimby Act and National Park Association requirements.

Because there is an existing deficiency of existing parkland within Marin County, the Project, in combination with other cumulative projects, would likely increase the population experiencing the deficit. However, this would not be considered a significant impact as a portion of the future occupants of the cumulative projects are likely current residents of Marin County and are experiencing deficit. Furthermore, not all of the 29.9 future residents of the project site are expected to frequently use Marin County parkland. Therefore, the project's contribution to this cumulative impact would be *less than significant*.

Therefore, impacts associated with this project and cumulative projects would be *less-than-significant*.

#### *D. Schools*

##### **1. Regulatory Setting**

###### **a. State Regulations**

Senate Bill (SB 50) along with bond procedures under Proposition 1A of 1998 regulate school financing and mitigation by setting development fee caps, removing authority for denial of a development application based solely on current school capacity levels, and ensuring that impacts to schools are mitigated under CEQA. However, to offset the impact of new development on the school system; SB 50 permits the San Rafael Elementary District and San Rafael High School District to charge fees on new commercial and residential development. For residential construction, the San Rafael Elementary District and High School District charge \$1.42 and \$0.63 per square foot of livable space, respectively.<sup>18</sup>

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<sup>18</sup> Mary Lou Echo, Business Services Administrative Assistant, San Rafael City Schools. Personal email communication with Carey Stone, DC&E, November 9, 2007.

## 2. Existing Setting

San Rafael City Schools (SRCS) operates 11 schools, of which three would serve students living at the proposed project site. San Rafael City Schools is divided into two districts, San Rafael City Elementary District and San Rafael High School District. Table 4.7-3 summarizes the capacity and enrollment of schools that students from the project would attend. As the table shows, based on estimates provided by SRCS, each school is currently operation below its capacity.

### a. San Rafael Elementary District

The project site is located within the enrollment area of Venetia Valley K-8 school, located at 177 North San Pedro Road. During the 2006-2007 academic year, 600 students in grades K-8 were enrolled at Venetia Valley K-8 School.<sup>19</sup> Capacity is estimated to be 675 students.<sup>20</sup>

### b. San Rafael High School District

Upon completion of K-8 classes, students enrolled within San Rafael Elementary School District are given the choice between attending San Rafael High School and Terra Linda High School. San Rafael High School is located at 185 Mission Avenue in San Rafael. During the 2006-2007 academic year, 1,001 students were enrolled at San Rafael High School.<sup>21</sup> Capacity is estimated to be 1,050 students.<sup>22</sup>

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<sup>19</sup> Education Data Partnership, website, <http://www.ed-data.k12.ca.us>, accessed January 30, 2008.

<sup>20</sup> Colucci, Ed. San Rafael City Schools, Director, Curriculum & Student Services. Personal communication with Carey Stone, DC&E October 4, 2007.

<sup>21</sup> Education Data Partnership, website, <http://www.ed-data.k12.ca.us>, accessed January 30, 2008.

<sup>22</sup> Colucci, Ed. San Rafael City Schools, Director, Curriculum & Student Services. Personal communication with Carey Stone, DC&E October 4, 2007.

TABLE 4.7-3 **SAN RAFAEL CITY SCHOOLS PUBLIC SCHOOL ENROLLMENT AND CAPACITY**

Name	Enrollment 2006 – 2007 <sup>a</sup>	Capacity <sup>b</sup>
Venetia Valley (Gallinas) School (K-8)	600	675
San Rafael High (9-12)	1,001	1,050
Terra Linda High (9-12)	1,061	1,125

<sup>a</sup> Education Data Partnership, website, <http://www.ed-data.k12.ca.us>, accessed January 30, 2008.

<sup>b</sup> Colucci, Ed. San Rafael City Schools, Director, Curriculum & Student Services. Personal communication with Carey Stone, DC&E October 4, 2007. Capacity is an estimate.

Terra Linda High School is located at 320 Nova Albion Way in San Rafael. During the 2006-2007 academic year, 1,061 students were enrolled at Terra Linda High School.<sup>23</sup> Capacity is estimated to be 1,125 students.<sup>24</sup>

### 3. Standards of Significance

Based on criteria from Appendix G of the State CEQA Guidelines, the proposed project would have a significant impact if it would:

- ◆ Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for schools.

<sup>23</sup> Education Data Partnership, website, <http://www.ed-data.k12.ca.us>, accessed January 30, 2008.

<sup>24</sup> Colucci, Ed. San Rafael City Schools, Director, Curriculum & Student Services. Personal communication with Carey Stone, DC&E October 4, 2007.



Based on Appendix N of the Marin County Environmental Review Guidelines, the project may also have a significant impact related to schools if the project would:

- ◆ Require additional school capacity or facilities.

#### 4. Impact Discussion

##### Project Impacts

**Impact 4.7-J Result in substantial adverse physical impacts which could cause significant environmental impacts in maintaining acceptable service ratios for school services.**

San Rafael City Schools does not have a standard student generation rate to project the number of students that new residential units would likely introduce into the school system. However, according to current capacity estimates and enrollment numbers for the three SRCS schools that would serve the Project, all schools are currently under capacity. Assuming a conservative scenario in which two school-age residents would live in each new unit, not including the two smaller secondary units, 24 students would reside within the proposed development. Based on the data provided in Table 4.7-3, there is adequate capacity at the K-8 level and between the two high schools. Furthermore, pursuant to California Government Code Section 65995, collection of school impact fees would adequately mitigate the impacts of new development on the local public school system. As a result, it is not expected that the project would trigger the need for new or expanded school facilities, and a *less-than-significant* impact is anticipated.

**Impact 4.7-K Require additional school capacity or facilities.**

As discussed in Impact Discussion a), the project would not require additional school capacity or facilities, thus resulting in a *less-than-significant* impact to school services.

## 5. Cumulative Impacts

### Cumulative School Demand

**Impact 4.7-L** The proposed project and other development projects would result in a cumulative increase in school demand.

This section analyzes potential impacts to schools that could occur from a combination of the proposed project with other reasonably foreseeable projects in and around San Rafael. The list of projects considered in this section is shown in Chapter 4.0.

The residential projects on the cumulative project list have the potential to generate new students, in addition to the students that may be generated as a result of the proposed project. In combination with each other, these projects could have a significant impact on schools within the San Rafael Elementary and High School Districts, which are all near capacity. However, since developer fees would be collected from new residential development and State law dictates that these fees are the only mitigation requirements in relation to impacts on schools, the cumulative impact on the school districts would be *less than significant*. Fees collected under SB 50 would be applied to the expansion of existing schools or construction of new schools, as necessary.

## **4.8 AESTHETICS**

This section includes a description of the existing visual setting of the proposed project site, the standards of significance used to determine visual and design impacts, and an analysis of the effects that the proposed project would have on views and aesthetics in the project vicinity.

### ***A. Regulatory Setting***

The proposed project would be subject to all relevant policies, requirements and standards in the Marin Countywide Plan and the Development Code.

#### **1. Marin Countywide Plan**

The Marin Countywide Plan is the County's long range guide for use of land and protection of natural resources. The Plan, adopted in November 2007, establishes policies and programs to be used by the public, planning staff, and decision makers when reviewing and analyzing proposed development. The Plan balances current and future needs for urban, rural and natural uses throughout Marin County. The Plan provides specific policy direction in regards to preserving visual character and housing design principles.

#### **2. Design Guidelines**

The County of Marin Single-Family Residential Guidelines, adopted in July 2005, establish comprehensive design recommendations for new single-family residential development within the County's jurisdiction. Site planning, preservation of natural features, resource conservation, compatibility with neighboring development, location of buildings in relationship to pedestrian paths and streets, landscaping, general building forms, and scale are emphasized in the guidelines.

### ***B. Existing Setting***

#### **1. Form and Appearance of the Project Site**

As shown in Figure 4.1-1 and 4.1-2, most of the project site consists of mature vegetation and unpaved, internal access roads. Vegetation includes mixed oak

woodland, eucalyptus trees, French broom, grasslands, and other plants. A seasonal pond and associated wetland vegetation are located within the project site and are visible from elevated areas in relation to the pond. Dense vegetation and a partial wood fence separate the site from surrounding properties. In general, the majority of the site slopes downhill from south to north toward San Pedro Road. The dominate land form and visual feature on the site is the wooded ridge line above the area proposed for development. The ridge-line is one of a series of east-west trending ridges in the areas to the south of the project site. This feature is most visible from areas to the north of the site, especially from elevated, south-facing viewpoints in the residential areas on Point Gallinas Road and Upper Road.

An occupied single-family house is located on the southwestern portion of the site, facing San Pedro Road. The house has two stories with a brick facade and wood siding. There is an attached two-car garage on the eastern side of the house. Auxiliary metal and wood structures are also located to the west of the house and are in generally poor condition. A partially paved, one-way, single access driveway runs between the house and North San Pedro Road. The rear of the house abuts a slope and mature eucalyptus, conifers and oak trees surround the house. There are no formal landscaped areas around the house.

## **2. Form and Appearance of the Surrounding Area**

### **a. Area North of the Project Site**

There are approximately 19 privately owned, single-family residences along Pt. Gallinas and Upper Roads, which are located to the north of San Pedro Road. The general location of these homes in relation the project site is illustrated on Figure 4.8-1. The majority of homes along Pt. Gallinas Road are modern, two story residences and most of the homes are at a slightly lower elevation than the project site. Many of these homes have grass lawns and ornamental landscaping. There are seasonal wetlands approximately ¼-mile northwest and east of these homes. The prevalent views of the site from these homes are from second story windows due to the lower elevation.

There are six privately owned, single-family homes along Upper Road at a higher elevation than the project site. The homes along Upper Road, which is a privately maintained road, are built against sloping hills with mature vegetation surrounding them. Some homes along Upper Road with views from the north to south have a direct, down slope view of the project site.

The homes along both Pt. Gallinas Road and Upper Road are generally constructed in a form representative of low-density, subdivisions. The architecture of these homes generally encompasses modern, Mediterranean, craftsman, and ranch styles that include a combination of wood and stucco siding.

b. Area South of the Project Site

Undeveloped private property borders the southern edge of the project site. The boundary of China Camp State Park is about ¼-mile southeast of the project site. The park comprises 1,285 acres of open space, trails, campsites and picnic sites. A variety of habitat types are found in the park including intertidal salt marsh and meadow and oak habitats.

Less than a ½-mile to the southwest of the project site is San Pedro Ridge. Managed by the Marin Open Space District, this preserve includes 354 acres of oaks, bays, madrones, redwoods and open patches of grasslands. Public trails and fire roads provide recreational access to the preserve on a year round basis.

Due to variations in topography and existing vegetation, including mature trees, there are no direct view corridors to the project site from public viewpoints within China Camp State Park or the San Pedro Mountain Open Space Preserve.

c. Area East of the Project Site

The Santa Venetia Marsh, managed by the Marin County Open Space District, is about ⅓-mile northeast of the project site. Comprising more than 30

acres, the marsh provides habitat to a variety of plants and birds including the California clapper rail.<sup>1</sup>

d. Area West of the Project Site

The Santa Venetia neighborhood is located to the northwest of the project site, and is comprised of low-density, single-family detached residential uses. The neighborhood is built on marshland that was filled in 1914 and encompasses 3.8 square miles. As of 2000, approximately 4,300 people lived in the Santa Venetia neighborhood.

**3. Views of the Project Site**

The west and east sides of the project site are generally secluded from view due to an existing fence and dense vegetation that includes mature eucalyptus trees. Public views of the project site are most available from San Pedro Road on the north side of the site although trees, vegetation, and varied topography obstruct direct views to most portions of the site from this location. Furthermore, motorists and bicyclists passing the site only have intermittent views of the property. Due primarily to vegetative screening, there are no direct views of the existing single-family home on the project site from San Pedro Road.

Prominent public views of the project site also exist from Upper and Pt. Galinas Roads (looking south towards the project site). The existing main driveway entering the site is visible from the upper section of Upper Road. Views from three viewpoints to the north of the project site are shown in Figures 4.8-1 through 4.8-4.

There are no public viewpoints of the site from the south. The site is bordered by privately-owned open space on its southern side and public viewpoints are not available.

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<sup>1</sup> County of Marin Parks and Open Space District website, <http://co.marin.ca.us/depts/PK/Main/os/osdsnta.cfm>, accessed on April 9, 2008.

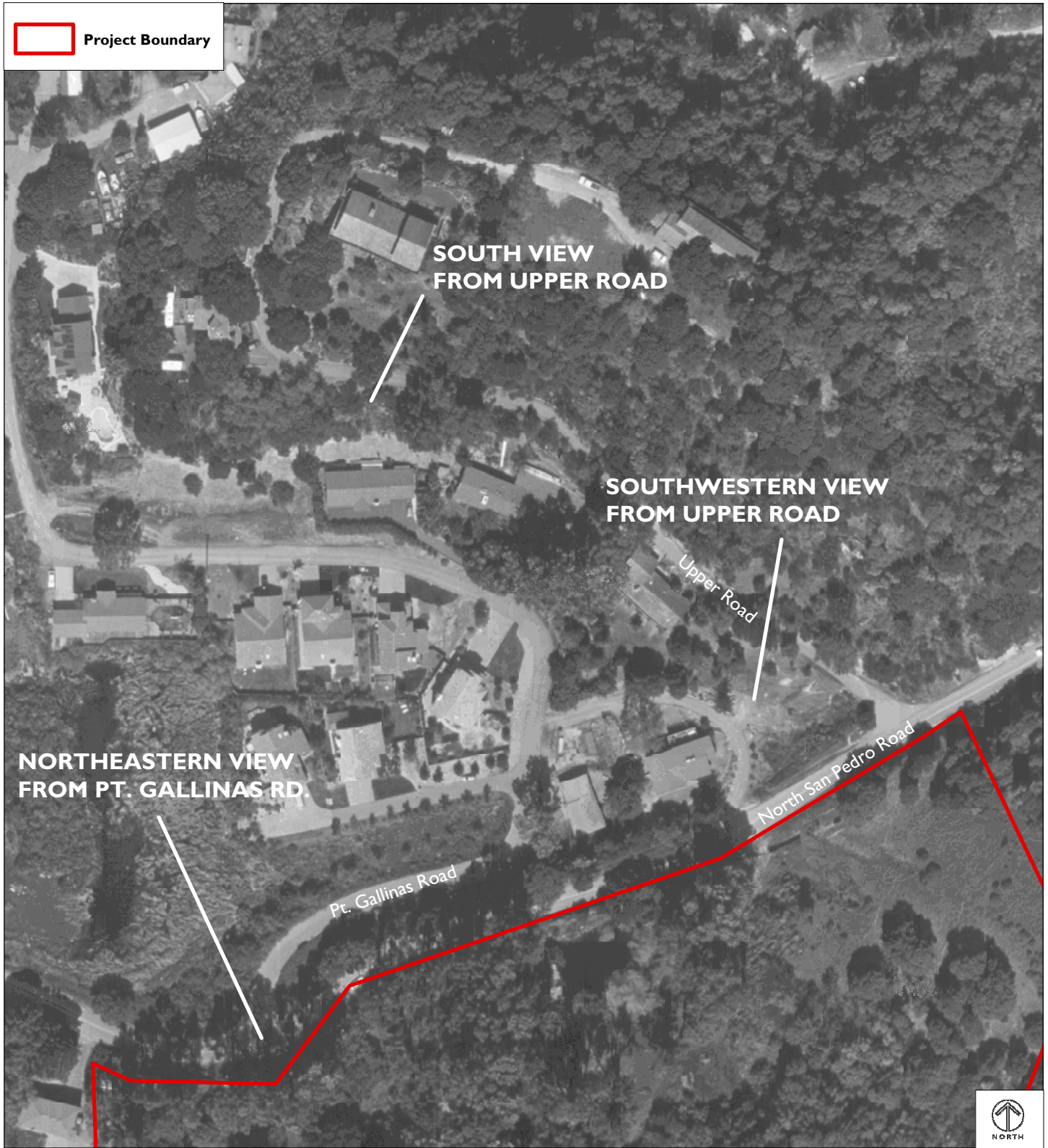


FIGURE 4.8-1  
**VIEWPOINT LOCATIONS**





FIGURE 4.8-2  
SOUTHEASTERN VIEW OF SITE FROM PT. GALLINAS ROAD





FIGURE 4.8-3

SOUTHERN VIEW OF SITE FROM UPPER ROAD





FIGURE 4.8-4  
SOUTHWESTERN VIEW OF SITE FROM UPPER ROAD

#### 4. Views From and Across the Project Site

Generally speaking, expansive views from the project site in any direction are limited due to the site's dense vegetation and varied topography, which includes fairly steep slopes in the southern portion. Views from the eastern and western edges of the project site are generally obstructed by vegetation and the sloping topography. From the northern boundary of the project site, views consist of homes along Pt. Gallinas and Upper Roads to the north, though trees and vegetation largely obscure direct views. There are expansive views to the north from the upslope southeastern portion of site, but access to this area is limited as there are no maintained trails or roads providing access. From this location, there are views to Santa Venetia Marsh, houses along Upper Road, the Santa Venetia neighborhood, and surrounding hillsides. Looking towards the southeast from the southeastern edge of the project site, there are distant views of China Camp State Park and the western shoreline of San Pablo Bay.

#### 5. State Scenic Highways

There are no officially designated state scenic highways in the vicinity of the project site according to the California Department of Transportation.<sup>2</sup>

#### C. Standards of Significance

According to Appendix G of the State CEQA Guidelines, the proposed project would have a significant impact related to aesthetics if it would:

- ◆ Have a substantial adverse effect on a scenic vista.
- ◆ Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

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<sup>2</sup> California Department of Transportation. Officially Designated State Scenic Highways. [http://www.dot.ca.gov/hq/LandArch/scenic\\_highways/](http://www.dot.ca.gov/hq/LandArch/scenic_highways/). Accessed January 24, 2008.

- ◆ Substantially degrade the existing visual character or quality of the site and its surroundings.
- ◆ Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Based on Appendix N of the Marin County Environmental Review Guidelines, the project may also have a significant impact related to visual resources if the project would:

- ◆ Conflict with County goals and policies related to visual quality.
- ◆ Significantly alter the existing natural viewsheds, including changes in natural terrain or vegetation.
- ◆ Significantly change the existing visual quality of the region or eliminate significant visual resources.
- ◆ Significantly increase light and glare in the project vicinity.
- ◆ Significantly reduce sunlight or introduce shadows in areas used extensively by the public.

#### *D. Impact Discussion*

This section discusses the impacts of the proposed project on the visual quality of the surrounding area, including those arising from the height and massing of the structures and visual and design compatibility with the surrounding area.

Visual simulations of the proposed project were prepared to aid in this analysis. Representative viewpoints from the north and northwest were selected, based on consultation with the County. The location of these viewpoints in relation to the project site is shown on Figure 4.8-1. Figures 4.8-5 through 4.8-7 show simulations of the proposed height and massing of the development, when viewed from these vantage points. The vegetation in the simulations is how it would appear after approximately five years. As previously





FIGURE 4.8-5 - REVISED  
SIMULATED VIEW OF SITE FROM PT. GALLINAS ROAD





FIGURE 4.8-6 - REVISED  
SIMULATED VIEW OF SITE FROM UPPER ROAD LOOKING SOUTH





FIGURE 4.8-7 - REVISED  
SIMULATED VIEW OF SITE FROM UPPER ROAD LOOKING SOUTHWEST

noted, these viewpoints represent the predominant public views of the project site.

### Scenic Vista

#### **Impact 4.8-A Substantial adverse effect on a scenic vista.**

The project site is most visible from existing, residential uses located along Upper Road and Pt. Gallinas Road, especially from homes at higher elevations than the site. The site is also visible to motorist, cyclist, and limited pedestrian traffic passing by on San Pedro Road. There are no viewpoints to the south of the site as this area is undeveloped and defined by dense vegetation. There are no publicly accessible trails within China Camp State Park or the San Pedro Mountain Open Space Preserve that have views down slope to the project site.

The proposed development would substantially alter the visual appearance of the site based on the introduction of 12 new single-family homes and two secondary units, the location and extent of grading, and removal of much of the site's existing vegetation, including ground cover and trees. Although the visual change would be substantial, there are several reasons that it would not result in an adverse impact on a scenic vista.

First, the viewpoints described above from which the site is most visible are not considered high-quality, public viewpoints where people would typically congregate for purposes of enjoying scenic vistas. Conversely, a view of San Pablo Bay from the shoreline of nearby China Camp State Park does constitute a high-quality viewpoint enjoyed by park users engaging in both passive and active recreation.

Second, the project design aligns with the local regulatory framework identified in Section A) of this chapter, Regulatory Setting. As discussed in response to criteria 2) in Section 4.1, Land Use, the project is consistent with the various policies intended to ensure that the new development is sensitive



to the surrounding visual context, including preservation of the scenic quality and views of the natural environment. One of the key features of this project that will ensure preservation of the site's visual quality is the designation of 8.6 acres of private open space on the 14.8-acre site. As shown on Figure 3-4 in the Project Description, the open space would provide a spatial buffer between the portion of the site to be developed and the existing, undeveloped areas to the south of the site, which lead up to a wooded ridgeline. This buffer, within which development would be prohibited in perpetuity, would preserve the integrity of views to the ridgeline from existing viewpoints to the north, such as those from homes within the Santa Venetia neighborhood.

Third, although 53 trees would be removed from the site in addition to much of the existing ground cover vegetation, the Tree Mitigation Plan and Planting Plan would serve to mitigate the effect of this change.<sup>3</sup> Based on the Tree Mitigation Plan, a combination of Western Redbud, and Coast Live Oaks, ~~and California Pepper trees~~ would be planted through out the site. A total of 159 new trees would be planted to achieve a 3:1 replacement ratio.<sup>4</sup> Trees would be strategically planted to provide cover in areas where existing trees would be removed. While replacement trees would not be planted in all the exact locations of existing tree removal, the Tree Mitigation Plan shows that replacement would occur in areas where loss of existing trees would be greatest, such as the existing grove of eucalyptus trees on the northern edge of the site in proximity to Lots 4 and 5. New groundcover plantings, which incorporate a variety of native species, would also serve to soften the appearance of the site from the viewpoints to the north.<sup>5</sup>

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<sup>3</sup> Existing Tree Inventory and Removal Plan, Donald L. Blaney & Associates, Prepared for West Bay Builders, March 20, 2007.

<sup>4</sup> Tree Mitigation Plan, Donald L. Blaney & Associates, Prepared for West Bay Builders, March 20, 2007.

<sup>5</sup> Donald L. Blaney and Associates, 2008. ~~Conceptual~~ *Tree Mitigation Plan*. Prepared for West Bay Builders, ~~March 20~~ August 14.

Therefore, although the project would substantially change the appearance of the site, but not adversely affect a scenic vista, it would have a *less-than-significant impact*.

#### Scenic Resources

**Impact 4.8-B     Damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway.**

According to the California Department of Transportation, there are no officially designated state scenic highways in the vicinity of the project site.<sup>6</sup> As a result, *no impact* would occur.

#### Visual Character

**Impact 4.8-C     Substantial degradation of existing visual character or quality of the site and its surroundings.**

a.    Project Effect on the Site

The visual character of the project site is currently defined by a single-family home, auxiliary structures, a driveway, and densely vegetated open space. The site could best be described as semi-rural in nature. Although portions of the site have been previously disturbed by development, the property may be perceived by some as open space due to the relatively limited amount of development in relation to the overall acreage of the property (14.8 acres).

The proposed changes could be perceived by some area residents and frequent visitors to the area as a degradation of the visual character or quality of the site solely based on the change in land use. However, how the project may be

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<sup>6</sup> California Department of Transportation. Officially Designated State Scenic Highways. [http://www.dot.ca.gov/hq/LandArch/scenic\\_highways/](http://www.dot.ca.gov/hq/LandArch/scenic_highways/). Accessed January 24, 2008.

perceived by some on a subjective basis does not necessarily constitute a significant impact under CEQA. What would, in fact, constitute a significant impact is whether the project would remove or damage visual scenic resources that provide a high aesthetic value to the community. As discussed above, the site's existing visual components consist of a single-family home, auxiliary structures in relative disrepair, dilapidated fencing on the northern border of the site, and densely vegetated areas, including a wooded ridgeline above the southern border of the property.

Although the project would permanently change the appearance of the site, key features and attributes that contribute to the site's visual quality would be maintained. More specifically, as shown in Figures 4.8-6 and 4.8-7, the project would not affect the wooded ridgeline above the site to the south. Furthermore, through preservation of some existing trees on-site and through implementation of the Tree Mitigation Plan and the Planting Plan, the wooded appearance of the site would be maintained, however to a lesser degree than under existing conditions. Therefore, the project would have a *less-than-significant* impact on the visual character or quality project site. Although the visual character of the site would become more residential, prevailing character would be that of a heavily wooded property.

b. Project Effect on the Surroundings

The project would not degrade the existing visual character or quality of the site's surroundings either. The areas surrounding the site to the south and east are currently undeveloped and defined by densely wooded slopes. The surrounding areas to the west and north of the site are defined by single-family residential uses.

As shown on Figures 4.8-5 through 4.8-7, the height, scale, and massing of the proposed homes are such that they would not represent a significant contrast in relation to existing residential uses to the west or north of the site. The character of the new homes would be visually compatible with existing uses. As a result, the project would not have a significant impact on the character or quality of the surroundings.

Overall, the project would result in a *less-than-significant impact* on the existing visual character or quality of the site and its surroundings.

#### **Light and Glare**

**Impact 4.8-D Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.**

The proposed project would introduce a new source of light and glare to the project site. Because there is currently only one residence on-site, the level of light and glare is minimal. Whereas the project would permanently increase the level of light and introduce structures and surfaces that could increase the level of glare, these changes are not expected to adversely affect day and nighttime views in the area. The proposed project would be required to conform with provisions in the County Development Code related to the minimization of light and glare on-site. As such, a *less-than-significant* impact would occur.

#### **Visual Quality**

**Impact 4.8-E Conflict with County goals and policies related to visual quality.**

The goals and policies of the Countywide Plan related to visual quality are discussed in Section A), Regulatory Setting, of this chapter. As discussed in the response to criteria 2) in Section 4.1, Land Use, the project would be consistent with the applicable goals and policies related to preserving visual quality. As a result, the project would have a *less-than-significant* impact in relation to consistency with County policy.

### Natural Viewshed

**Impact 4.8-F    Significant alteration to the existing natural viewsheds, including changes in natural terrain or vegetation.**

As discussed above in responses to criteria 1) and 3), the project would result in a notable visual alteration of the site. Whereas the site is currently developed at a very low intensity with only one single-family dwelling, unimproved access roads, and auxiliary structures, the project would introduce 12 new single-family dwellings, including two secondary units, improved roadways, ornamental landscaping, and replacement trees. However, the project would not significantly alter natural viewsheds from viewpoints to the north of the site, or otherwise, because it would not construct any buildings or other facilities in the immediate foreground of such viewpoints.

The project would involve a substantial amount of grading and vegetation removal on-site. Based on the grading calculations, a total of 8,657 cubic yards (5.3 acre-feet) of earthen material would be cut on-site and 5,735 cubic yards (3.5 acre-feet) of this material would be transported off-site for reuse or disposal. Despite the degree of earthwork proposed, the prevailing topography of the site would continue to be sloping terrain from higher elevations in the south to lower elevations in the north, as shown in Figures 4.8-6 and 4.8-7. While grades and contours within the development footprint would be substantially altered, the existing appearance of the property as a hillside site would be maintained.

In regards to vegetation, a substantial amount of groundcover and trees would be removed from the site, as discussed in response to criteria 1) above. A Tree Removal Plan has been completed for the project in tandem with a Tree Mitigation Plan. The Tree Mitigation Plan would achieve a 3:1 replacement ratio for trees that would be removed from the site. This replacement protocol would be supplemented with a Planting Plan prepared for the project, which identifies several native species that will be planted on-site following construction. Although grading and other site preparation activities would

result in substantial vegetation removal, implementation of the Tree Mitigation Plan and the Planting Plan would reduce potential visual effects of vegetation loss to a *less-than-significant* level.

### Visual Quality

#### **Impact 4.8-G Significant change to the existing visual quality of the region.**

The proposed project will displace some existing trees and vegetation and introduce 12 new dwelling units, and two secondary units on a site that is largely undeveloped. As a result, the proposed project would affect the sense of open space that exists in the vicinity of the site. However, the change would not be substantial. The proposed project would include 8.6 acres (377,565 square feet) of private open space to help maintain the existing visual quality of the site. The heavily wooded ridgeline above the site to the south would not be affected by the development. Furthermore, much of the displaced vegetation would be replaced with new trees and plantings, as discussed above in response to criteria 6). As a result, the prevailing sense of open space in the site vicinity would be maintained and the project would not substantially detract from the region's visual quality or value. A *less-than-significant* impact would occur.

### Natural Light and Shadow

#### **Impact 4.8-H Significant reduction in sunlight or introduction of shadows in areas used extensively by the public.**

The project would not significantly reduce sunlight or introduce a substantial amount of new shadowing in public access areas adjacent to the site, such as San Pedro Road. As a result, a *less-than-significant* impact would occur.

*E. Cumulative Impacts*

**Cumulative Visual Character**

**Impact 4.8-I** The proposed project, in combination with other development projects would contribute to change in visual character of the area.

This section analyzes potential aesthetic impacts that could occur from the combination of the proposed project with other reasonably foreseeable projects in the near vicinity. The list of projects considered in this section is shown in Chapter 4.0.

The development of the project site, when combined with other foreseeable projects in the vicinity, would not contribute to an overall shift in the visual character of the existing surrounding area. Growth within the Countywide Plan area would allow for some cumulative visual change in the County by allowing for growth and new development. However, the Countywide Plan includes goals and policies to ensure that new development is well designed, attractive, and compatible with nearby developments. These measures would ensure that cumulative development, including the proposed project, does not have a significant cumulative impact.

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AESTHETICS



## 4.9 CULTURAL RESOURCES

This chapter analyzes the potential environmental impacts to cultural resources resulting from the proposed residential development.

### *A. Regulatory Framework*

This section summarizes applicable federal, State, and city statutes, regulations and policies that would apply to the project and development of a 14.8-acre property into 12 separate residential lots and the development of 12 single-family residences, including two secondary units, and supporting infrastructure.

#### **1. State Laws and Regulations**

##### **a. California Environment Quality Act**

The California Environmental Quality Act (CEQA) Statute and Guidelines include procedures for identifying, analyzing, and disclosing potential adverse impacts to historical resources, which include all resources listed in or formally determined eligible for the National Register, the California Register, or local registers. CEQA further defines a “historical resource” as a resource that meets any of the following criteria:

- ◆ A resource listed in, or determined to be eligible for listing in, the National Register of Historic Places (NRHP) or California Register of Historical Resources (CRHR).
- ◆ A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code, unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- ◆ A resource identified as significant (e.g., rated 1–5) in a historical resource survey meeting the requirements of Public Resource Code Section 5024.1(g) (Department of Parks and Recreation Form 523), unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

- ◆ Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the determination is supported by substantial evidence in light of the whole record. Generally, a resource is considered “historically significant” if it meets the criteria for listing on the CRHR (CEQA Guidelines Section 15064.5).

b. California Register of Historic Resources

The CRHR establishes a list of properties to be protected from substantial adverse change (Public Resources Code Section 5024.1). An historical resource may be listed in the California Register if it meets any of the following criteria:

- ◆ It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- ◆ It is associated with the lives of persons important in California's past.
- ◆ It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value.
- ◆ It has yielded or is likely to yield information important in prehistory or history.

The CRHR includes properties that are listed or have been formally determined to be eligible for listing in the NRHP, State Historical Landmarks and eligible Points of Historical Interest. Other resources require nomination for inclusion in the CRHR. These may include resources contributing to the significance of a local historic district, individual historical resources, historical resources identified in historic resource surveys conducted in accordance with the State Historic Preservation Officer (SHPO) procedures, historic re-

sources or districts designated under a local ordinance and local landmarks or historic properties designated under local ordinance.<sup>1</sup>

c. CEQA Regulations Regarding Human Remains

Section 15064.5 of the State CEQA Guidelines specifies procedures to be used in the event of an unexpected discovery of Native American human remains on nonfederal land. These procedures are outlined in Public Resources Code Sections 5097 and 5097.98. These codes protect such remains from disturbance, vandalism, and inadvertent destruction; establish procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establish the Native American Heritage Commission (NAHC) as the authority to resolve disputes regarding disposition of such remains.

d. Health and Safety Code, Section 7052 and 7050.5

Section 7052 of the Health and Safety Code states that the disturbance of Native American cemeteries is a felony. Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If determined to be Native American, the coroner must contact the California NAHC.<sup>2</sup>

e. California Native American Historical, Cultural and Sacred Sites Act (CNAHCSSA)

The CNAHCSSA applies to both State and private lands. The Act requires that upon discovery of human remains, that construction or excavation activity cease and that the county coroner be notified. If the remains are of a Native American, the coroner must notify the NAHC. The NAHC then notifies those persons mostly likely to be descended from the Native American

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<sup>1</sup> CEQA Technical Advice Series website, CEQA & Historical Resources, [http://ceres.ca.gov/topic/env\\_law/ceqa/more/tas/page2.html](http://ceres.ca.gov/topic/env_law/ceqa/more/tas/page2.html), accessed February 7, 2006.

<sup>2</sup>California Native American Heritage Commission's website, <http://ceres.ca.gov/nahc/discovery.html>, accessed February 7, 2006.

remains. The Act stipulates the procedures the descendants may follow for treating or disposing of the remains and associated grave goods.<sup>3</sup>

f. Public Resource Code, Section 5097

Public Resources Code, Section 5097 specifies procedures to be followed in the event of the unexpected discovery of human remains on nonfederal land. The disposition of Native American burial falls within the jurisdiction of the NAHC, which prohibits willfully excavating removing, destroying, injuring or defaming any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands.

g. Public Resources Code, Section 21083.2

This code specifies the responsibilities of the lead agency to determine whether a project may have a significant effect on archaeological resources. If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. The code also details required mitigation measures if unique archaeological resources are not preserved in place or not left in an undisturbed state. A project applicant must provide a guarantee to the lead agency to pay one-half the estimated cost of mitigating the significant effects of the project on unique archaeological resources. In determining payment, the lead agency shall give due consideration to the in-kind value of project design or expenditures that are intended to permit any or all archaeological resources or California Native American culturally significant sites to be preserved in place or left in an undisturbed state.

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<sup>3</sup> Natural Resources Conservation Service's website, <http://www.arrow-heads.com/burials.htm#CALIFORNIA>, accessed February 7, 2006.

## **2. Local Regulations and Policies**

The County's General Plan provides a policy framework to ensure that future development in the County is consistent with its priorities and goals.

### **a. Marin Countywide Plan**

The Marin Countywide Plan is the County's long range guide for use of land and protection of natural resources. The Plan, adopted in November 2007, establishes policies and programs to be used by the public, planning staff, and decision makers when reviewing and analyzing proposed development. The Plan balances current and future needs for urban, rural and natural uses throughout Marin County. The Plan provides specific policy direction in regards to preserving historical resources, avoiding impacts to historical resources, regulating alterations to historical buildings, and encouraging recognition of historical buildings.

### ***B. Existing Conditions***

This section describes the existing conditions relating to cultural resources on-site and in the project area.

### **1. Methodology**

An archival records search and a cultural survey were conducted to identify known and previously unrecorded archaeological and historic architectural resources in the project area. The initial records search for these cultural resources was conducted at the Northwest Information Center (NWIC) of the California Historical Resources Information System on October 22, 2004. An updated records search was requested from the NWIC in 2007. The records search included a review of all site records and study reports on file within a ¼-mile radius of the project area. Included in the review were the California Inventory of Historical Resources (California Department of Parks

and Recreation 1976)<sup>4</sup> and the California Office of Historic Preservation's (CA-OHP) Five Views: An Ethnic Historic Site Survey for California,<sup>5</sup> California Historical Landmarks,<sup>6</sup> California Points of Historical Interest<sup>7</sup> and the Historic Properties Directory Listing.<sup>8</sup> In addition to the records search at the NWIC, the NAHC was contacted as well as local Native American groups and individuals regarding Sacred Lands within the project area. Parcel and ownership information was reviewed at the Marin County Assessor's office for historical information about the built environment in the project area. A field survey of the project area was conducted except where dense vegetation, poison oak, or steep slopes limited access and ground visibility. Subsurface testing was not conducted.

## 2. Historical Resources

Seven previous studies (S-11503, -24309, -28935, -18572, -19192, -25262, and -2481) were identified as having been completed within a ¼ mile of the project area.<sup>9</sup> There were no recorded sites within the project area. CA-MRN-120, -121, -122 (prehistoric shell middens<sup>10</sup>) and P-21-000615 (shell midden and house foundation) and -002566 (San Pedro Boat Storage) are within a ½ mile of the project location.

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<sup>4</sup> California Department of Parks and Recreation, 1976, *California Inventory of Historic Resources*, Sacramento: State of California Department of Parks and Recreation.

<sup>5</sup> CA-OHP, 1988, *Five Views: An Ethnic Historic Site Survey for California*, Sacramento: State of California Department of Parks and Recreation.

<sup>6</sup> CA-OHP, 1990, *California Historical Landmarks*, Sacramento: State of California Department of Parks and Recreation.

<sup>7</sup> CA-OHP, 1992, *California Points of Historical Interest*, Sacramento: State of California Department of Parks and Recreation.

<sup>8</sup> CA-OHP, 2005, *Historic Properties Directory Listing by City* (through August 2005), Sacramento: State Office of Historic Preservation.

<sup>9</sup> Memo dated 17 December 2007 from Lisa Hagel (Northwest Information Center, Sonoma State University), to Garcia and Associates, December 17, 2007.

<sup>10</sup> A shell midden is an archaeological site formed of mainly concentrated shellfish remains.

The NAHC did not identify any Sacred Lands within the project area. None of the three Native American groups contacted by letter responded to requests for information regarding the project.<sup>11</sup> No prehistoric archaeological resources were identified on the ground within the project site.

The most recent Native American inhabitants of the area were the Coast Miwok. They lived primarily as hunter-gatherers in established villages nearly year-round in the rich salt marsh area to the north of the project site. As different plants and animals were in season they would hunt and harvest resources from camps more central to the locations of the seasonal resources. Resources were processed in small camps for immediate use, or hauled back to villages for processing, storage, and consumption. Evidence of prehistoric occupations exist a ½-mile from the project area in the form of shell middens.<sup>12</sup>

Historically, the project area was part of the San Pedro Santa Margarita Las Gallinas Land Grant owned by Timoteo Murphy until his death in the early 1850s. After the Rancho period the California Gold Rush occurred, and with it came a population boom. The area saw an influx of European and Asian immigration. To satisfy the demand for building materials, a brick kiln was established by the Patent Brick Company of San Francisco about 1 mile from the project area to provide brick for the booming population growth in San Francisco. Concurrently, Chinese settlers were engaged in an active shrimp harvesting industry at what is now China Camp State Park. They persevered in the area between the early 1860s until 1905 when they were forced out of business by a dried shrimp export ban. More recently, various housing developments have been constructed in the vicinity of the project site. China

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<sup>11</sup> Letters were sent to three representatives of Native American groups on February 25, 2005 and included a brief description of the project and its specific location.

<sup>12</sup> Garcia and Associates, San Pedro Court Cultural Resources Constraints Analysis, April 8, 2005.

Camp State Park was established east of the project area and has aided in preserving part of the San Pablo Bay coastline from development.

Santa Venetia, less than a ¼-mile from the project site, is built on marshland that was filled in 1914. At that time, real estate developer Mabry McMahan envisioned a bayside luxury development modeled after Venice, Italy. The economic decline following the First World War put an end to this development. It was only after the Second World War that significant development took place in Santa Venetia, with suburban developments such as Gallinas Village being built on the land originally filled in 1914. Ground disturbance in these areas would be unlikely to encounter intact prehistoric or historic archaeological deposits or other cultural resources given the filling episode and previous ground disturbance.

According to Marin County records, the house located on the project site was built in 1946, and therefore required an evaluation for its potential eligibility for listing in the CRHR. The building has been so dramatically altered since its construction that only remnants of the original building remain. Because the house has lost its historic integrity it is not considered eligible for listing on the CRHR.

### *C. Standards of Significance*

The proposed project would have a significant impact with regard to CEQA if it would:

- ◆ Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5. Specifically, a substantial adverse change includes physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be “materially impaired.” The significance of an historical resource is “materially impaired” when a project demolishes or materially alters, in an adverse manner, those physical characteristics of the resource that convey its his-



torical significance and that justify its inclusion on, or eligibility for inclusion on an historical resource list (including the California Register of Historical Resources, the National Register of Historical Resources, Local Register, or historical resources survey form (DPR Form 523) with a rating of 1-5).

- ◆ Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.
- ◆ Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
- ◆ Disturb any human remains, including those interred outside of formal cemeteries.

Based on Appendix N of the Marin County Environmental Review Guidelines, the project may also have a significant impact related to cultural resources if the project would:

- ◆ Disrupt or adversely affect a prehistoric or archaeological site, or a property of historic cultural significance to a community or ethnic or social group, or a paleontological site, except as part of a scientific study.
- ◆ Adversely affect a local landmark of local/cultural historical importance.

#### ***D. Impact Discussion***

This section analyzes potential impacts to cultural resources in the project area. This discussion is organized by, and responds to, each of the potential impacts identified in the Standards of Significance.

#### **Threat to Archaeological Resources**

**Impact 4.9-A    An archaeological site or sites may be adversely impacted or destroyed by construction activities.**

Based on two record searches conducted through NWIC in 2004 and 2007 and a field survey, no archaeological resources are known to exist on-site. Because the site includes an ephemeral stream and is located near a salt marsh, the possibility of encountering subsurface archaeological resources is increased. At the same time, the likelihood is lessened given the previous ground disturbance in the area. Ground-disturbing activities, such as, but not limited to, foundation construction, landscaping, roadway improvements, and utility trenching could adversely change or destroy an unknown archaeological site. This would be a *significant* impact.

#### **Mitigation Measures**

- 4.9-A.1 In the event that unique historical, archeological, paleontological or geologic features are discovered during ground disturbing activities, work on the site should stop immediately until a State-registered professional archeologist, paleontologist, or geologist can assess the nature and importance of the find and recommend appropriate treatment.
- 4.9-A.2 In the event that the project site is identified as an archeological, paleontological, or geologic resource, development should be situated or designed to avoid impacts on the archeological resources. This may be accomplished through one or more of the following methods:
- ◆ Siting buildings to completely avoid the archeological site.
  - ◆ Covering the site with a layer of soil, also known as “capping”.
  - ◆ Deeding the site as a permanent conservation easement.

#### **Impact Significance after Mitigation**

The implementation of this mitigation measure would reduce the impact to a *less-than-significant* level.

### Threat to Historical Resources

**Impact 4.9.B** The significance of no historical resources will be adversely impacted.

No architectural resources exist on the project site or in the immediate vicinity.<sup>13</sup> As a result, *no impact* would occur.

### Threat to Paleontological Resources

**Impact 4.9-C** A unique paleontological resource or geologic feature could potentially be impacted by construction activity.

No paleontological resources have been identified on the project site.<sup>14</sup> Nonetheless, the potential exists for ground-disturbing activities to inadvertently impact an unknown resource. As a result, a *potentially significant* impact would occur.

### **Mitigation Measures**

4.9-C.1 In the event that unique historical, archeological, paleontological or geologic features are discovered during ground disturbing activities, work on the site should stop immediately until a State-registered professional archeologist, paleontologist, or geologist can assess the nature and importance of the find and recommend appropriate treatment.

4.9-C.2 In the event that the project site is identified as an archeological, paleontological, or geologic resource, development should be situated

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<sup>13</sup> Garcia and Associates, San Pedro Court Cultural Resources Constraints Analysis, April 8, 2005.

<sup>14</sup> Garcia and Associates, San Pedro Court Cultural Resources Constraints Analysis, April 8, 2005.

or designed to avoid impacts on the archeological resources. This may be accomplished through one or more of the following methods:

- ◆ Siting buildings to completely avoid the archeological site.
- ◆ Covering the site with a layer of soil, also known as “capping”.
- ◆ Deeding the site as a permanent conservation easement.

### **Impact Significance after Mitigation**

The implementation of this mitigation measure would reduce the impact to a *less-than-significant* level.

### **Disturbance of Human Remains**

#### **Impact 4.9-D Human remains may potentially be disturbed by construction activity.**

No human remains are known to exist on the project site based on the results of the literature search, records search, field survey, and consultation with the NAHC. Although the likelihood of encountering human remains is low, there is a possibility that such remains could be encountered during construction. Accidental disturbance of these remains is therefore considered a potentially *significant* impact.

### **Mitigation Measures**

4.9-D.1 If previously unknown human remains are encountered during construction, the County Coroner and an appropriate representative of the Native American Heritage Commission should be informed and consulted, as required by State law and in accordance with the provisions of Section 7050.5 of the Health and Safety Code, Section 15064.5 (e) of the CEQA Guidelines, and Section 5097.98 of the Public Resources Code.

### Impact Significance after Mitigation

The implementation of this mitigation measure would reduce the impact to a *less-than-significant* level.

### *E. Cumulative Impacts*

#### Cultural Resources

**Impact 4.9-E    The proposed project, in combination with other development projects, would impact cultural resources in the project area.**

Continued development throughout Marin County, which includes the proposed project, has the potential to cause a substantial adverse change to significant historic or archaeological resources or to destroy significant paleontological resources. However, as this development occurs, it would be consistently subject to policies in the Countywide Plan, as well as federal, State and local laws established to protect cultural resources. Based on compliance with this regulatory framework, this project, in combination with other County projects, would have a *less-than-significant* cumulative impact on cultural resources.

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## 4.10 NOISE

This section describes the existing and future noise conditions in the proposed project area, and presents an evaluation of the significance of potential noise impacts from the proposed project.

### *A. Regulatory Setting*

#### **1. Marin County**

There are established regulations, guidelines and policies related to noise that would apply to the project. State laws addressing noise levels and noise impacts are contained in both the California Environmental Quality Act (CEQA) and the California State Building Code.

##### **a. Long-Term, Project-Generated Noise**

The Marin Countywide Plan Noise Element considers 60 dBA Ldn as the maximum exterior noise level that is “normally acceptable” for residential development. Section B.1) provides a definition of noise measurements. Residential land uses considered “normally acceptable” are satisfactory, based on the assumption that dwellings are of conventional construction and do not involve any special noise insulation requirements. Interior noise levels are required to be maintained at or below 45 dBA Ldn inside residences.<sup>1</sup>

To ensure that new development in Marin County does not significantly increase noise levels within existing noise-sensitive areas, Policy NO-1.c of the Countywide Plan specifies that mitigation would be required if noise levels generated from new development would increase off-site community noise levels by 5 dBA Ldn, by 3 dBA Ldn and exceed the “normally acceptable” standard, or by more than 3 dBA Ldn in cases where the “normally acceptable” standard is already exceeded.<sup>2</sup>

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<sup>1</sup> Marin Countywide Plan, Built Environment Element, page 3-187.

<sup>2</sup> Marin Countywide Plan, Built Environment Element, page 3-187.

b. Construction Noise

Policy NO-1.i of the Countywide Plan regulates construction noise. The Policy requires project-compliance with Sections 6.70.030(5) and 6.70.040 of the Marin County Code. These policies establish allowable hours of operation for construction-related activities. Furthermore, as a condition of permit approval for projects generating significant construction noise, contractors are required to develop a construction noise reduction plan and designate a disturbance coordinator.<sup>3</sup>

*B. Existing Setting*

This section describes the methodology used for measuring noise as well as the existing noise environment in Marin County.

**1. Methodology<sup>4</sup>**

Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable nature of sound may be caused by its pitch or its loudness. Pitch is the height or depth of a tone or sound, depending on the relative rapidity (frequency) of the vibrations by which it is produced. Higher-pitched signals sound louder to humans than sounds with a lower pitch. Loudness is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

In addition to pitch and loudness, several noise measurement scales are used to describe noise in a particular location. Table 4.10-1 lists technical terms commonly used in a noise analysis. A decibel (dB) is a unit of measurement, which indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis.

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<sup>3</sup> Marin Countywide Plan, Built Environment Element, page 3-187.

<sup>4</sup> Illingworth and Rodkin, Inc. 2006.



TABLE 4.10-1 **DEFINITIONS OF ACOUSTICAL TERMS**

Term	Definitions
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure.
A-Weighted Sound Level, dBA	Sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network, which de-emphasizes very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted, unless reported otherwise.
L <sub>01</sub> , L <sub>10</sub> , L <sub>50</sub> , L <sub>90</sub>	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% (respectively) of the time during the measurement period.
Equivalent Noise Level, L <sub>eq</sub>	The average A-weighted noise level during the measurement period.
Community Noise Equivalent Level, CNEL	The Average A-weighted noise level during a 24-hour day, obtained after adding 5 decibels to measurements taken in the evening (7 to 10 pm) and 10 decibels to measurements taken between 10 pm and 7 am.
Day/Night Noise Level, L <sub>dn</sub>	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am.
L <sub>max</sub> , L <sub>min</sub>	The maximum and minimum A-weighted noise level during the measurement period.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Illingworth & Rodkin, Inc., 2006.

An increase of 10 decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities.

There are several methods of characterizing sound. The most common in California is the *A-weighted sound level* or *dBA*. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Representative outdoor and indoor noise levels in units of dBA are shown in Table 4.10-2.

Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called  $L_{eq}$ . The most common averaging period is hourly, but  $L_{eq}$  can describe any series of noise events of arbitrary duration.

## **2. Existing Noise Environment**

This section describes the existing noise environment in the proposed project area. The site is bordered by noise sensitive residential uses to the west and north (across San Pedro Road). Areas to the south and east of the project site are defined by open space and park resources, including China Camp State Park and San Pedro Mountain Open Space Preserve. Neither park resource is within a ¼-mile distance of the project site and is therefore not considered a sensitive receptor area. Furthermore, none of the trails or amenities available to users of these facilities are connected to the project site.

The prevailing source of noise on the site is currently human activity associated with the single-family home, including automobile trips. In the vicinity

TABLE 4.10-2 **TYPICAL SOUND LEVELS**

Noise Generators (At a Given Distance from Noise Source)	A-Weighted Sound Level in Decibels	Noise Environments	Subjective Impression
	140		
Civil defense siren (100 feet)	130		
Jet take-off (200 feet)	120		Pain threshold
	110	Rock music concert	
Diesel pile driver (100 feet)	100		Very loud
Freight cars (50 feet)	90	Boiler room/ Printing press plant	
Pneumatic drill (50 feet)	80	In kitchen with garbage disposal	Moderately loud
Freeway (100 feet)	70	running	
Vacuum cleaner (10 feet)	60	Data processing center	
Light traffic (100 feet)			
Large transformer (200 feet)	50	Department store	
	40	Private business office	Quiet
Soft whisper (5 feet)	30	Quiet bedroom	
	20	Recording studio	
	10		Threshold of hearing

Source: Illingworth & Rodkin, Inc., 2006.

of the site, the prevailing source of noise is vehicle traffic on San Pedro Road, Upper Road and Pt. Gallinas Road. Secondary sources of noise include human voices and the usage of exterior machinery associated with homes along these two roads. Exterior machinery includes, but is not necessarily limited to various types of landscaping equipment and exterior air conditioning systems.

The existing, ambient noise level at the project site is approximately 55 dBA, which is typical of a low-density suburban or rural residential neighborhood.<sup>5</sup>

### *C. Standards of Significance*

According to the State CEQA Guidelines, the project would result in a significant noise impact if it would result in:

- ◆ Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- ◆ Exposure of persons to or generation of excessive groundborne vibration or groundbourne noise levels.
- ◆ A substantial permanent increase in ambient noise levels in the project vicinity above levels without the project. (A substantial increase in noise levels would occur if the proposed project resulted in an increase of 3 dBA or greater at noise-sensitive land uses where noise levels already exceed “normally acceptable” levels, or an increase in noise levels of 6 dBA regardless of the noise and land use compatibility standards.)
- ◆ A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. (Including construction-related noise levels sufficiently high to interfere with speech, sleep or normal activities, i.e. construction-related hourly average noise

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<sup>5</sup> *Handbook of Acoustical Measurements and Noise Control*, Cryril M. Harris, Editor in Chief, 1998, page 50.16.

levels received at noise-sensitive land uses above 60 dBA during the day-time or 55 dBA at night.)

- ◆ For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.
- ◆ For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.

Based on Appendix N of the Marin County Environmental Review Guidelines, the project may also have a significant impact related to noise if the project would:

- ◆ Generate noise that would conflict with Countywide noise standards or other state or local noise standards.
- ◆ Propose land uses that substantially increase noise levels in areas of sensitive receptors.
- ◆ Propose land use that is not compatible with the baseline noise levels.

#### *D. Impact Discussion*

**Impact 4.10-A Noise produced by construction activities would be audible and would intermittently exceed existing noise levels during the construction period at residences to the north and west of the site, would raise the  $L_{dn}$  by more than 5 dBA or exceed the “normally acceptable” standard (60 dBA), as established by the Marin Countywide Plan.**

Long-term and temporary noise levels anticipated from the project are discussed below under Impact 4.10-C and 4.10-D, respectively. While the project would not result in substantial noise increases in the long-term, existing

residents in the vicinity of the project site could be temporarily exposed to noise levels in excess of the County's thresholds, as specified above. This is considered a *significant* impact. Please refer to Impact 4.10-D for an analysis of temporary construction-period noise impacts.

### Mitigation Measures

4.10-A.1 Consistent with Sections 6.70.030(5) and 6.70.040 of the Marin County Development Code, the applicant should develop a construction noise reduction plan prior to construction to establish allowable hours of operation for construction-related activities and to designate a noise disturbance coordinator at the construction site to implement the provisions of the plan. The noise disturbance coordinator should be responsible for responding to any local complaints about construction noise. In the event of complaints, the coordinator should determine the cause of the complaint (e.g. starting too early, bad muffler, etc.) and would require that reasonable measures warranted to correct the problem be implemented.

Provisions that should be included in the plan include, but are not necessarily limited to, the following:

- ◆ Limit construction activities, deliveries of materials or equipment to the site, to the hours between 9:00 a.m. and 6:00 p.m. Monday through Saturday, ~~and 10:00 a.m. to 6:00 p.m. Sundays and all holidays recognized by Marin County.~~
- ◆ Prohibit construction on all Sundays and holidays recognized by Marin County.
- ◆ Do not allow start up of construction related machinery or equipment prior to 8:00 a.m. Monday through Friday, 9:00 a.m. Saturday, and 10:00 a.m. on Sunday and holidays.
- ◆ Select quiet construction equipment, particularly air compressors, whenever possible.

- ◆ Properly muffle and maintain all construction equipment powered by internal combustion engines.
- ◆ Prohibit unnecessary idling of internal combustion engines. Equipment should be turned off when not in use.
- ◆ Do not allow machinery to be cleaned or serviced past 6:00 p.m. Monday through Friday, 6:00 p.m. on Saturdays, and 6:00 p.m. on Sundays and holidays.
- ◆ Locate all stationary noise-generating construction equipment such as air compressors as far as practical from existing nearby residences and other noise-sensitive land uses. Acoustically shield such equipment.
- ◆ Notify adjacent residents to the project site of the construction schedule in writing.
- ◆ Control noise from construction workers' radios so they are not audible at existing residences that border the project site.
- ◆ Conspicuously post a telephone number for the noise disturbance coordinator at the construction site and include it in the written notice sent to neighbors regarding the construction schedule.

### **Impact Significance after Mitigation**

The construction noise mitigation measures described above would mitigate the short-term noise impacts project to a *less-than-significant* level.

### **Groundborne Vibration and Noise**

#### **Impact 4.10-B Generation of excessive groundborne vibration or groundbourne noise levels.**

Pile driving or blasting, which could cause substantial groundborne vibration, would not be required for construction of the proposed homes. While other

construction activities, such as excavation, may cause minor vibration, these levels would not be substantial enough to adversely affect residents or residential structures to the north or west of the project site. There are no sensitive receptors to the south or east of the project site that could be affected by groundborne vibration or groundborne noise. Following construction and during operation, there would not be any activities on-site that would cause substantial groundborne vibration or groundborne noise. As a result, a *less-than-significant* impact would occur.

#### Ambient Noise

**Impact 4.10-C** A substantial permanent increase in ambient noise levels in the project vicinity above levels without the project. (A substantial increase in noise levels would occur if the proposed project resulted in an increase of 3 dBA or greater at noise-sensitive land uses where noise levels already exceed “normally acceptable” levels, or an increase in noise levels of 6 dBA regardless of the noise and land use compatibility standards).

This response addresses potential impacts caused by the project as well as possible impacts to future occupants of the project. As specified in the County-wide Plan, a substantial permanent increase in noise levels would occur if project-generated noise increased ambient levels by more than 5 dBA, or by more than 3 dBA and exceeded the “normally acceptable” threshold for residential use areas, which is 60 dBA.

##### a. Vehicle Noise – Operational Period

Potential traffic noise increases were examined based on data in the project traffic study; completed by Robert Harrison Transportation Planning in February, 2008. For the purpose of this analysis, estimated project trip volumes were compared to existing trip volumes during the AM and PM peak hour on North San Pedro Road.



Generally, when the vehicle type mix remains the same as under current conditions, noise levels from traffic increase by 3 dB with each doubling of the traffic volume.<sup>6</sup> Based on the traffic analysis, the project would generate 11 AM peak hour trips and 15 PM peak hour trips. Project trip generation estimates are shown in Table 4.6-3 in Section 4.6 of this EIR.

Marks Traffic Data, Inc. conducted traffic counts on January 4 and 5, 2007 on North San Pedro Road at the project site (east of Pt. Gallinas Road). The AM peak hour volume was 41 vehicles in the westbound direction and 33 vehicles in the eastbound direction. The PM peak hour volume was 54 vehicles in the westbound direction and 44 in the eastbound direction. Based on the projected traffic volumes for the project, peak hour trips from the project site during the AM and PM peak hours would not constitute a doubling of trips in relation to existing volumes.

Therefore, vehicle trips to and from the site would not cause a substantial permanent increase in ambient noise levels in the vicinity above levels without the project. Noise levels would not increase by more than 5 dBA or exceed 60 dBA in the long-term. As a result, a *less than significant* impact would occur.

b. Noise from Project Site on Surrounding Uses – Operational Period

The primary sources of noise generated on-site during the operational phase would be vehicle traffic, outdoor human activities, and air conditioning, ventilation and other mechanical equipment (e.g. lawnmowers).

On the site's interior roads and within parking areas, noise would be generated by vehicle movements, engine starts, door slams, and the sound of human voices. The sound of a passing car at 15 mph typically ranges from 55 dBA to 65 dBA at 25 feet from a receiver.<sup>7</sup> The noise of an engine start is

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<sup>6</sup> Illingworth and Rodkin, Inc., 2006.

<sup>7</sup> Given the length and width of roadways internal to the site, it is anticipated that typical travel speeds would be approximately 5-10 mph, which would result in a lower dBA range than 55-65 dBA.

similar. Door slams and human voices create noise levels are lower than engine starts.<sup>8</sup>

Exterior Heating, Ventilation and Air Conditioning (HVAC) equipment would be another source of noise. The type, size and placement of exterior air conditioning, ventilation and other mechanical equipment for the project has not been identified at this stage of the planning process, however it is expected that the size and type of exterior equipment would be similar to that typically used for single-family dwelling units, the operation of which would not result in ambient noise levels in excess of applicable thresholds.

There are several elements of the site plan that would serve to mitigate the transfer of noise from the site to the closest residential receivers. The project includes vegetative screening on the northern and western sides of the site that would help absorb and reduce noise transfer between the new residences and existing residential receivers to the north and west.

The spatial buffers between the proposed homes and existing residences to the north and west would also serve to mitigate potential noise impacts. At the closest point, the distance between proposed internal roadways, driveways, and turnaround points to existing residences (to the north and west) would be approximately 120 feet. Furthermore, the layout of the project, as shown in Figure 3-3 in the Project Description, is such that the new homes would generally be located between existing residences to the west and north and the proposed internal roadways, turn around areas, and driveways. In essence, the new homes will serve as a physical buffer between existing receptors and automobile traffic and other noise internal to the site.

Therefore, while existing residences west and north of the project site could hear noise from the proposed development, the average levels during the operational period would not increase by 5BA or more or exceed 60 dBA in the long-term. Therefore, long-term noise levels at these receptors would not

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<sup>8</sup> Illingworth and Rodkin, 2006.

exceed the levels considered “normally acceptable” for residential development, as identified in the Countywide Plan. As a result, a *less than significant* impact would occur.

**Impact 4.10-D A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. (Including construction-related noise levels sufficiently high to interfere with speech, sleep or normal activities, i.e. construction-related hourly average noise levels received at noise-sensitive land uses above 60 dBA during the daytime or 55 dBA at night.)**

a. Construction activities

Construction of the project would increase noise levels in the project area during the construction period, which is estimated to last approximately two years. During construction, increased noise levels would be generated on the site and at surrounding land uses by trucks delivering and removing materials from the site, clearing, grading and paving equipment, saws, hammers, voices of workers, and other noise typically associated with the construction of a residential housing project. Noise generated during construction would differ depending on the phase and the type and amount of equipment used at the construction site. The highest noise levels would be generated during the clearing, excavation and grading of the site, with lower noise levels occurring during building construction and finishing. Table 4.10-3 presents typical ranges of energy equivalent noise levels ( $L_{eq}$ ) at 50 feet for site preparation and residential (wood frame) construction.

Based on the data shown in Table 4.10-3, daytime noise levels at residential receptors closest to the site can be expected to exceed existing noise levels when site work activities, such as ground clearing, excavation, paving and foundation work, are occurring. The noise levels shown in Table 4.10-3 represent typical worst case levels.

TABLE 4.10-3 **TYPICAL RANGES OF LEQ LEVELS FOR CONSTRUCTION PHASES AT 50 FEET**

Work Phase	Leq, With All Pertinent Equipment Operational at the Site	Leq, With Minimum Required Equipment Operational at the Site
Ground Clearing	83 dBA	83 dBA
Excavation	88 dBA	75 dBA
Foundations	81 dBA	81 dBA
Erection	81 dBA	65 dBA
Finishing	88 dBA	72 dBA

Source: U.S.E.P.A., 1973, Legal Compilation on Noise, Vol. 1, page 2-104.

The existing ambient noise level at the project site is approximately 55 dBA. A significant impact would occur if construction-period noise were to increase by more than 5 dBA and exceed the Normally Acceptable standard of 60 dBA for low density resident homes, as established by the Marin County-wide Plan. Noise generated during the construction period would be intermittent and temporary, however it is expected to exceed the Normally Acceptable threshold at certain points during construction. This would be a *potentially significant* impact.

b. Vehicle Noise – Construction Period

Construction traffic would enter and depart the site from San Pedro Road. Homes that currently front San Pedro Road are exposed to higher noise levels generated by existing traffic along the roadway. Existing homes fronting Point Gallinas Road and Upper Road are setback from San Pedro Road by varying distances and typically are less susceptible to noise along San Pedro Road. Therefore, existing homes that either front or are in close proximity to San Pedro Road would be most susceptible to increases in noise associated

with construction vehicle traffic. Construction period traffic would consist of contractors' personal vehicles as well as larger trucks, including dump trucks and flat-bed delivery trucks.

*i. Larger Trucks*

In addition to smaller vehicles used by contractors (e.g. pick ups), larger trucks would make trips to and from the site for material delivery and hauling of debris, including vegetation and excess fill.

Site preparation, including excavation, grading and hauling of fill off-site would be the first phase of construction. As discussed in Section 4.6, Traffic and Transportation, the project would require off-hauling of 5,735 cubic yards of soil from the site. It is estimated that this would require approximately 287 round trips to and from the site by dump trucks with a minimum capacity of 20 cubic yards. As stated by Mitigation Measure TRAFFIC-1, a traffic management plan would be required that would, in part, prohibit truck trips to or from the site during the AM peak hour (7 to 9 a.m.) or PM peak hour (4 to 6 p.m.). In addition, the plan would restrict the number of dump trucks that could park on San Pedro Road for receiving and transport purposes to two at any one time. Based on these measures, dump truck trips during the site preparation period would not take place during the early part of the day, between 7:00 and 9:00 a.m., when sensitivity to noise is heightened. Furthermore, limitations on the number of dump trucks that could park adjacent to the site at any one time would stagger the frequency of truck traffic to and from the site, thereby reducing the effect on ambient noise levels.

Noise from trips made by concrete trucks and material delivery trucks has also been considered as part of this analysis. During foundation and concrete work, approximately 45 round trips would be made to and from the site by cement-mixer trucks. During framing, it is estimated that one large truck would deliver materials to the site every two weeks, requiring a total of 10 truck trips. During the majority of construction, the number of large truck delivery trips would be lower than the number of contractor vehicle trips and

large trucks would not be needed at all during the installation of infrastructure and finishing work. Smaller delivery trucks would be used as needed throughout construction. It is not expected that the number of round trips made by smaller deliver truck trips would exceed 10 in any given day.

Trips made by larger trucks would likely be audible and distinguishable from existing traffic along San Pedro Road, which is primarily made up of light-weight vehicles (i.e., automobiles, SUVs, and pick-up trucks). However, due to the intermittent and temporary nature of these truck trips and likely restrictions on delivery times, as recommended by Mitigation Measure NOISE-1, noise generated by larger truck trips would not result in a substantial change in the overall noise environment. *A less than significant* impact would occur.

*ii. Contractor Vehicles*

The construction of each new home would involve 5 to 10 round trips by contractor vehicles (to and from the site) on a daily basis during a typical work-week. Approximately 10 to 20 round trips are anticipated during the finishing phase of home construction. While variations would occur depending on the nature and pace of the construction activity, the total number of workers on-site is not expected to exceed 35 on any given day. Assuming a worse case scenario in which every worker drove his/her own vehicle to the site, an estimated maximum of 35 trips would be made to the site during the AM peak hour (7:00 a.m. – 9:00 a.m.). It is expected that contractors would gradually depart throughout the workday due to variations in the types of work performed and different schedules. Typically the construction workday ends from between 3PM to 4PM. As a result, there would not be a concentration of departures during the PM peak hour.

As explained in response to criteria 3a), noise levels can be expected to increase by 3 dB when traffic volumes double within a given area, assuming the same or a similar vehicle mix.<sup>9</sup> Workers would be expected to travel to the

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<sup>9</sup> Illingworth and Rodkin, 2006.

site in lightweight vehicles (pick-ups and cars), which would not represent a deviation from the existing vehicle fleet. Therefore, if the volume of contractor trips to and from the site on a given work day would result in a two-fold or greater increase of total trip volumes in the area, it is expected that a substantial temporary increase in the ambient noise level would occur. Based on the existing volume counts for North San Pedro Road, which were quantified by Marks' Traffic Data in January 2007, an increase of 35 trips would not double the traffic volumes in the vicinity of the site. Marks' data indicated that the AM peak hour volume was 41 vehicles westbound and 33 vehicles eastbound. Therefore, in relation to the total vehicle count (74), the addition of 35 trips would not represent a doubling of existing volumes during the peak hour or over a 24-hour span. Furthermore, the vehicle trips would be intermittent in nature over the course of the AM peak hour and would cease following the construction period. Based on these factors, noise impacts related to contractor vehicles would be *less than significant*.

In summary, while ambient noise levels would temporarily increase on an intermittent basis due to construction-related vehicles, the increase would not be substantial. As stated in Section B of this Chapter, Existing Setting, the existing noise level in the vicinity of the site is approximately 55 dBA. Given the intermittent nature of construction-period traffic, it is not expected that the hourly average at sensitive land uses would exceed 60 dBA. As a result, a *less than significant* impact would occur in relation to construction vehicle noise.

#### Airport Noise

**Impact 4.10-E Exposure of people residing or working in the project area to excessive noise levels within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport.**

The closest major public airports to the project site are Oakland International and San Francisco International, both of which are located more than 20

miles to the south. In relation to more local aviation facilities, the project site is not within close enough proximity to the Airport at Gross Field, the Richardson Bay Heliport, or the San Rafael Airport to overlap with the land use plan or noise contours for any of those facilities.<sup>10</sup> As a result, the project site does not overlap with any area designated or planned under a public airport land use plan. *No impact* would occur.

**Impact 4.10-F For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.**

The aviation facilities that could potentially affect the project site in terms of noise generation are identified above in response to criteria 5). There are no private airstrips in the vicinity of the project site that could cause noise levels in excess of applicable thresholds. As a result, *no impact* would occur.

#### **Noise Standards**

**Impact 4.10-G Generation of noise that would conflict with County-wide noise standards or other state or local noise standards.**

The *Marin Countywide Plan* Noise Element identifies a noise exposure of 60 and 45 dBA Ldn as the maximum noise level considered acceptable for exterior and interior areas, respectively, in residential development. The potential impact related to a conflict with this policy is analyzed in response to criteria 3). As stated in that response, a *less-than-significant* impact would occur.

#### **Land Use Conflicts**

**Impact 4.10-H Land uses that substantially increase noise levels in areas of sensitive receptors.**

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<sup>10</sup> Marin Countywide Plan, July 23, 2007, pages 389-391.



The project would not result in land uses that would substantially increase noise levels in the project area. The proposed land use is single-family residential and new, operation-period noise sources would include vehicle trips to and from the site, exterior HVAC and landscaping equipment, and human voices. A *less-than-significant* impact would occur.

**Impact 4.10-I Land use is not compatible with the baseline noise levels.**

As stated in the discussion of the existing noise environment, the approximate baseline level of ambient, exterior noise at the project site is 55 dBA. This level is considered typical of a low-density, residential, suburban setting. The construction of new homes in this noise environment would not introduce new sensitive receptors into a harmful noise environment. The proposed residential uses would be compatible with existing, single family uses in the project area in regards to noise. A *less-than-significant* impact would occur.

*E. Cumulative Impacts*

**Cumulative Traffic Noise**

**Impact 4.10-J The proposed project, in combination with other development projects, would result in a traffic noise impact.**

Based on a review of the cumulative projects list in Section 4.0, there are no other projects currently proposed or under construction within the near vicinity (¼-mile) of the project site. As a result, construction period noise generated by this project would not have significant cumulative noise impacts in combination with noise generated by other projects being constructed concurrently.

During the operation period, the one source of noise that would potentially have significant cumulative impacts is new vehicle trips to and from the site.

If this project, in combination with other projects, resulted in a substantial increase in the level of traffic noise, a significant cumulative impact would occur. However, as discussed in Section D of this chapter, the traffic volumes associated with this project would be insubstantial in relation to existing traffic loads. Because the traffic for this project would only result in a negligible increase in noise levels experienced along San Pedro Road and roads to the north of the site that connect to San Pedro Road (e.g. Pt. Gallinas Road and Upper Road), it would not significantly contribute to a cumulative impact. A *less-than-significant* impact would occur.

## 4.11 HAZARDS AND HAZARDOUS MATERIALS

This section evaluates the potential adverse impacts from the project related to hazards and hazardous materials. The evaluation is based on existing environmental documentation available for the project site and adjacent properties, including a Phase I Environmental Site Assessment prepared by Lowney Associates in April 2005.

### *A. Regulatory Framework*

Various federal, State, County and local agencies oversee hazards and hazardous materials issues in Marin County, and have established regulations at various levels designed to protect human health and the environment from the effects of hazardous materials. These agencies include the California Environmental Protection Agency (CEPA) and the Office of Emergency Services. The California Highway Patrol (CHP) and California Department of Transportation (Caltrans) enforce regulations specifically related to hazardous materials transport. Within CEPA, the Department of Toxic Substances Control (DTSC) has primary authority to enforce hazardous materials regulations. State hazardous waste regulations are contained primarily in Title 22 of the California Code of Regulations (CCR). The San Francisco Regional Water Quality Control Board (RWQCB) is the lead agency responsible for identifying, monitoring, and cleaning up leaking underground storage tanks.

Marin County itself does not have direct authority over most hazardous materials issues, but has adopted local policies to assure local compliance with hazards and hazardous material regulations and to limit risk presented by the handling of such materials.

#### **1. Federal**

The following federal agencies oversee hazards and hazardous materials concerns.

##### **a. Environmental Protection Agency**

The United States Environmental Protection Agency's (EPA) laws and regulations ensure the safe production, handling, disposal and transportation of

hazardous materials. Laws and regulations established by the EPA are enforced in Marin County by the California EPA.

b. U.S. Department of Transportation

The United States Department of Transportation (DOT) regulates the transportation of hazardous materials by truck and rail. The DOT also establishes criteria for safe handling procedures of hazardous materials.

## 2. State

a. State Regulatory Agencies

One of the primary agencies that regulates hazardous materials is the CEPA, which is authorized by the EPA to enforce and implement federal hazardous materials laws and regulations. The DTSC, a department of the CEPA, protects California and Californians from exposures to hazardous waste primarily under the authority of the federal Resource Conservation Recovery Act (RCRA) of 1976 and the California Health and Safety Code.<sup>1</sup> DTSC programs include dealing with aftermath clean-ups of improper hazardous waste management, evaluation of samples taken from sites, enforcement of regulations regarding use, storage and disposal of hazardous materials, and encouragement of pollution prevention.

## 3. Marin County

a. Department of Public Works – Waste Management Services

The Marin County Department of Public Works, Waste Management Division is responsible for solid waste collection and diversion, coordination of household Hazardous Waste disposal. The Division inspects hazardous materials/waste sites within all areas of the County and provides staff to the Marin County Hazardous and Solid Waste Joint Powers Authority (JPA). The JPA is a State approved Regional Agency encompassing all of Marin County's cities and unincorporated areas created to reduce disposal and promote reuse

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<sup>1</sup> Department of Toxic Substances Control, website, [http://www.dtsc.ca.gov/InformationResources/DTSC\\_Overview.cfm#Overview\\_of\\_DTSC](http://www.dtsc.ca.gov/InformationResources/DTSC_Overview.cfm#Overview_of_DTSC), accessed on April 7, 2008.

and recycling. This Regional Agency develops and implements Marin County's Regional Integrated Waste Management Plan, monitors Marin County's diversion rates, and coordinates the operation of Marin County's permanent household hazardous waste (HHW) collection facility, for all jurisdictions except Novato.<sup>2</sup>

Additionally, the Waste Management Division of Public Works administers solid waste franchises with several garbage collection haulers in the unincorporated areas of Marin County.

b. Marin County Operational Area Hazard Mitigation Plan

The purpose of the Hazard Mitigation Plan is to meet the requirements of the Disaster Mitigation Act of 2000 and maintain continued eligibility and assistance for certain mitigation programs from the Federal Emergency Management Agency (FEMA). The Marin County Local Hazard Mitigation Plan (LHMP) describes strategies for sustaining and building on current mitigation activities to ensure the future safety of lives, preservation of property, and protection of the environment during times of disaster. The LHMP is focused on hazard identification, vulnerability analysis, and mitigation strategies, with an identification of the major and minor hazards.

c. Marin County Household Hazardous Waste Program

The San Rafael Fire Department manages the Countywide Household Hazardous Waste Program for every city in the County except Novato. This program, which is conducted through a cooperative effort with Marin Recycling Center, offers residents and small business owners an easy and efficient method of eliminating hazardous waste from waterways and the landfill system in the County.

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<sup>2</sup> County of Marin, Waste Management Services, website, <http://www.co.marin.ca.us/depts/pw/main/wastemanagement.cfm>, accessed on April 7, 2008.

d. Marin Countywide Plan (General Plan)

One of the guiding principles of the Marin Countywide Plan is to reduce the use and minimize the release of hazardous materials throughout the County. This principle is incorporated into several goals including Goals WR-1: Healthy Watersheds, WR-2: Clean Water, AIR-1: Improved Regional Air Quality, AIR-2: Protection from Emissions, AIR-3: Reduction of Vehicle-Generated Pollutants, and several community development goals.

*B. Existing Conditions*

The following describes the existing potential for hazardous materials, airport, emergency response and wildland-related hazards in the project area. Site-specific information related to hazardous materials was obtained from the Phase I Environmental Site Assessment conducted for the project site. The Phase I was prepared in April 2005 by Lowney Associates to identify and assess the potential for hazardous materials-related risks.

**1. Project Site**

Based on review of aerial photographs, the site appeared undeveloped in 1946, except for visible paths and roadways on northern portions of the site. Since no data was available on the site prior to 1946, it is assumed that the site was likely undeveloped. The site's first developed use appears to have been a residence with related buildings constructed circa 1963. Five additional structures were built on central portions of the site by 1975 and were demolished by 1980. By the 1990s, storage structures (to the northeast of the single-family home) and a water tank (to the north/northwest of the home) were built on the project site.

**2. Hazardous Materials**

Products as diverse as gasoline, paint solvents, film solvents, household cleaning products, refrigerants and radioactive substances are categorized as hazardous materials. What remains of a hazardous material after use or processing is considered to be a hazardous waste. The handling, transportation, and disposal of such materials and wastes are of concern in all communities. Im-

proper handling of hazardous materials or wastes may result in significant effects to human health and the environment.

a. Uses On-Site

At the time of the Phase I report in 2005, no information was found indicating that significant quantities of hazardous materials have been historically used or stored at the site. Chemical storage and use involved only routine household cleaners and maintenance supplies. These materials do not appear to pose a significant hazard to the site, provided they continue to be used as designed, are properly handled, and all regulations regarding their use are followed. Based on site observations, the potential for soil or groundwater to have been significantly impacted by these chemicals appears low.<sup>3</sup>

b. Uses Off-Site

Based on the 2005 Phase I report, no information was found indicating that significant quantities of hazardous materials were historically used or stored in the surrounding vicinity of the project site. The surrounding vicinity was primarily undeveloped and heavily vegetated through the 1950s. Low-density residential development occurred to the north and east of the project site. Orchards were present to the west of the project site and a commercial structure was located to the southwest of the site. By the 1960s, the commercial structure and orchards were replaced with residences. A storage yard located to the northeast of the project site was established by 1975. Residential development expanded to the north by the 1980s and the area has remained the same for the last 30 years.

c. Nearby Contaminated Sites

Based on the 2005 Phase I report, no hazardous material incidents, such as spills, have been reported in the site vicinity that would be likely to significantly impact soil or groundwater at the site.

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<sup>3</sup> Lowney Associates, *Limited Phase I Environmental Site Assessment*, page 6.

d. Routine Transportation

In addition to hazardous materials used and generated within Marin County, hazardous materials and wastes pass through Marin County en route to other destinations via Highway 101 and other major arterials. The County does not have direct authority over the transport of hazardous materials on the major roads and highway within its jurisdiction. As mentioned above, transportation of hazardous materials by truck and rail is regulated by the Department of Transportation (DOT).

**3. Proximity to Schools**

There are no schools within a quarter mile of the project site. Venetia Valley Elementary School, which is located at 177 North San Pedro Road, is approximately 1.5 miles southwest of the project site.<sup>4</sup>

**4. Cortese List**

The project site is not included on the Cortese list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 by the DTSC.<sup>5</sup>

**5. Wildland Fires**

The project site is located outside of a Wildland Urban Interface area. Because of the project site's proximity to large areas of open space and undeveloped land containing dense vegetation, it is susceptible to wildland fires.<sup>6</sup>

**6. Airports and Airstrips**

The closest major public airports to the project site are Oakland International and San Francisco International, both of which are located more than 20 miles to the south of the project site. In relation to more local aviation facili-

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<sup>4</sup> Google Maps, <http://maps.google.com>, accessed on January 18, 2008.

<sup>5</sup> Department of Toxic Substances Control, website, [http://www.dtsc.ca.gov/InformationResources/DTSC\\_Overview.cfm#Overview\\_of\\_DTSC](http://www.dtsc.ca.gov/InformationResources/DTSC_Overview.cfm#Overview_of_DTSC), accessed on April 7, 2008

<sup>6</sup> Marin County Fire Department, Community Wildfire Protection Plan, Figure 1, Wildland Urban Interface.



ties, the project site is not within close enough proximity to the airport at Gross Field, the Richardson Bay Heliport, or the San Rafael Airport to overlap with the land use plan or noise contours for any of those facilities.<sup>7</sup>

## **7. Emergency Response**

Marin County has no adopted emergency response or evacuation plan that is applicable to the project site. The County supports and encourages Community Emergency Response Teams (CERT) to help assist during a time of disaster. Training consists of disaster preparedness, disaster fire suppression, disaster operations, light search and rescue operations as well as other training techniques to ensure community safety.

## **8. On-Site Hazards**

As documented by the project arborist in the 2007 Tree Inventory and Evaluation Report and reconfirmed during a July 2008 site visit, the blue gum eucalyptus tree containing the heron rookery near the center of the site is impaired. The project arborist confirmed that the tree is impaired because it is marginal in both health and structural condition. The tree has root damage from installation of the driveway and is infested with the eucalyptus long-horn borer and the eucalyptus tortoise beetle. The arborist considers the nest tree to be a hazard with a short life-span.<sup>8</sup> Due to its condition, the tree is subject to falling down and therefore presents an existing hazard to current residents on the site and to motorists, bicyclists, and pedestrians traveling on San Pedro Road. Furthermore, if maintained during and after construction, the tree would be a hazard to contractors during construction and to future occupants of the development.

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<sup>7</sup> Marin, Countywide Plan, July 23, 2007, Page 389-391.

<sup>8</sup> Memorandum, July 28, 2008. Roger D. Harris, Certified Wildlife Biologist, LSA Associates, to Jeremy Sarrow, California Department of Fish and Game Jennifer Michaud, Prunuske Chatham, Inc., and James MacNair, MacNair & Associates.

### *C. Standards of Significance*

The proposed project would have a significant impact related to hazards or hazardous materials if it would:

- ◆ Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials.
- ◆ Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- ◆ Emit hazardous emissions or handle hazardous materials, substances or waste within ¼-mile of an existing or proposed school.
- ◆ Be located on a site which is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result create a significant hazard to the public or the environment.
- ◆ Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.
- ◆ For a project within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard for people living or working in the project area.
- ◆ For a project within the vicinity of a private airstrip, result in a safety hazard for people living or working in the project area.
- ◆ Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Based on Appendix N of the Marin County Environmental Review Guidelines, the project may also have a significant impact related to hazards and hazardous materials if the project would:

- ◆ Pose a public health and safety hazard through release of emissions or risk of upset.
- ◆ Interfere with emergency response plans or emergency evacuations plans.

- ◆ Expose sensitive receptors to substantial pollutant concentrations.
- ◆ Result in unsafe conditions for employees, visitors or students?

#### *D. Impact Discussion*

**Impact 4.11-A The project would create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials.**

The proposed development, which is a residential subdivision, would not generate substantial amounts of hazardous materials or require the transportation of substantial amounts of hazardous material. There would be some on-site use of common hazardous materials associated with residential uses, such as cleaning solutions, however, neither the product volumes or intensity of use would be such that a significant hazard to the public or environment would exist.

Hazardous materials used during construction would also be a concern. Typically, the hazardous materials used on-site during construction are gasoline, diesel fuel, lubricating oil, grease, hydraulic fluid, solvents, caulking and paint. Potential impacts during construction, including unforeseen accidents, would be reduced to less-than-significant levels through compliance with applicable regulations identified above in Section A., Regulatory Framework. Chapter 4.4 (Hydrology) of this EIR also discusses Stormwater Pollution Prevention Plans (SWPPP) and Best Management Practices (BMPs) to reduce risk of spillage of hazardous materials during construction.

Considering the limited amount of hazardous materials that would be used or stored on-site, along with the existing regulations governing these types of materials and construction-period BMPs, this impact is considered *less than significant*.

### Release of Hazardous Materials

**Impact 4.11-B Demolition of the existing dwelling unit and auxiliary buildings may result in worker exposure to asbestos containing materials (ACMs) and the release of airborne asbestos.**

The proposed project would create a significant hazard to the public or the environment if it resulted in the reasonably foreseeable upset or release of hazardous materials into the environment. The project would involve the demolition of the single family residence and the remaining auxiliary (storage) structures on-site. Because the house was constructed in the early 1960s, it could contain asbestos and lead based paint. Because asbestos has proven to cause serious adverse health effects, such as asbestosis and lung cancer, it is strictly regulated in its use as a building material. Potential worker exposure to or release of airborne asbestos during demolition activities is considered a significant impact.

Based on the age of the home, its interior and exterior surfaces may also contain lead-based paint. If lead-based paint is still bonded to the building materials, its removal is not required prior to demolition. If lead based paint is peeling, flaking or blistered, it would be removed prior to demolition. It is assumed that such paint will become separated from the building components during demolition activities; thus, it must be managed and disposed as a separate waste stream. Potential contamination from lead based paint during demolition activities is considered a *significant impact*.

### **Mitigation Measures**

4.11-B.1 Prior to demolition of the dwelling unit and auxiliary buildings located on the project site, the applicant should coordinate with the Bay Area Air Quality Management District (BAAQMD) to arrange for an inspection of structures to be demolished. If asbestos is detected in either structure, the demolition and removal of asbestos-

containing building materials will be subject to applicable BAAQMD Regulations and the applicant would be required to obtain a Job Number from the BAAQMD. The applicant would be required to present the Job Number to the County Building Department before demolition could commence.

### **Impact Significance After Mitigation**

Mitigation Measure 4.11-B.1 would reduce potential impacts related to exposure to asbestos to a *less-than-significant* level.

#### **Impact 4.11-C The project would create a significant hazard to the public or the environment through accidental release from project uses.**

The proposed project includes residential uses. Only small quantities of hazardous materials, such as household batteries, paint, and cleaners, would be stored and utilized by the single-family households. Based on the nature and volume of these materials, accidental release that would result in a significant environmental impact is unlikely. Therefore, the accidental release of such materials is considered to be a *less-than-significant* impact.

#### **Impact 4.11-D The project would emit hazardous emissions or handle hazardous materials, substances or waste within one-quarter mile of an existing or proposed school.**

The San Rafael City Schools District is not proposing the construction of any new schools,<sup>9</sup> and there are no existing schools located within ¼-mile of the project site.<sup>10</sup> Thus, there would be *no impact*.

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<sup>9</sup> Colucci, Ed. San Rafael City Schools, Director, Curriculum & Student Services. Personal communication with Carey Stone, DC&E October 4, 2007.

<sup>10</sup> Google Maps, <http://maps.google.com>, accessed on April 4, 2008.

**Impact 4.11-E** The project would be located on a site which is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result create a significant hazard to the public or the environment.

The project site is not included on the Cortese list of hazards materials sites compiled pursuant to Government Code Section 65962.5 by the DTSC.<sup>11</sup> Thus, there would be *no impact*.

#### Wildland Fires

**Impact 4.11-F** The project would expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

The project site is not located within a Wildland Urban Interface (WUI) area.<sup>12</sup> However, because of the project site's proximity to open space and undeveloped land, the site is susceptible to wildland fires. This risk is considered a significant impact.

The project is being designed in accordance with a Fire Hazard Management Plan that would minimize the risks associated with wildland fires. Among the measures incorporated into the Plan are buffer and defensible space zones, removal of several trees, compliance with the Marin County Fire Code, and an irrigation system. With the inclusion of the Fire Management Plan as part of the project, exposure of people and structures to wildland fire will be reduced to a *less-than-significant* impact.

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<sup>11</sup> Department of Toxic Substance Control website, <http://www.envirostor.dtsc.ca.gov/public/>, accessed April 4, 2008.

<sup>12</sup> Marin County Fire Department, Community Wildfire Protection Plan, Figure 1, Wildland Urban Interface.

### Airport Hazards

**Impact 4.11-G** The project would result in a safety hazard for people living or working in the project area that is within an airport land use plan where such a plan has not been adopted, within 2 miles of a public airport or public use airport.

Oakland International and San Francisco International airports are the closest major public airports to the project site. Both are located more than 20 miles to the south of the project site. Private aircraft associated with the San Rafael Airport, which is the closest aviation facility to the project site, is located approximately one mile to the northwest.<sup>13</sup> Aircraft traveling to or from this facility would be traveling on a flight path that would not cross over the project site. Furthermore, the project site does not overlap with any airport land use plans related to any aviation facilities. As a result, *no impact* would occur.

**Impact 4.11-H** The project would result in a safety hazard for people living or working within the vicinity of a private airstrip.

As discussed in the response to criteria 6), no flight paths cross the project site and the project site does not overlap any airport land use plans or noise contours. The closest aviation facility, the San Rafael Airport, is approximately one mile from the project site. As a result, *no impact* would occur.

### Emergency Response Plan

**Impact 4.11-I** The project would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

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<sup>13</sup> Marin, Countywide Plan, July 23, 2007, Page 389-391.

The project would not conflict with an emergency response or evacuation plan. Both during and following project construction, North San Pedro Road would remain open at all times allowing for the passage and transport, if necessary, of emergency vehicles and equipment. Although road widening on North San Pedro Road would occur, the roadway would remain open, allowing emergency vehicles to access the area. Furthermore, the project layout would not preclude the safe evacuation of residents from the new homes or the site in the event of an emergency. As a result, *no impact* would occur.

#### **Unsafe Conditions for Employees, Visitors and Residents**

**Impact 4.11-J** The potential fall of the mature, blue gum eucalyptus tree located near the center of the site is an existing safety hazard.

As discussed above in the Existing Conditions portion of this section, the project arborist considers the nest tree to be a hazard with a short life-span. The potential for the tree to fall is a *potentially significant* safety hazard.

#### **Mitigation Measures**

4.11-J.1 The applicant shall contract a service to remove the tree prior to construction to ensure the safety of contractors during the construction period and future residents of the development.

#### **Impact Significance After Mitigation**

Implementation of Mitigation Measure 4.11-J.1 would reduce potential safety impacts stemming from the falling of the tree to a *less-than-significant* level.



*E. Cumulative Impacts*

**Cumulative Environmental Hazards**

**Impact 4.11-K The proposed project, in combination with other development projects would result in a environmental impacts.**

A list-based approach has been used for this cumulative analysis. The analysis considers the development projects listed in Section 4.0 and whether this project would have significant cumulative impacts related to hazards and hazardous materials in combination with the cumulative projects.

Because neither the proposed project nor any of the reasonably foreseeable development would involve the transport, use or disposal of significant amounts of hazardous materials that would not be closely monitored and regulated, they would not cumulatively result in environmental impacts related to hazards or hazardous materials. Any potential impacts that could arise from developing on sites that are already contaminated would be adequately addressed under each individual project through remediation protocols established by the DTSC or the RWQCB. Thus, there would be no cumulative impact from hazards or hazardous materials associated with likely development in the area, nor would the proposed project contribute to a significant cumulative impact.

COUNTY OF MARIN  
650 NORTH SAN PEDRO ROAD EIR  
HAZARDS AND HAZARDOUS MATERIALS

## 4.12 ENERGY CONSERVATION

Energy would be consumed during the construction, operation and maintenance of the proposed project, both directly and indirectly. This section describes the existing energy resources, derived from petroleum products, electricity and natural gas available within the project area and analyzes the impacts related to these resources that would result from the implementation of the proposed project.

### *A. Regulatory Framework*

This section summarizes the federal, State and local laws and regulations applicable to energy resources and energy use.

#### **1. Federal Agencies**

Federal agencies regulate energy production, transmission and consumption through various regulations and programs. Federal agencies, such as the Environmental Protection Agency (EPA), the U.S. Department of Energy (USDOE), and the U.S. Department of Transportation (USDOT) affect energy consumption in the transportation sector through fuel economy standards, funding for transportation infrastructure and funding for energy related research and development projects. The USDOE also promotes a diverse supply and delivery of reliable, affordable and environmentally sound energy. The Federal Energy Regulatory Commission (FERC) is an independent agency that regulates the interstate transmission of electricity, natural gas, and oil. FERC also reviews proposals to build liquefied natural gas (LNG) terminals and interstate natural gas pipelines as well as licensing hydropower projects.<sup>1</sup>

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<sup>1</sup> Federal Energy Regulatory Commission, website. <http://www.ferc.gov/>, accessed on April 5, 2008.

a. Federal Regulations<sup>2</sup>

i. *Energy Policy Act of 2005 (EPACT)*

The EPACT is intended to establish a comprehensive, long-range energy policy, and the USDOE is responsible for its implementation. It provides incentives for traditional energy production as well as newer, more efficient energy technologies and conservation. Those incentives come in the form of various tax credits and deductions, which include automobile tax credits, home energy efficiency improvement tax credits, energy efficient commercial building deduction and business tax credits for businesses that produce bio-diesel/alternative fuels and manufacture or purchase energy-efficient appliances.

**2. California Energy Commission (CEC)**

The CEC is the State's primary energy policy and planning agency. Created by the Legislature in 1974, the Commission has five major responsibilities: forecasting future energy needs and keeping historical energy data; licensing thermal power plants 50 megawatts or larger; promoting energy efficiency through appliance and building standards; developing energy technologies and supporting renewable energy; and planning for and directing state response to energy emergency. With the signing of the Electric Industry Deregulation Law in 1998 (Assembly Bill 1890), the Commission's role was expanded to include overseeing funding programs that support public interest energy research; advance energy science and technology through research, development and demonstration; and providing market support to existing, new and emerging renewable technologies.<sup>3</sup>

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<sup>2</sup> Federal Energy Regulatory Commission, website.  
<http://www.ferc.gov/legal/maj-ord-reg/>, accessed on April 5, 2008.

<sup>3</sup> California Energy Commission, website. <http://www.energy.ca.gov/commission/index.html>, accessed on April 5, 2008.

### 3. State and Local Regulations

#### a. State of California Energy Action Plan (EAP)

Administered by the CEC, the EAP was initially created in 2003 and updated in 2005. The EAP established shared goals and specific actions to ensure that adequate, reliable, and reasonably-priced electrical power and natural gas supplies are achieved and provided through policies, strategies, and actions that are cost-effective and environmentally sound for California's consumers and taxpayers. Also incorporated in the EAP are specific actions reflecting the importance of transportation fuels to California's economy and the need to mitigate the environmental impacts caused by their use, as well as the importance of taking actions in the near term to mitigate California's contributions to climate change from the electricity, natural gas and transportation sectors.<sup>4</sup>

#### b. California's Energy Efficiency Standards for Residential and Nonresidential Buildings of 2005 (Title 24 Building Standards)<sup>5</sup>

Also administered by the California Energy Commission, Title 24 Building Standards were established in 1978 in response to a legislative mandate to reduce California's energy consumption. Last updated in October 2005, the standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. Title 24 standards require that new construction include a variety of energy conservation measures including ceiling, wall, and concrete slab insulation; weatherstripping on doors and windows; vapor barriers; insulated heating and cooling ducts; water heater insulation blankets; and certified energy-efficient appliances.<sup>6</sup>

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<sup>4</sup> California Energy Commission website. [http://www.energy.ca.gov/energy\\_action\\_plan/index.html](http://www.energy.ca.gov/energy_action_plan/index.html), accessed on April 5, 2008.

<sup>5</sup> California Energy Commission website. <http://www.energy.ca.gov/title24/>, accessed on April 5, 2008.

<sup>6</sup> California Energy Commission website. [http://www.energy.ca.gov/title24/2005standards/residential\\_manual.html](http://www.energy.ca.gov/title24/2005standards/residential_manual.html), accessed on April 9, 2008.

c. Marin Countywide Plan

The Marin Countywide Plan is the County's long range guide for use of land and protection of natural resources. The Plan, adopted in November 2007, establishes policies and programs to be used by the public, planning staff, and decision makers when reviewing and analyzing proposed development. The Plan balances current and future needs for urban, rural and natural uses throughout Marin County. The Plan provides specific policy direction for the adoption of energy efficiency standards through the implantation of Goal EN-1 – Decreased Energy Use and Policy EN-1.1 – Adopt Energy Efficiency Standards.

d. Marin County Building Energy Efficient Structures Today (BEST) Program<sup>7</sup>

Marin County's Building Energy Efficient Structures Today (BEST) Program was developed by the Community Development Agency to enhance energy efficiency and conservation in residential, commercial, and community facilities. Under the program, a project must fulfill one of the following three requirements in order to qualify for a waiver of the Title 24 energy fee and to fast-track permit processing:

- ◆ Exceed Title 24 requirements by 20 percent.
- ◆ Meet the criteria in the checklist designed for your project category.
- ◆ Install an on-site renewable energy system that produces a minimum of 75 percent of the annual energy use for the building and site amenities.

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<sup>7</sup> Marin County Community Development, Marin's BEST, Residential Checklist, website, [http://www.co.marin.ca.us/depts/CD/main/pdf/BEST\\_pdf/checklists/checklist\\_residential.pdf](http://www.co.marin.ca.us/depts/CD/main/pdf/BEST_pdf/checklists/checklist_residential.pdf), access April 9, 2008.

e. Marin County Single-Family Residential Design Guidelines<sup>8</sup>

The Marin County Single-family Residential Design Guidelines were adopted in July 2005 and require new development to be energy efficient. These Guidelines include the policy included below.

- ♦ **E-1.1 Green building.** Residential design should include “green building” measures that are energy-efficient, healthy, and durable.

The Residential Green Building Guidelines and Rating System provides a checklist by which the project can calculate compliance with energy efficiency standards. The list is used for new single-family residences and for additions where the addition is 500 square feet or larger. A point system assesses the overall sustainability of the project. New homes are required to meet or exceed the number of points in the “Certified Category.”<sup>9</sup> Table 4.12-1 shows the points for each category.

*B. Existing Conditions*

This section addresses the Marin County’s energy sources, as well as the local efforts to conserve energy and use energy more efficiently.

**1. Energy Supply**

California’s major sources of energy are petroleum products (i.e., gasoline, diesel and oil), electricity, and natural gas. The California Energy Commission (CEC) indicates that California crude resources in 2006 came from in-state (38.8 percent), foreign sources (45 percent), and Alaska (16.1 percent).

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<sup>8</sup> Marin County Community Development Agency, Single-Family Residential Design Guidelines, [http://www.co.marin.ca.us/depts/CD/main/pdf/BEST\\_pdf/checklists/checklist\\_residential.pdf](http://www.co.marin.ca.us/depts/CD/main/pdf/BEST_pdf/checklists/checklist_residential.pdf), accessed on April 9, 2008.

<sup>9</sup> Marin County Community Development Agency, New Home Green Building Residential Design Guidelines Certification Form.

TABLE 4.12-1 GREEN BUILDING RATINGS

Building Size	Certified	Silver	Gold	Platinum
< 3500 sf	50-75	76-100	101-125	126+
3501-6500 sf	76-100	101-125	126-150	151+
6501-9500 sf	101-125	126-150	151-175	176+
> 9501 sf	126-150	151-175	176-200	201+

Source: Marin County New Home Green Building Residential Design Guidelines Certification Form.

In 2006, natural gas resources in California came from the Southwest (40.3 percent), Canada (23.4 percent), in-state (13.5 percent), and the Rocky Mountains (27.7 percent). Sources of electricity production by resource type in California in 2006 included natural gas at 41.5 percent, coal at 15.7 percent, hydroelectric at 19.0 percent, nuclear at 12.9 percent and renewable at 10.9 percent. Imported electricity from the northwest and southwest added 6.7 percent and 15.2 percent to California resources, respectively.<sup>10</sup>

Electricity and natural gas is distributed in Marin County by Pacific Gas and Electric (PG&E). Electricity and natural gas are transported into the county through electricity transmission lines and a natural gas pipeline.<sup>11</sup> The project site is supplied with natural gas and electricity through an underground gas pipeline under North San Pedro Road and overhead and electrical lines along North San Pedro Road, respectively.<sup>12</sup>

<sup>10</sup> California Energy Commission website, <http://www.energy.ca.gov/html/energysources.html>, accessed on April 9, 2008.

<sup>11</sup> Marin County Community Development Agency, Energy Technical Background Report, page 5.

<sup>12</sup> Schematic Utility Plan, 650 North San Pedro Road, ILS Associates, Inc., August 3, 2007.



## 2. Energy Use Patterns

Detailed information about energy use in the project area is limited; therefore, state-level and county trends are relied upon to characterize energy consumption at the local level.

Table 4.12-2 shows California electricity deliveries for 2005. Within the County there were 104,830 electrical accounts resulting in the consumption of 683 million kWh per year. Approximately 49 percent of the electricity within the County is being utilized by residential customers, and 33 percent was used for commercial uses.<sup>13</sup> On average, residential uses in Marin County consume approximately 7,400 kWh per year.<sup>14</sup>

Table 4.12-3 shows natural gas demand within California. In 2005 532 million cubic feet per day was delivered to PG&E residential customers. Within Marin County, 72 percent of the natural gas was used for residential uses and 16 percent was used for commercial uses.<sup>15</sup>

### *C. Standards of Significance*

Based on Appendix N of the Marin County Environmental Review Guidelines, the project may also have a significant impact related to energy if the project would:

- ◆ Utilize energy, oil or natural gas in a non-efficient manner.
- ◆ Encourage activities that would result in the use of large amounts of energy, oil or natural gas.
- ◆ Require energy supplies not planned for or within the capacity of the project's energy supplier.

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<sup>13</sup> Marin Countywide Plan, Built Environment Element, page 3-78.

<sup>14</sup> Marin Countywide Plan, Built Environment Element, page 3-79.

<sup>15</sup> Marin Countywide Plan, Built Environment Element, page 3-78.

TABLE 4.12-2 **CALIFORNIA UTILITY ELECTRICITY DELIVERIES FOR 2005**

County	Residential		Nonresidential		Total	
	No. of Accounts	kWh <sup>a</sup> (million)	No. of Accounts	kWh (million)	No. of Accounts	kWh (million)
Marin	104,830	683	14,860	738	119,690	1,421
Sonoma	186,571	1,230	28,394	1,598	214,965	2,828
Solano	144,749	994	16,390	2,050	161,139	3,044

<sup>a</sup> Kilowatt-hour (kWh): The most commonly-used unit of measure telling the amount of electricity consumed over time, which is one kilowatt (1,000 watts) of electricity supplied for one hour. Source: California Energy Commission's website. [http://www.energy.ca.gov/electricity/electricity\\_by\\_county\\_2005.html](http://www.energy.ca.gov/electricity/electricity_by_county_2005.html), accessed on April 5, 2008.

TABLE 4.12-3 **CALIFORNIA NATURAL GAS DEMAND FOR 2005 (MILLION CUBIC FEET PER DAY – MCFD)**

Sector	PG&E	SoCal Gas	SDG&E	Utility Sum	Non Utility	Total
Residential	532	659	82	1,286	0	1,286
Commercial	229	233	48	567	0	567
Industrial	430	404	10	844	630	1,474
Electric Gen	818	729	163	1,711	683	2,394
State Total	2,009	2,095	315	4,419	1,313	5,732

Source: California Energy Commission's website. [http://www.energy.ca.gov/naturalgas/statistics/natural\\_gas\\_demand.html](http://www.energy.ca.gov/naturalgas/statistics/natural_gas_demand.html), accessed on April 5, 2008.

- ◆ Require the development of new energy resources.
- ◆ Generate demand for energy services that would result in the need for new or physically altered facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives.

#### *D. Impact Discussion*

##### Energy, Oil or Natural Gas Waste

**Impact 4.12-A The project would not utilize energy, oil or natural gas in an inefficient manner.**

The project applicant completed a GreenPoint Rated checklist evaluating the energy efficiency of the project.<sup>16</sup> GreenPoint Rated is an assessment tool developed by Build It Green to rate a development in terms of efficiency and green features and assigns points for different features incorporated into a project. In order for a construction project to be certified as GreenPoint Rated, a minimum of 50 points must be achieved. The project surpassed the minimum and achieved 90 points. As a result, the project would utilize energy, oil and natural gas in an efficient manner. A *less-than-significant* impact would occur.

##### Excess Energy Usage

**Impact 4.12-B The project is not expected to encourage activities that would result in the use of large amounts of energy, oil or natural gas.**

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<sup>16</sup> Built It Green, GreenPoint Rated, website, <http://www.builditgreen.org/greenpointrated>, accessed on April 9, 2008.

The project proposes the construction of 12 single-family residential units and two smaller secondary units. Estimated residential electricity demand within Marin County peaked in 2000 at approximately 7,400 kWh per year. In response to the energy crisis and conservation efforts, electricity demand receded in 2001 to approximately 6,400 kWh.<sup>17</sup> Residential uses do not encourage activities that would result in the use of inordinately large amounts of energy, oil or natural gas relative to non-residential uses, as shown in Table 4.12-2. During the operational phase of the project, energy consumption patterns and rates for the proposed project are expected to be comparable to other single-family residential projects.

Construction activities on the project site would also consume energy. However, construction-period energy demand is expected to be minimal compared to energy consumed in the San Rafael area, and is not anticipated to result in local energy demand exceeding the capacity of PG&E and gasoline/diesel fuel suppliers. Construction activities are not anticipated to result in an inefficient use of energy as gasoline and diesel fuel would be supplied by construction contractors who would conserve the use of their supplies to minimize their costs on the project. As a result, a *less-than-significant* impact would occur.

#### Excess Energy Demands

**Impact 4.12-C** The project will not substantially increase energy usage or use supplies not planned for or beyond the capacity of the project's energy supplier.

The construction and operation of the proposed project would not require energy supplies that are not planned for or within the capacity of PG&E. As shown in Table 4.12-2, in 2005, Marin County had 104,830 residential electrical accounts and used roughly 680 million kWh. In 2001, the County reached a peak in electricity consumption, as residential units consumed approxi-

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<sup>17</sup> Marin Countywide Plan, Built Environment Element, page 3-79.

mately 7,400 kWh for the year.<sup>18</sup> If each of the proposed 14 residential unit consumed an average of 7,400 kWh, the project would consume approximately 104,000 kWh each year. This would constitute far less than 1 percent of the total electricity consumption of the County. The addition of 14 new residential units will not substantially increase energy usage and will not require energy supplies not planned for by the energy supplier.<sup>19</sup> Furthermore, features from the GreenPoint Rated checklist would lessen energy and natural gas demand of the proposed homes. As a result, a *less-than-significant* impact would occur.

#### **New Energy Resource Requirements**

##### **Impact 4.12-D The project will not require the development of new energy resources.**

As discussed in the response to criteria 4.12-C, the project would not require energy supplies that are not planned for or within the capacity of PG&E. Because the project will not require substantial amounts of energy in relation to existing supply and demand within the County, the project will not require the development of new energy resources. The project could be adequately supplied through existing energy sources currently utilized by residences in the immediate area (e.g. natural gas from PG&E). As a result, a *less-than-significant* impact would occur.

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<sup>18</sup> 14 units were assumed to provide a conservative estimate, even though 12 primary and 2 secondary (smaller) residences would be constructed.

<sup>19</sup> O'Keefe, Crystal. Administrative Distribution Engineer, Pacific Gas & Electric. Personal communication with Kyle Simpson, DC&E, on April 18, 2008.

### Changes to Energy-Related Facilities

**Impact 4.12-E** The proposed project's energy service demands would not result in the need for new or physically altered facilities, the construction of which could cause significant environmental impacts.

As discussed in the responses to criteria 4.12-C and 4.12-D, the project would not require substantial amounts of energy in relation to existing demand and available supply. As a result, the project would not generate demand for energy services that would require the need for new or physically altered energy production facilities, such as power plants.<sup>20</sup> New infrastructure (e.g. natural gas transmission pipelines) would need to be installed on-site and connected to the new homes. However, the construction and placement of these utilities would not impact areas outside the footprint of development. As a result, a *less-than-significant* impact would occur.

### *E. Cumulative Impacts*

Short-term and long-term cumulative development is expected to result in an increase in the demand for energy sources throughout the County. Refer to Section 4.0 of this EIR for a description of anticipated cumulative development. It is anticipated that existing energy resources would be sufficient to meet the combined demand of cumulative development. The energy consumed by the project (e.g. electricity, oil, and natural gas), along with other cumulative projects, would be insignificant in relation to regional energy consumption and available energy supply.

Furthermore, there are several County programs and policies, and PG&E initiatives that will serve to reduce total energy demand among cumulative

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<sup>20</sup> O'Keefe, Crystal. Administrative Distribution Engineer, Pacific Gas & Electric. Personal communication with Kyle Simpson, DC&E, on April 18, 2008.

projects. Additionally, Marin County has proposed a goal of reducing total electricity consumption by 20 percent by 2015.

Minimum standards for energy efficiency are outlined in California's Energy Efficiency Standards for Residential and Non-residential Buildings.<sup>21</sup> To exceed these standards, PG&E and state and federal agencies offer incentive programs to encourage developers to exceed Title 24 standards. These programs encourage the use of Energy Star appliances, automatic light sensors, extra insulations and other measures to reduce energy consumption.

The Marin Countywide Plan contains additional policies aimed at reducing energy consumption by new residential development. To accomplish this, the Countywide Plan establishes a permanent sustainable energy planning process, Program EN-1.a and the adoption of LEED standards, Program EN-3.h.

Due to the Project's relatively small size and the County's policy framework related to energy conservation, the Project's contribution to long-term cumulative demands on energy resources and services would be negligible and would represent a *less-than-significant* cumulative impact.

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<sup>21</sup> California Code of Regulations, Title 24, Part 6.

COUNTY OF MARIN  
650 NORTH SAN PEDRO ROAD EIR  
ENERGY CONSERVATION



## **4.13 POPULATION AND HOUSING**

This section discusses the existing population and housing conditions in the project area as well as the associated impacts that could result from implementation of the project.

### ***A. Regulatory Framework***

This section provides a general description of the current regulations addressing population and housing within Marin County.

#### **1. Marin Countywide Plan**

The Marin Countywide Plan is the County's long range guide for use of land and protection of natural resources. The Plan, adopted in November 2007, establishes policies and programs to be used by the public, planning staff, and decision makers when reviewing and analyzing proposed development. The Plan balances current and future needs for urban, rural and natural uses throughout Marin County. The Plan provides specific policy direction in regards to maintaining population diversity, providing a variety of housing choices, controlling long-term housing affordability, meeting inclusionary housing requirements, allowing second units, and ensuring second-unit affordability.

#### **2. Marin County Housing Allocations**

State law requires all cities in California to accommodate their respective “fair share” of the affordable and market-rate housing needs in the region. ABAG determines the fair-share allocation for each of the nine Bay Area counties.

According to ABAG’s 2007-2014 Draft Regional Housing Needs Allocations (RHNA), which were adopted in mid-2007 (the Final RHNA are expected to be adopted by mid-2008), the regional fair share for Marin County is 4,890 units for the seven-year period, of which 1,097 are for very-low income households, 756 for low income, 979 for moderate income and 2,058 for above-moderate income households. Of these allocations, a total of 773 units are the County’s fair share within the unincorporated areas, of which 183 are

for very-low income, 137 for low income, 169 for moderate income and 284 for above-moderate income households.<sup>1</sup>

## ***B. Existing Conditions***

This section describes the current conditions with regard to population and housing in Marin County.

### **1. Population**

#### **a. Marin County**

Marin County has the second smallest population in the nine-county Bay Area region. Its 2000 population was 247,289. The County's population grew by 7 percent from 1990 to 2000, with an additional 2 percent growth between 2000 and 2005, when the County's population was estimated to be 252,600 residents.<sup>2</sup> Marin County is expected to have a 5 percent growth rate between 2005 and 2015, with the population projected to be 264,700 by 2015. As of 2000, approximately 28 percent of the County's population lived within unincorporated areas.<sup>3</sup>

### **2. Housing**

According to the 2000 Census, Marin County had a total of 100,650 occupied housing units out of a total of 104,990 housing units, or an occupancy rate of 96 percent. The majority of housing in Marin County (60.6 percent) was comprised of single-family, detached units, followed by residential complexes with 20 or more units (9.3 percent). Single-family attached units were the next biggest group at 8.1 percent. The rest of the county's housing stock was comprised of duplexes (4.2 percent), tri- and quad-plexes (4.7 percent), build-

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<sup>1</sup> Association of Bay Area Governments. *Planning Housing in the San Francisco Bay Area: Proposed Final Regional Housing Needs Allocation*, March 20, 2008.

<sup>2</sup> Association of Bay Area Governments, *Projections 2007*, page 95.

<sup>3</sup> Association of Bay Area Governments, *Projections 2007*, page 112. This source provides the most current data available.

ings with 5 to 9 units (5.6 percent), buildings of 10 to 19 units (5.5 percent), mobile homes (1.5 percent) and boat, RV, van, etc. (0.5 percent). Census 2000 reports that 63.6 percent of housing units in Marin County were owner-occupied, and 36.4 percent renter-occupied.<sup>4</sup>

Within Marin County, the average household size for owner-occupied units in 2000 was 2.42 persons, while the average household size for renter-occupied units was 2.21 persons, with an overall average of 2.34 persons per household.<sup>5</sup> Average household size is projected to remain steady at 2.34 persons per household until 2020, where it is projected to decrease.<sup>6</sup>

### *C. Standards of Significance*

The proposed project would have a significant impact on population and housing if it would:

- ◆ Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?
- ◆ Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?
- ◆ Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

Based on Appendix N of the Marin County Environmental Review Guidelines, the project may also have a significant impact related to population and housing if the project would:

- ◆ Induce substantial growth or concentration of population.

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<sup>4</sup> United States Census Bureau, Census 2000.

<sup>5</sup> United States Census Bureau, Census 2000.

<sup>6</sup> Association of Bay Area Governments, *Projections 2007*, page 95.

- ◆ Conflict with the housing and population projections and policies as set forth in the Countywide Plan.

#### *D. Impact Discussion*

##### Induced Population Growth

**Impact 4.13-A** The proposed project would not induce substantial population growth either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

Based on the 2000 Census, the average household size in Marin County was 2.34 people.<sup>7</sup> The project proposes the construction of 12 single-family residences and two smaller secondary units. Based on the number of proposed housing units, the project would result in approximately 30.42 residents within the project site.<sup>8</sup> For purposes of this analysis, it is assumed that the 30.42 residents would move into Marin County from other jurisdictions. This assumption allows for the most conservative assessment of impacts related to population and housing.

One occupied single-family residence is currently located within the project site. The construction of 12 single-family dwelling units and two smaller, secondary dwelling units would lead to an increase in the population on-site. The Marin Countywide Plan estimates that between 2000 and 2040, population in unincorporated areas of the County will increase by approximately

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<sup>7</sup> Bay Area Census website, <http://www.bayareacensus.ca.gov/counties/MarinCounty.htm>. Accessed April 2, 2008.

<sup>8</sup> It is assumed that 12 proposed single-family residences would result in a population of 28.08 people, and the two secondary dwelling units would result in a combined 2.34 people due to their reduced size ( $12 \times 2.34 = 28.08$ ,  $28.08 + 2.34 = 30.42$ ).

1,220 people per year, or roughly 500 households per year.<sup>9</sup> The addition of 30.42 residents would not constitute substantial growth in relation to the County's existing population or future population levels projected in the Countywide Plan. Furthermore, while the project would result in roadway improvements and upgrades to sewer and water lines, these improvements would be specific to the project site and would not indirectly trigger substantial population growth in other areas. As a result, a *less-than-significant* impact would occur.

#### **Housing Displacement**

**Impact 4.13-B The proposed project would not displace substantial numbers of existing housing, thus necessitating the construction of replacement housing elsewhere.**

A single-family residence is currently located on the project site. The project would require the demolition of this residence. However, single-family housing of a similar nature is available locally. No other residential structures would be removed as a result of the project. Therefore, the project would not result in the displacement of substantial numbers of existing housing units, and a *less-than-significant* impact would occur.

#### **Population Displacement**

**Impact 4.13-C The proposed project would not displace substantial numbers of people and necessitate the construction of replacement housing elsewhere.**

As discussed in response to criteria 4.13-B, the project would require the demolition of one existing, single-family residence. The average household size within Marin County is estimated to be 2.34 persons.<sup>10</sup> As a result, the

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<sup>9</sup> County of Marin, Countywide Plan, page 3-109.

<sup>10</sup> United States Census Bureau, Census 2000.

proposed project would not displace a substantial number of people that would necessitate the construction of replacement housing. A *less-than-significant* impact would occur.

#### **Concentrated Population Growth**

**Impact 4.13-D The proposed project would not induce substantial growth or concentration of population.**

As discussed in response to criteria 4.13-A, the project would result in a population increase of approximately 30.42 residents. The project would not induce substantial growth or concentration of population in the project vicinity. Although the project would introduce new residents into an area defined by low-density single-family residential uses, the project population would not substantially intensify the concentration of people per area in the Santa Venetia neighborhood. As a result, a *less-than-significant* impact would occur.

#### **Compatibility with Housing Policy**

**Impact 4.13-E The proposed project would not conflict with the housing and population projections and policies as set forth in the Countywide Plan.**

The Marin Countywide Plan estimates that between 2000 and 2040, population in unincorporated areas of the County will increase by approximately 1,220 people per year, or roughly 500 households per year.<sup>11</sup> The estimated project population would be within this estimate. The project would not conflict with any other policies set forth in the Countywide Plan related to population and housing. As a result, a *less-than-significant* impact will occur.

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<sup>11</sup> County of Marin, Countywide Plan, page 3-109.

*E. Cumulative Impacts*

The analysis considers whether this project, in combination with the other specified projects, would have significant cumulative impacts in relation to population and housing. The list of projects considered in this section is shown in Chapter 4.0.

As the proposed project would not displace a substantial population or number of housing units, the proposed project would only contribute to a cumulative population and housing impact if it, in combination with the cumulative projects, would significantly exceed growth as planned under the Countywide Plan. The proposed project would add 12 housing units to the existing housing stock in Marin County. As described above, the development would increase the population of Marin County by approximately 30.42 residents. This represents less than 3 percent of the County's yearly estimated population growth in the 2000-2040 timeframe. Therefore, the increase in housing units and population that would result from the project has been anticipated in the 2007 Countywide Plan. The project would therefore not create substantial unanticipated population or housing growth, or other adverse cumulative impacts related to population or housing. Therefore, the project would result in a *less-than-significant* cumulative impact.

COUNTY OF MARIN  
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POPULATION AND HOUSING



## 4.14 UTILITIES

This section describes potential impacts from the proposed project on utilities and services including water, sanitary wastewater and solid waste. Storm water utility is addressed in Section 4.4, Hydrology and Water Quality, of this EIR.

### A. *Water Supply*

#### 1. **Regulatory Setting**

##### a. Main County Code

Chapter 23.10 describes efficiency standards in landscaping. Section 23.10.050 requires that landscaped areas shall utilize automatic irrigation and water features shall be designed to minimize evaporation and be as water-efficient as possible.

##### b. Marin Municipal Water District Landscape Ordinance 385

In March 1999, the Marin Municipal Water District (MMWD) adopted Landscape Ordinance 385 to require new development to use pool covers, drought-tolerant landscaping, and water-conserving irrigation plans.

#### 2. **Existing Setting**<sup>1</sup>

The proposed project site is currently served by an existing 8-inch water main located under North San Pedro Road.<sup>2</sup>

Marin County purchases most of its potable water from the MMWD. The MMWD supplies water to approximately 60,000 commercial and residential customers in southern and central Marin County (including to the proposed project site). Most of the MMWD water supply, about 75 percent, originates from four watersheds and is stored in seven reservoirs. Specifically, the water

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<sup>1</sup>Marin Countywide Plan, *Community Facilities Element Technical Background Report Provision of Services in Marin County*, September 2003, pages CF-4 to CF-12.

<sup>2</sup> Schematic Utility Plan, ILS Associates, Inc, January 31, 2008.

comes from the headwaters of Lagunitas Creek, the watershed surrounding Nicasio Reservoir, Walker Creek in West Marin (which supplies Soulajule Reservoir), and Phoenix Lake which is supplied by Ross Creek. The remaining 25 percent is piped from the Russian River in Sonoma County. Water from the Russian River is supplied by the Sonoma County Water Agency (SCWA) and is delivered by a pipeline owned by the North Marin Water District (NMWD).

Currently, the MMWD can supply 29,300 acre-feet of water from its reservoirs and the Russian River per year. The MMWD is addressing the possibility of reduced water supply from the pipeline as the facility does not have the capacity to meet high demand periods and because the NMWD may need to decrease supply to meet rising demands within its own service area.

To address decreasing water supply from the Russian River inter-tie, Marin County voters approved a measure to build a new pipeline to secure supply from the SCWA in 1992. However, the MMWD decided to focus efforts on water conservation instead of building the pipeline. Additionally, the MMWD completed a Desalination Pilot Program in April 2006 to determine the potential for converting San Francisco Bay water into drinking water. Construction and operation of the desalination plant is currently under environmental review.

### **3. Standards of Significance**

Based on criteria from Appendix G of the State CEQA Guidelines, the proposed project would represent a significant impact if it would:

- ◆ Require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- ◆ Have sufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements.

Based on Appendix N of the Marin County Environmental Review Guidelines, the project may also have a significant impact related to water supply if the project would:

- ◆ Propose a significant increase in the consumption of potable water.
- ◆ Require substantial expansion of water supply, treatment or distribution facilities.

#### 4. Impact Discussion

##### Water Treatment Facilities and Supply

##### **Impact 4.14-A Construction of new water treatment facilities or expansion of existing facilities.**

MMWD has indicated that it will serve the proposed project upon installation of the approved infrastructure.<sup>3</sup> The District would provide potable water to the project via a pipeline extension from the existing 8-inch main located under North San Pedro Road. Marin Municipal Water District will size the required water facilities based upon the fire flow requirement set by the San Rafael Fire Department (SRFD). The (SRFD) will also be responsible for determining the quantity and location of fire hydrants necessary to serve the project. Extension of the 8-inch water line from North San Pedro Road into the project site and the connections to the new homes would all take place within the proposed area of disturbance and therefore not result in any potential impacts beyond those identified in other sections of this EIR.

Furthermore, the project would not require construction of new potable water treatment facilities or expansion of existing facilities either on-site or else-

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<sup>3</sup> Eischens, Joseph. Engineering Technician, Marin Municipal Water District. Personal email communication with Carey Stone, DC&E, October 18, 2007.

where, such that significant environmental impacts would occur.<sup>4</sup> Therefore, the project would result in a *less-than-significant* impact to water supply facilities.

**Impact 4.14-B Have sufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements needed.**

The MMWD estimates that each single-family residential unit consumes 0.30 acre-feet of water each year.<sup>5</sup> It is estimated that second units consume 0.18 acre-feet of water each year. The project, consisting of 12 single-family units and two second units would therefore consume approximately 3.96 acre-feet of water each year. Based on consultation with the MMWD, sufficient water supplies would be available to serve the project site.<sup>6</sup> It would not be necessary for MMWD to establish new or expanded water supply entitlements. Therefore, the project would have a *less-than-significant* impact on water supply.

**Impact 4.14-C Propose a significant increase in the consumption of potable water.**

As indicated in response to criteria b), MMWD estimates the project's demand would be approximately 3.96 acre-feet each year. This is less than one percent of the total volume (29,300 acre-feet) that MMWD has the capacity to supply in a given year. Therefore, in relation to existing residential demand and available supply, the project would not result a significant increase in consumption.

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<sup>4</sup> Eischens, Joseph. Engineering Technician, Marin Municipal Water District. Personal email communication with Carey Stone, DC&E, October 18, 2007.

<sup>5</sup> Acre-feet is defined as the volume required to cover 1 acre to a depth of 1-foot, 1 acre-foot equals 325,900 gallons.

<sup>6</sup> Eischens, Joseph. Engineering Technician, Marin Municipal Water District. Personal email communication with Carey Stone, DC&E, October 18, 2007.

**Impact 4.14-D Require substantial expansion of water supply, treatment or distribution facilities.**

As discussed in response to criteria a) and b), the project would not require the substantial expansion of water supply, treatment or distribution facilities. This would result in a *less-than-significant* impact.

**5. Cumulative Impacts**

**Water Supply**

**Impact 4.14-E Water supply.**

The MMWD has sufficient water supplies to supply the project site with potable water. However, the District's peak period demand is currently in a deficit mode, which is due to a combination of conveyance (pipeline) restrictions from the supply source in Sonoma County, and marginally increasing demand. The MMWD Board recognizes this shortfall but does not consider it a significant enough issue to declare a moratorium on new services. The MMWD has several options to increase its supply and is currently seeking the optimal means of doing so. One option being examined is a desalinization plant in San Rafael. The MMWD Board is also actively pursuing development and implementation of increased conservation measures, which are designed to reduce demand and thereby increase supply.<sup>7</sup>

CEQA Guidelines state that if the project complies with the requirements in a previously approved plan (Countywide Plan) that provides specific requirements that will avoid or substantially lessen a cumulative effect, a lead agency may determine that the project is not cumulatively considerable.<sup>8</sup> In

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<sup>7</sup> Marin County Community Development Agency, *Marin Countywide Plan Community Facilities Element Technical Background Report Provision of Services in Marin County*, September 2003, pages CF-4 to CF-12.

<sup>8</sup> 2008 CEQA Guidelines, Section 15064(h)3.

this case, although the Project would increase water consumption on the site, the increase will be incremental in relation to cumulative demand in the County. Therefore, the project is not cumulatively considerable and will result in a *less-than-significant* impact.

## ***B. Sanitary Wastewater***

### **1. Regulatory Setting**

#### **a. State Regulations**

##### ***i. National Pollutant Discharge Elimination System (NPDES)***

The National Pollutant Discharge Elimination System (NPDES) permit program was established in the Clean Water Act to regulate municipal and industrial discharges to surface waters of the United States. Federal NPDES permit regulations have been established for broad categories of discharges, including point-source municipal waste discharges and nonpoint-source stormwater runoff. NPDES permits generally identify effluent and receiving water limits on allowable concentrations and/or mass emissions of pollutants contained in the discharge; prohibitions on discharges not specifically allowed under the permit; and provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities.

Wastewater discharge is regulated under the NPDES permit program for direct discharges into receiving waters and by the National Pretreatment Program for indirect discharges to a sewage treatment plant.

#### **b. Marin County Regulations**

Chapter 18 of the Marin County Code discusses sewer systems, types of wastewater collection facilities allowed, and connection charges. Section 18.06.050 (Connection to Public Sewer System and Alternatives) states the following: "Sewage disposal shall be by means of connection to a public sewer system if the nearest sewer is within four hundred lineal feet of the parcel in which the structure generating the sewage is to be constructed."

## 2. Existing Setting<sup>9</sup>

Sanitary wastewater generated on the project site is treated by Las Gallinas Valley Sanitary District (LGVSD), which has a permit to discharge treated wastewater into Miller Creek which flows to San Pablo Bay. The LGVSD permit was issued in January 2004. The LGVSD service area covers approximately 17 square miles including the Miller and Gallinas Creeks tributary areas and provides service to about 30,000 residents. The LGVSD maintains 23 pump stations, 100 miles of gravity collection mains and 30 miles of force mains.

The LGVSD operates one treatment plant at 300 Smith Ranch Road in San Rafael. The plant operates under a NPDES permit granted by the San Francisco Regional Water Quality Control Board. The estimated maximum capacity of the treatment plant is 2.92 million gallons daily (MGD), while the current average dry weather flow is 2.33 MGD. The wastewater treatment plant has 0.59 MGD of available capacity.

Treated wastewater from the plant is discharged to San Pablo Bay during winter and is reclaimed by the district for use in the county throughout the remainder of the year. Reclaimed wastewater is used in cooperation with MMWD in four ways: pasture irrigation, filling of storage ponds, storage pond evaporation, and treating wastewater through the tertiary stage (reducing concentrations of phosphorus or nitrogen through a biological or chemical process) and returning it to customers as landscape irrigation water.

The LGVSD is about 70 percent built-out.<sup>10</sup> To meet increased service demands associated with future growth, the District will need to make plant

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<sup>9</sup> Marin County Community Development Agency, *Marin Countywide Plan Community Facilities Element Technical Background Report Provision of Services in Marin County*, September 2003, page CF-42.

<sup>10</sup> Marin County Community Development Agency, *Marin Countywide Plan Community Facilities Element Technical Background Report Provision of Services in Marin County*, September 2003, page CF-44.

improvements to accommodate additional flow and work with the MMWD to expand the recycled-reuse water system so the LGVSD can remain in reclamation mode for six months of the year.

Most of the recent improvements to the LGVSD system have occurred in the Santa Venetia area to make the collection system more resistant to inflow/infiltration.<sup>11</sup> Beginning in the mid-1990s, system-wide improvements have occurred at the 23 pump stations to increase reliability, add back-up power, and to install a more reliable alarm system. The purchase of 383 acres of land from the St. Vincent's School for Boys in 1985 was the last major improvement. This purchase allowed for the creation of 40 acres of storage ponds, 220 acres for irrigation uses, 20 acres of marsh habitat pond, and 10 acres for a saltwater marsh area.

### 3. Standards of Significance

Based on criteria from Appendix G of the State CEQA Guidelines, the proposed project would represent a significant impact if it would:

- ◆ Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- ◆ Require or result in the construction of wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- ◆ Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

Based on Appendix N of the Marin County Environmental Review Guidelines, the project may also have a significant impact related to water supply if the project would:

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<sup>11</sup> Inflow/infiltration occurs when groundwater and stormwater enter the sanitary sewer system through cracks, leaky joints and deteriorated manholes.



- ◆ Require the expansion of wastewater treatment or distribution facilities.

#### 4. Impact Discussion

##### **Impact 4.14-F Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.**

Project development would increase the population at the site, which would increase effluent volumes for treatment. Wastewater would be routed to the McPhails Pump Station and then pumped to the LGVSD treatment plant at 300 Smith Ranch Road. The plant is subject to all discharge requirements, established by the Regional Water Quality Control Board.<sup>12</sup>

The project is expected to generate a total of 2,800 gallons of sanitary wastewater per day, or 0.0028 million gallons daily (MGD), for 12 single-family units and two second units.<sup>13</sup> As previously noted, the LGVSD treatment plant has an average dry weather flow of 2.33 MGD and a current maximum capacity of 2.92 MGD. Therefore, the treatment plant has capacity to treat approximately 0.60 MGD of additional volume. In relation to current volumes treated at the plant and remaining capacity, the project-related volumes would not be substantial (less than one percent in each case). The project would not result in an exceedance of capacity at the treatment plant or the plant's ability to maintain compliance with RWQCB requirements. A *less-than-significant* impact would occur.

##### **Impact 4.14-G Require or result in the construction of wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.**

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<sup>12</sup> Williams, Mark. District Manager, Las Gallinas Valley Sanitary District. Personal fax communication with Carey Stone, DC&E. November 7, 2007.

<sup>13</sup> Robards, Gary. Nute Engineering, personal communication with Mark Williams, District Manager, LGVSD. October 23, 2007.

Based on consultation with the LGVSD, an upgrade of the sewer line serving the project site may be required.<sup>14</sup> The line is a 6-inch diameter asbestos cement pipe with relatively flat grade located along the northern edge of San Pedro Road. This line may have subsided over time and lost adequate grade (pitch). It is expected that any upgrades to the pipe would take place within areas either under or immediately adjacent to North San Pedro Road that have previously been disturbed through roadway construction or utility work. Furthermore, any activities related to construction of a new sewer line would be required to adhere to Best Management Practices (BMPs), NPDES permitting and other regulations controlling storm water runoff. In terms of potential impacts off-site, as explained in response to criteria b), the existing LGVSD treatment plant currently has capacity to accommodate projected volumes generated on the project site. The treatment plant would not need to be expanded nor would a new plant be required. Therefore, the project would result in a *less-than-significant* impact related to construction of wastewater treatment facilities or expansion of existing facilities.

**Impact 4.14-H The 6-inch diameter sewer line that the project would tie into may have subsided over time and lost the degree of grade necessary to allow for the adequate transfer of sanitary wastewater.**

As explained in response to criteria b), the treatment plant operated by LGVSD currently has adequate capacity to receive and treat the volume of sanitary wastewater that would be generated by the project. However, the 6-inch sewer line on the north edge of San Pedro Road that the project would tie into may have subsided over time and have insufficient grade to allow for the adequate transfer of sanitary wastewater. An inadequate grade in the capacity line that the project would rely upon could constrain capacity and is considered a *significant* impact.

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<sup>14</sup> Williams, Mark. District Manager, Las Gallinas Valley Sanitary District. Personal fax communication with Carey Stone, DC&E. October 24, 2007.

## Mitigation Measures

4.14-H.1 Prior to issuance of a building permit, the applicant shall contract a qualified technician to probe the existing, 6-inch sanitary sewer line located along the northern edge of San Pedro Road. The probe shall be conducted downstream between Point Gallinas Road and the intersection with Vendola Drive to determine if this section has sufficient grade.<sup>15</sup> Results of the probe shall be submitted to the Las Gallinas Valley Sanitary District (LGVSD) for review and based on the outcome, the applicant shall pay necessary fees to LGVSD for improvements to the pipe that would ensure adequate capacity for the project.

## Impact Significance after Mitigation

This measure would ensure that the appropriate upgrades are made to the existing 6-inch sewer line, if necessary, resulting in a *less-than-significant* impact related to wastewater treatment capacity. As previously stated in response to criteria b) any necessary physical improvements to the pipe would take place within the existing right-of-way for the sewer line and therefore not result in secondary environmental impacts.

## Impact 4.14-I Require the expansion of wastewater treatment or distribution facilities.

Please refer to the response to criteria b).

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<sup>15</sup> These two roadways are approximately 0.125 miles west of the site and connect to North San Pedro Road.

## 5. Cumulative Impacts

### Wastewater Treatment

**Impact 4.14-J** The proposed project in combination with other development projects would result in a cumulative increase in wastewater treatment.

The Las Gallinas Valley Sanitary District (LGVSD) operates one treatment plant at 300 Smith Ranch Road in San Rafael. The plant operates under a National Pollutant Discharge Elimination System (NPDES) permit granted by the San Francisco Regional Water Quality Control Board. The estimated maximum capacity of the treatment plant is 2.92 mgd, while the current average dry weather flow is 2.33 mgd. The wastewater treatment plant has 0.59 MGD of available capacity.

In relation to existing demand, the project would cause a negligible increase. Therefore, while the project, in combination with other cumulative projects, would increase demand on the LGVSD plant, it would result in a *less-than-significant* cumulative impact.

### *C. Solid Waste*

#### **1. Regulatory Setting**

##### **a. Assembly Bill (AB) 939**

The California Integrated Waste Management Act of 1989 and the California Solid Waste Reuse and Recycling Access Act of 1991 (AB 939) mandate reductions in the tonnage of solid waste being disposed of at municipal landfills. Under these laws, jurisdictions were required to meet diversion goals of 25

percent by 1995 and 50 percent by the year 2000. These bills have not been updated further since their implementation.<sup>16</sup>

b. Marin County's Regional Integrated Waste Management Plan

Marin County's Regional Integrated Waste Management Plan is mandated by State law under AB 939. The purpose of the Plan is to describe waste disposal trends, diversion efforts, and programs intended to achieve the waste diversion goals outlined in AB 939. The Plan serves as the primary tool for designing waste reduction programs that are countywide in scope.

c. County Development Code

Chapter 7 of the Marin County Code (Section 7.00.030) prohibits the accumulation of dust, ashes, or refuse that can be blown away by the wind, except in a suitable covered container. Section 7.00.050 prohibits the disposal of refuse or ashes anywhere except in an incinerator or disposal device properly constructed and operated in accordance with the law or in a lawfully established dump. Section 7.00.070 states that it is unlawful for garbage to remain on a property for longer than 16 days or for rubbish to accumulate for more than 30 days. Section 7.00.070 prohibits a person to collect or carry garbage through the streets of the County without first having secured a franchise or obtained a permit to do so.

Ordinance No. 3389 in Section 19.07 of the County code requires that development project applicants submit a Waste Management Plan (WMP), as part of the application packet for the permit. The WMP shall indicate the following:

- ◆ The estimated volume or weight of debris, by materials type, to be generated.
- ◆ The estimated volume or weight of such materials that can feasibly be diverted via reuse.

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<sup>16</sup> California Department of Integrated Waste Management Board.  
<http://www.ciwmb.ca.gov/>. Accessed September 19, 2006.

- ◆ The estimated volume or weight of such materials that can feasibly be diverted via recycling.
- ◆ The vendor and/or facility that the Applicant proposes to use to collect or receive said materials; and
- ◆ The estimated volume or weight of materials that will be landfilled.

## 2. Existing Setting

Marin Sanitary Service (MSS) provides weekly garbage and recycling collection services to more than 32,000 residential and commercial customers. Marin Sanitary Service provides residential solid waste collection services in San Rafael, Larkspur, Fairfax, Ross, San Anselmo, unincorporated Marin County, Las Gallinas Valley Sanitary District and Ross Valley Sanitary District North and South. Additionally, MSS provides commercial solid waste collection services to most of aforementioned areas. Marin Sanitary Service currently employs approximately six management staff, eight call center employees and 15 drivers.<sup>17</sup> Marin Sanitary Service would provide pick-up services to the proposed project for solid waste, recyclables and yard waste.

Residential services include weekly curbside garbage and recycling pick-up and bi-weekly curbside yard waste pick-up. All recyclables are taken to the Marin Recycling Center at 535 Jacoby Street in San Rafael, designed and built by Marin Sanitary Service in 1980.<sup>18</sup> Yardwaste is taken to the Marin Resource Recovery Center at 565 Jacoby Street in San Rafael. Non-recyclable waste is taken to the Marin Sanitary Service Transfer Station at 1050 Anderson Drive in San Rafael. At the transfer station, the waste is sorted and all materials that are not recyclable are hauled to either Keller Canyon Landfill in Contra Costa County, Potrero Hills Landfill in Solano County or Redwood Sanitary Landfill in Sonoma County. Redwood Sanitary Landfill and

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<sup>17</sup> Hudson, Roshana. Customer Service Representative, Marin Sanitary Service. Personal communication with Carey Stone, DC&E. November 7, 2007.

<sup>18</sup> Marin Sanitary Services, website, <http://www.marinsanitary.com/mss.html>, accessed on April 7, 2008.

Potrero Hills Landfill are Class III landfills which accept municipal solid waste, tires, grease, sludge, green waste, ash, etc. Keller Canyon Landfill is a Class II Landfill which accepts mixed municipal solid waste, construction/demolition waste, green waste, etc. The transfer station currently processes approximately 351 tons of waste per day.<sup>19</sup>

Table 4.14-1 describes the amount of annual waste delivered by MSS to each landfill as well as the remaining capacity and expected closure date of each landfill. The MSS takes 48 percent of its annual waste to Redwood Sanitary Landfill. Redwood Sanitary Landfill has a maximum permitted capacity of 19.1 million cubic yards and has a remaining capacity of 12.9 million cubic yards. The expected closure date of the landfill is 2024.<sup>20</sup>

Keller Canyon Landfill, located in unincorporated Pittsburg, receives 43 percent of MSS' annual waste. Keller Canyon Landfill has a total capacity of 75 million cubic yards and has a remaining capacity of 68.3 million cubic yards. The expected closure date of Keller Canyon Landfill is 2030.<sup>21</sup>

Potrero Hills Landfill, located in Suisun City, receives 9 percent of MSS' annual waste. The land fill has a capacity of 21.5 million cubic yards and has a remaining capacity of 8.2 million cubic yards.<sup>22</sup>

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<sup>19</sup> Holmes, Ray. Controller, Marin Sanitary Service. Personal communication with Carey Stone, DC&E. November 15, 2007.

<sup>20</sup> Jones, Jessica. District Manager, Redwood Landfill. Personal email communication with Carey Stone, DC&E, November 13, 2007.

<sup>21</sup> California Integrated Waste Management Board (Solid Waste Information System)

<sup>22</sup> California Integrated Waste Management Board (Solid Waste Information System)

TABLE 4.14-I MARIN SANITARY SERVICE DISPOSAL SITES

Landfill	Location	Remaining Capacity (million cubic yards)	Estimated Closure Date	Percent of Total Annual MSS Waste Disposed at Landfill
Redwood Sanitary	Novato	12.9	2024	48%
Keller Canyon	Pittsburg	68.3	2030	43%
Potrero Hills	Suisun City	8.2	2011	9%

Source: California Integrated Waste Management Board (Solid Waste Information System)

3. Standards of Significance

Based on criteria from Appendix G of the State CEQA Guidelines, the proposed project would represent a significant impact if it would:

- ◆ Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?
- ◆ Comply with federal, State, and local statutes and regulation related to solid waste?

Based on Appendix N of the Marin County Environmental Review Guidelines, the project may also have a significant impact related to solid waste if the project would:

- ◆ Utilize a landfill with insufficient capacity to accommodate the proposed project.

4. Impact Discussion

Landfill

**Impact 4.14-K** Project to be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs.



The proposed project would result in the construction of 12 single-family units and two accessory dwelling units. Solid waste generation rates for single-family uses range from 7.8 to 11.4 pounds per dwelling unit per day, while multi-family residential unit rates range from 3.6 to 8.6 pounds of waste per unit per day.<sup>23</sup>

For single-family units, a generation rate of 9.6 pounds per dwelling unit per day is assumed (median between 7.8 and 11.4). For multi-family uses, a generation rate of 5.6 pounds per dwelling unit per day is assumed (median between 3.6 and 8.6).

Based on these generation rates, the 12 proposed single-family units would generate 115 pounds of waste per day or 21.02 tons per year. The two proposed accessory dwelling units, which fall under the multi-family classification, would generate 11.2 pounds of waste per day or 2.04 tons per year. The total estimated yearly solid waste generation from the proposed project would be 23.06 tons.

Assuming that a cubic yard<sup>24</sup> of residential solid waste containing materials such as paper, packaging, and various containers weighs 25 pounds, a daily generation rate of 126.2 pounds would equate to 5.05 cubic yards per day from the project site or approximately 1,840 cubic yards per year.<sup>25</sup> Based on the remaining capacity at landfills that would receive solid waste from the project, as shown in Table 4.14-1, there would be sufficient permitted capacity to accommodate the project's solid waste disposal needs, resulting in a *less-than-significant* impact.

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<sup>23</sup> California Integrated Waste management Board (CIWMB) Waste Generation Rates, website, <http://ciwmb.ca.gov/wastechar/wastegenrates/default.htm>, Accessed on November 2, 2007.

<sup>24</sup> A cubic yard is approximately 3-feet x 3-feet x 3-feet.

<sup>25</sup> 115 pounds (per day) + 11.2 pounds (per day) = 126.2 pounds (per day).  
5.05 cubic yards (per day) x 365 days (per year) = 1,840 cubic yards (per year).

**Impact 4.14-L Federal, State, and local statutes and regulation related to solid waste.**

During both construction and operation, State and County-level regulations would apply to the handling and disposal of solid waste generated by the project. These regulations are specified above in Section 1) Regulatory Setting. Compliance with these laws would result in a *less-than-significant* impact.

**Impact 4.14-M Utilize a landfill with insufficient capacity to accommodate the proposed project.**

As discussed in Impact Discussion a) solid waste generated by project during and after construction would utilize landfills with sufficient capacity, thus resulting in *no impact*.

**5. Cumulative Impacts**

**Cumulative Solid Waste**

**Impact 4.14-N The proposed project in combination with other development projects would result in an increase in demand for solid waste disposal.**

Marin Sanitary Service (MSS) provides weekly garbage and recycling collection services to more than 32,000 residential and commercial customers in Marin County. Solid waste collected from customers is transported to one of three landfills in the region. As shown in Table 4.14-1, the three landfills have a total capacity of 89.4 million cubic yards of solid waste.

In relation to existing demand, the project would cause a negligible increase in solid waste demands. In addition, the volume of solid waste generated by the project would not be such that the estimated closure dates would be affected. Therefore, while the project and other cumulative projects would increase demand on the services of MSS and the capacity of the three landfills MSS

utilizes, the increase in solid waste generation would result in a *less-than-significant* cumulative impact.

***D. Stormwater***

For discussion of stormwater and hydrology, please refer to Section 4.4, Hydrology and Water Quality, of this EIR.

COUNTY OF MARIN  
650 NORTH SAN PEDRO ROAD EIR  
UTILITIES

## 5 ALTERNATIVES TO THE PROPOSED PROJECT

The 650 North San Pedro Road project, as proposed by the applicant, was described and analyzed in the previous chapter with an emphasis on potentially significant impacts and recommended mitigation measures to avoid those impacts. The State CEQA Guidelines require the description and comparative analysis of a range of alternatives to the proposed project that could feasibly attain the objectives of the project, while avoiding potential environmental impacts.

The following discussion is intended to inform the public and decision makers of the feasible alternatives that consider mitigation measures recommended in this EIR. Three alternatives are discussed below.

CEQA Guidelines require consideration of a “No Project Alternative” in every EIR. In most project EIRs, the No Project Alternative is assumed to be existing site conditions and development that is reasonably expected to occur on-site. Such an alternative is considered as the No Project Alternative in this EIR.

CEQA Guidelines also require that the environmentally superior alternative be designated. If the alternative with the least environmental impact is the No Project Alternative, then the EIR must also designate the next most environmentally superior alternative. In addition, this analysis also states whether or not the project is environmentally superior to each alternative.

Subsequent to the closing of the public comment period for the DEIR, the project applicant submitted a “Revised Project Alternative” with a commitment to implement it, should it be considered for approval. The “Revised Project Alternative” was submitted, after the County requested additional information from the project applicant in order to respond to comments received on the DEIR. Submittal of additional information by the project sponsor is in compliance with Sections 15082(c) and 15084(b) and (c) of the CEQA Guidelines, which state that a lead agency may require an applicant to submit data and information in order to determine whether the project may

have a significant effect on the environment and to assist in preparation of the Draft EIR.

The “Revised Project Alternative” is primarily a location alternative proposed by the project applicant for facilities on-site, including the same proposed density. This alternative would incorporate all mitigation proposed in the EIR. Through submittal of this alternative, the project applicant intended to address certain concerns raised during the DEIR public review period, and to test a possible project that could be superior to the proposed project primarily because the alternative would involve greater avoidance and setbacks from environmental resources on-site (i.e. delineated wetland). For more information regarding the “Revised Project Alternative” see Master Response 12.

As explained in Chapter 2 (Report Summary) on page 2-21 and consistent with Section 15088.5 of the CEQA Guidelines, the inclusion of the Revised Project Alternative in the FEIR does not result in the need for recirculation of the DEIR or any portions thereof. Specifically, in relation to Guideline 15888.5(3), the applicant has committed to implementing this alternative if it is ultimately adopted by the Board.

The five alternatives are as follows:

#### **1. No Project Alternative**

This alternative would include five market rate units on existing, legal lots. Under this alternative, the property owner would sell the five legal lots of record that comprise the property to separate individuals, who would then develop the lots with single family residences and appurtenant structures. Where necessary, access and utility easements would be created on the lots to facilitate development, but no Lot Line Adjustments would occur. It is expected that development on APNs 180-291-04 and 180-231-07 would be subject to individual Design Reviews pursuant to Marin County Code section 22.42.30 (Design Review for Development along Paper Streets and for Specific Driveways) because of the length of the driveways that would need to be

constructed to access these properties. Tree removal associated with this development would be addressed in those individual Design Reviews.

Due to their size and location, it is evident that the other three lots (APNs 180-231—09, 180-231-09, 180-231-06) could be developed in conformance with the height, setback, floor area and other development standards of the governing R-E:B-3 zoning district. Therefore, it is not anticipated that these lots would require Design Review, Tree Removal Permits or any other type of discretionary approval for development. Since no discretionary approval would be required, Wetland Conservation Areas (WCAs) as established through policies set forth in the Countywide Plan would not be applicable. The eucalyptus tree containing the existing heron nest would be taken down during non-nesting season because it is a hazard to the occupants of the property.

The No Project Alternative requires only building permits and no discretionary permits. Because building permits are ministerial and not conditional, the No Project Alternative is not required to include affordable housing units.

## **2. Alternate Use/Reconfiguration Alternative**

This alternative would include 12 residential units of various types. Eight units would be attached, but would be divided by lot lines resulting in independent single-family residences on eight separate legal lots. The other four lots would be developed with detached single family residences. Six units would be below market rate and the other six units would be market-rate. The four detached and two of the attached units would be the market rate units. The remaining six attached units would be the below market rate units.

Development under this alternative would occur in the portion of the site that is already disturbed as a result of the existing residence and related improvements. All homes under this alternative would be constructed outside the WCA and the 20-foot creek setback. The eucalyptus tree containing the

existing heron nest would be taken down during non-nesting season because it is a hazard to the occupants of the property.

### **3. Reduced Density Alternative**

This alternative would consist of nine residential units, seven of which would be priced as market rate units, while the remaining two would be affordable. Lots 9, 10, and 11 would be removed from the project to reduce impacts to environmentally sensitive areas. As a result, the driveway to Lot 8 could be reconfigured to access the lot from the lower portion of the slope, avoiding the necessity of constructing a longer driveway with a fire turnaround. Aside from the removal of these three units and modification of this driveway, this alternative would not reconfigure the project site and would leave the nine remaining units in their proposed location, as well as roadways and driveways. The eucalyptus tree containing the existing heron nest would be taken down during non-nesting season because it is a hazard to the occupants of the property.

### **4. Mitigated Project Design**

This alternative would consist of a redesign to the proposed site plan. Although the proposed number of units would remain the same (12), primary access to and from Lots 1-11 would be from a driveway south of the current driveway and the proposed location of Bay Creek Drive. This existing driveway would be gated off and restricted to use by emergency vehicles only. As a result, the reconfigured, primary driveway would be outside the WCA and all units would be located outside of the WCA and the 20-foot creek setback. The eucalyptus tree containing the existing heron nest would be taken down during non-nesting season because it is a hazard to the occupants of the property.

This alternative would include all mitigation measures recommended in the EIR, and other features to more fully support the goals and objectives in the Countywide Plan. One such feature would be formal rezoning of the proposed conservation area to Open Space.



Each alternative is analyzed against the impact factors considered for the proposed project, according to whether it would have a mitigating or adverse effect. Table 5-1 summarizes the results of the analysis.

## **5. Revised Project Alternative**

This alternative would consist of a redesign to the proposed site plan. Although the proposed number of units (12) would remain the same, four key characteristics differentiate this alternative from the proposed project. First, the location of the Lots 9, 10 and 11 units would be reconfigured into a tighter cluster, such that the Lots 10 and 11 units would be positioned closer together and further downslope, just southwest of the intersection of Bay Creek Drive and Bay Creek Court. The proposed Lot 9 unit would also be relocated downslope, to approximately the same position as the currently proposed Lot 10 unit. Second, secondary units would be located on Lots 10 and 6 rather than Lots 11 and 12. Third, the driveways off of Bay Creek Court and Bay Creek Drive would be eliminated, and Bay Creek Court itself reduced in size (see Figure 5-5). Finally, the minimum size of wetland buffer setbacks would be increased from 20 feet to 40 feet, effectively reducing encroachment onto the Wetland Conservation Area (WCA). The eucalyptus tree containing the existing heron nest would be taken down during non-nesting season because it is a hazard to the occupants of the property.

This alternative would include all mitigation measures recommended in the EIR.

Each alternative is analyzed against the impact factors considered for the proposed project, according to whether it would have a mitigating or adverse effect. Table 5-1 summarizes the results of the analysis.

### ***A. No Project Alternative***

#### **1. Principal Characteristics**

As illustrated in Figure 5-1, this alternative would include five market rate units on existing, legal lots. Under this alternative, the property owner

would sell the five legal lots of record that comprise the property to separate individuals, who would then develop the lots with single family residences and appurtenant structures. Where necessary, access and utility easements would be created on the lots to facilitate development, but no Lot Line Adjustments would occur. It is expected that development on APNs 180-291-04 and 180-231-07 would be subject to individual Design Reviews pursuant to Marin County Code section 22.42.30 (Design Review for Development along Paper Streets and for Specific Driveways) because of the length of the driveways that would need to be constructed to access these properties. Tree removal associated with this development would be addressed in those individual Design Reviews.

Due to their size and location, it is evident that the other three lots (APNs 180-231—095, 180-231-09, 180-231-06) could be developed in conformance with the height, setback, floor area and other development standards of the governing R-E:B-3 zoning district. Therefore, it is not anticipated that these lots would require Design Review, Tree Removal Permit or any other type of discretionary approval for development. Since no discretionary approval would be required, Wetland Conservation Areas (WCAs) as established through polices set forth in the Countywide Plan would not be applicable. The eucalyptus tree containing the existing heron nest would be taken down during non-nesting season because it is a hazard to the occupants of the property.

## **2. Impact Analysis**

The No Project Alternative would have the following impacts relative to the proposed project:

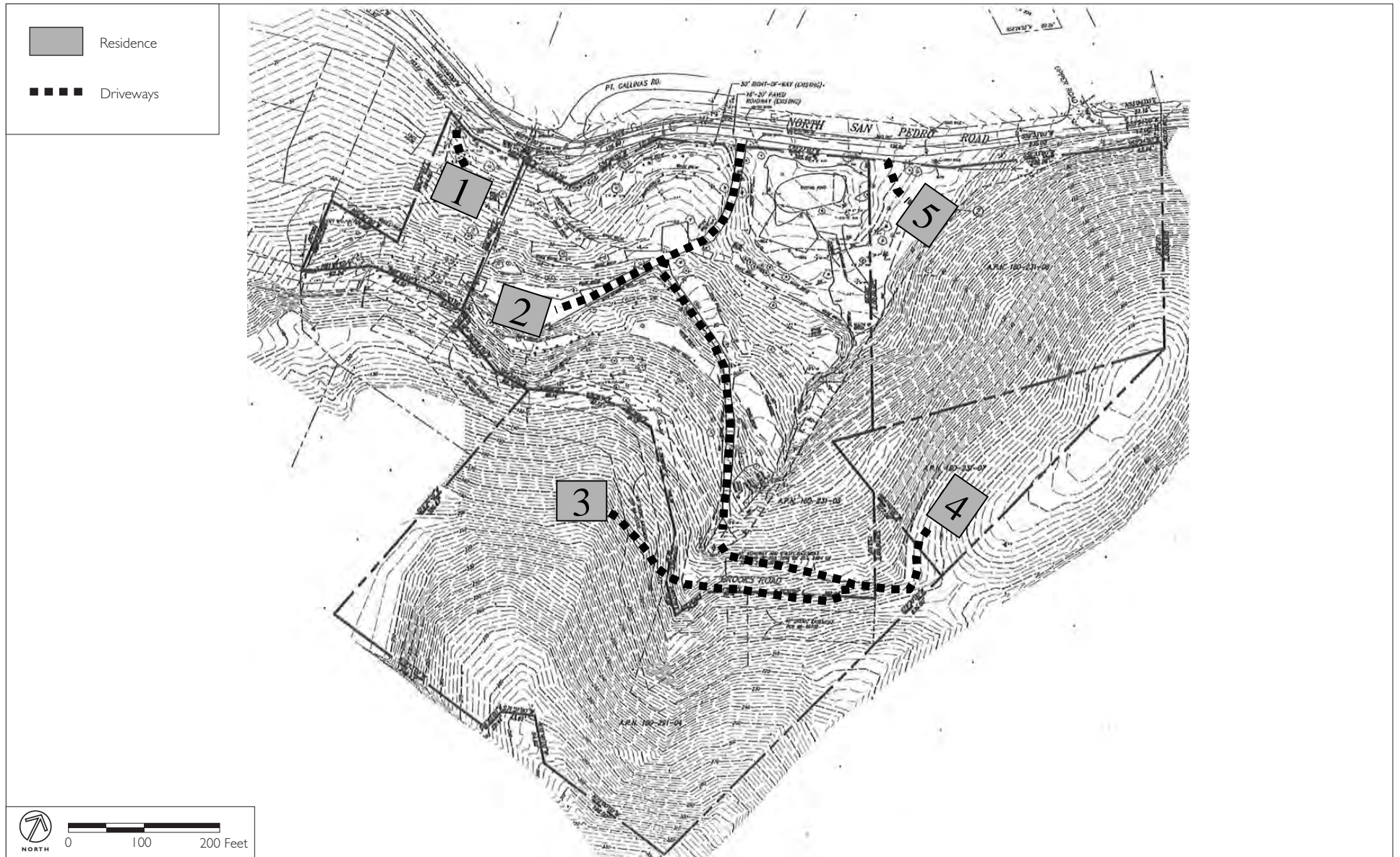
### **a. Land Use and Policy Consistency**

Five market rate units would be constructed on existing, legal lots. Less development would occur on the project site which might seem beneficial to people who object to urban development of land, but it would also deprive the County of an opportunity to expand the supply of affordable and “green” housing. Development on three of the five existing lots would not require

COUNTY OF MARIN  
650 NORTH SAN PEDRO ROAD EIR  
ALTERNATIVES TO THE PROPOSED PROJECT

TABLE 5-1 **COMPARISON OF PROJECT ALTERNATIVES**

Topic	No Project Alternative	Alternate Use Alternative	Reduced “Density	Mitigated Alternative	Revised Project Alternative
Land Use	--	+ +	++	+	<u>+</u>
Geology and Soils	0	0	0	0	<u>+</u>
Biological Re- sources	--	+ +	+ +	0	<u>++</u>
Hydrology and Water Quality	0	+	+	0	<u>+</u>
Air Quality	+	0	+	0	<u>+</u>
Traffic and Circulation	+	0	+	0	<u>+</u>
Public Services	0	0	+	0	<u>0</u>
Aesthetics	--	+ +	++	--	<u>++</u>
Cultural Re- sources	0	0	0	0	<u>0</u>
Noise	0	0	+	0	<u>0</u>
Hazardous Materials	0	0	0	0	<u>0</u>
Energy Conservation	+	0	+	0	<u>+</u>
Population and Housing	-	+ +	0	0	<u>0</u>
Utilities	+	0	+	0	<u>0</u>
Project Objectives	--	+	-	0	<u>0</u>
++ Substantial improvement compared to the proposed project					
+ Insubstantial improvement compared to the proposed project					
0 Same impact as proposed project					
- Insubstantial deterioration compared to the proposed project					
-- Substantial deterioration compared to the proposed project					



Source: Marin County Community Development Agency

FIGURE 5-1  
NO PROJECT ALTERNATIVE

discretionary planning entitlements and would not be subject to County policy related to WCA and creek setbacks. Therefore, this alternative would be considered a substantial deterioration to the proposed project.

b. Geology and Soils

Any residential development located on the proposed project site would be subject to the risks associated with ground shaking, erosion, landslides or soil expansion impacts. Although this alternative would account for five residential units at full buildout, seven units fewer than the proposed project, geological and soils impacts would also affect this alternative. Similar to the proposed alternative, potentially significant impacts could be reduced to a less than significant level. Therefore, the no project alternative would be considered the same as the proposed project.

c. Biological Resources

The tree containing the heron rookery would be taken down to prevent injury and property damage. It is important to note that the project arborist (MacNair and Associates) has identified the tree containing the heron rookery as being in a poor state of health. In order to ensure the safety of residents and to prevent property damage, this alternative would include removal of the tree. However, since the mitigation measures proposed by the project would not be implemented as part of this alternative, the impacts of the tree removal and displacement of the heron rookery would not be subject to environmental review and therefore may not be reduced to a less-than-significant level. Additionally, under this alternative, no discretionary approval would be required for development on three of the five lots. Wetland Conservation Areas (WCAs) and creek setbacks, as established through policies set forth in the Countywide Plan would not be applicable. As a result of the likely increased impacts to natural resources, this alternative is considered to be a substantial deterioration compared to the proposed project.

d. Hydrology and Water Quality

Site drainage would be altered through changes to the flow of storm water volumes or velocities. Similarly, there would be an impact on water quality

both on- or off-site due to erosion or the release of non-point source pollutants from the site. However, a drainage plan would be required as part of the site development process that would address non-point source pollutants associated with stormwater runoff. Therefore, the No Project Alternative would be considered to have the same impact as the proposed project.

e. Air Quality

The No Project Alternative would involve construction activities, vehicle trips, and future operation of the homes, all of which would affect air quality. During the construction-period, activities such as grading and excavation may have potentially significant impacts on localized air quality through an increase in Particulate Matter 10 (PM<sub>10</sub>) and PM<sub>2.5</sub>. However, because this alternative would result in the construction of seven fewer residential units, the No Project Alternative would be an insubstantial improvement compared to the construction impacts of the proposed project.

f. Traffic and Circulation

This alternative would result in fewer contractor vehicle and dump truck trips to and from the site during the construction phase. In addition, this alternative would result in fewer trips generated by future residences. Therefore, this alternative would result in an insubstantial improvement when compared to the proposed project in that the proposed project would not result in any significant, non-mitigate impacts from vehicle trips during either the construction or operational phases of the project.

g. Public Services

There would be a slight decrease in demand for public services for the No Project Alternative compared to the proposed project, however the difference would be negligible. Therefore, the No Project Alternative would be considered the same when compared to the proposed project.

h. Aesthetics

This alternative would alter the existing visual appearance of the project site, which is rural in nature and largely defined by heavily wooded hillsides. De-

velopment on three of the five lots would not require Design Review, Tree Removal Permits or any other type of discretionary approval for development. In addition, houses on Lots #3 and #4, as shown on Figure 5-1, are proposed in areas of the site that would result in greater visual impacts when compared to the proposed project. These homes would be located at higher elevations on the site and therefore would likely be more visible from public and private viewpoints to the south of the property. As a result, this alternative is considered a substantial deterioration in relation to the proposed project.

i. Cultural Resources

Although no cultural resources are anticipated on-site, construction of the proposed project would increase the possibility of disturbing previously unknown cultural resources. The State regulations that protect cultural resources, as identified in Section 4.9 of this EIR, would also apply to this alternative. Therefore, this alternative would be the same when compared to the proposed project.

j. Noise

There would be temporary construction noise under the No Project Alternative. Such impacts would occur under the proposed project, but would be reduced to a less-than-significant level through mitigation, which is identified in Chapter 4.10 of this EIR. This alternative would be subject to the Marin County Noise Ordinance, which would require construction-period noise reduction measures. Therefore the impacts resulting from the No Project Alternative would be considered the same as the proposed project.

k. Hazardous Materials

This alternative would result in the transport and use of hazardous materials during the demolition of the existing home on-site, as well as during both the construction and operation phases. The same set of regulations related to the transport, storage, and disposal of hazardous materials would apply to development under this alternative. Therefore, the No Project Alternative would be the same when compared to the proposed project.

l. Energy Conservation

This alternative would result in the operation of five residential units. Because the number of residential units under this alternative would be less than the proposed project, energy use during construction and operation would be reduced. Therefore, this alternative would be an insubstantial improvement compared to the proposed project.

m. Population and Housing

The proposed project would result in a population growth of approximately 30 residents, which is not considered substantial in relation to the existing County population or long-term growth projections, as identified in the Countywide Plan. The No Project Alternative would result in fewer homes and fewer residents, however, because the No Project Alternative does not include an affordable housing component, this alternative would not help to achieve Marin County's affordable housing goals. Therefore, this alternative would be an insubstantial deterioration when compared to the proposed project.

n. Utilities

The No Project Alternative would result in a lower demand for water supply, waste water conveyance and processing, and solid waste disposal services. Like the proposed project, this alternative would result in a potentially significant impact on sanitary sewer capacity on San Pedro Road. However, because of the reduced overall demand on utilities resulting from this alternative, it would be an insubstantial improvement in relation to the proposed project.

**3. Ability to Meet Project Objectives**

This alternative would not meet any of the objectives set forward for the project. This alternative would not expand the County's supply of market-rate and affordable housing. This alternative would not improve the visual quality of the site, which will take place through the replacement of the existing home and non-native, non-maintained vegetation with new, high-quality



homes and native trees and plants. This alternative would not improve the safety of the site by reducing the wildfire risk because it would not include a fire hazard management plan or vegetation management plan.

The No Project Alternative would therefore be a substantial deterioration from the proposed alternative in terms of meeting project objectives.

#### **4. Comparison to Proposed Project**

The No Project Alternative would be environmentally inferior to the proposed project in relation to environmental impacts. As discussed above, development on three of the five legal lots could take place in conformance with the height, setback, floor area and other development standards of the governing R-E:B-3 zoning district. Therefore, it is not anticipated that these lots would require Design Review, Tree Removal Permit or any other type of discretionary approval for development. Since no discretionary approval would be required, Wetland Conservation Areas (WCAs) and creek setback guidelines, as established through policies set forth in the Countywide Plan, would not be applicable. Because key environmental protection policies would not apply to the majority of development, it is expected that the degree of impact would be greater than under the proposed project.

### ***B. Alternate Use Alternative***

#### **1. Principal Characteristics**

This alternative would include 12 residential units of various types. As illustrated in Figure 5-2, eight units would be attached, but would be divided by lot lines resulting in independent single family residences on eight separate legal lots. The other four lots would be developed with detached single family residences. Six units would be below market rate and the other six units would be market-rate. The four detached and two of the attached units would be the market rate units. The remaining six attached units would be the below market rate units.



Source: Marin County Community Development Agency

FIGURE 5-2  
ALTERNATE USE ALTERNATIVE

Development under this alternative would occur in the portion of the site that is already most disturbed as a result of the existing residence and related improvements. All homes under this alternative would be constructed outside the WCA and the 20-foot creek setback. A section of the primary access driveway (Bay Creek Drive) would be located within the Wetland Conservation Area. The eucalyptus tree containing the existing heron nest would be taken down during non-nesting season because it is a hazard to the occupants of the property.

## **2. Impact Analysis**

The following impacts would be associated with the Alternate Design Alternative:

### **a. Land Use and Policy Consistency**

Construction of the Alternate Use Alternative would be less compatible with surrounding uses, due to the inclusion of zero lot line housing. The surrounding residential development is of relatively low density, and comprised of detached single-family homes.

Although the proposed project would not result in any inconsistencies with County policy, this alternative would be more aligned with County policies related to protection of wetlands. Under this alternative, all improvements with the exception of a portion of the primary driveway (Bay Creek Drive) would be constructed outside the Wetland Conservation Area. This alternative is therefore considered a substantial improvement in relation to consistency with County policy.

### **b. Geology and Soils**

The development pattern under this alternative could result in smaller areas of disturbance on the project site, which could reduce the potential for erosion and sedimentation. Because all potential impacts related to seismic hazards could be reduced to a less-than-significant level through mitigation, this alternative would be considered similar to the proposed project.

c. Biological Resources

This alternative would reconfigure the project site and locate 8 units on zero lot line parcels. In doing so, the project would prevent impacts to biological resources by reducing the building footprint area. Similar to the proposed project, this alternative would also result in removal of the tree containing the heron rookery. However, in contrast to the proposed alternative, all improvements would be constructed outside the 100-foot WCA area with the exception of a portion of the primary driveway (Bay Creek Driveway). This section of driveway would generally follow the alignment of the existing driveway.

Due to the reduced development footprint in relation to the 100-foot WCA, this alternative would represent a substantial improvement in relation to the proposed alternative.

d. Hydrology and Water Quality

Because of dwelling unit clustering, this alternative would result in a smaller development footprint and a lesser amount of new, impermeable surface area on the site. In addition, the residential lawn areas would likely be smaller. During construction, there would be reduced potential for erosion and sedimentation in receiving water bodies because the area of soil disturbance from grading would be reduced. During the operational phase of the project, a reduced amount of impermeable surface area would result a lower, combined stormwater runoff volume. As a result, this alternative would be an insubstantial improvement during both the construction and operation phases of the project.

e. Air Quality

Like the proposed project, development of this alternative would result in construction-period air quality impacts and contribute to green house gas emissions during both the construction and operation phases. Similar to the proposed alternative, construction-period impacts under this alternative could be reduced to a less-than-significant level through mitigation and the project's contribution to cumulative green house gases would be a less than significant

cumulative impact. Therefore, this alternative is considered the same as the proposed project.

f. Traffic and Circulation

Although the composition and configuration of residential units under this alternative would be different than under the proposed project, the number of dwelling units would be the same and the number of trips generated by the project would be similar. This alternative would therefore be similar to the proposed project.

g. Public Services

Because this alternative would include the same number of dwelling units, the demand on public services would be comparable to the proposed project. Therefore, this alternative would have a similar level of impact when compared to the proposed project.

h. Aesthetics

The clustering of eight of the 12 proposed units under this alternative would likely reduce the overall degree of visual change on the site. Like the proposed project, this alternative would avoid the most scenic portions of the site, which include the wooded ridgelines in the southern portion of the property. In addition, this alternative would also include a tree replacement and planting plan to preserve the site's largely wooded appearance. Due largely to the clustering of all new development on the most disturbed portions of the site, this alternative is considered to be a substantial improvement when compared to the proposed project.

i. Cultural Resources

Although no cultural resources are anticipated to be located on-site, construction of this alternative involves the possibility of disturbing previously unknown cultural resources. The State regulations that protect cultural resources, as identified in Section 4.9 of this EIR, would also apply to implementation of this alternative and similarly reduce potential impacts to a less

than significant level. Therefore, this alternative would be the same as the proposed project.

j. Noise

The construction of this alternative would result in similar, temporary construction period noise impacts as the proposed project. These impacts could be mitigated to a less-than-significant level, as is the case under the proposed alternative. Therefore, this alternative would have similar impact as proposed project.

k. Hazardous Materials

Like the proposed project, this alternative would result in the transport and use of hazardous materials during the demolition of the existing home on-site, as well as during both the construction and operation phases. The same set of regulations related to the transport, storage, and disposal of hazardous materials would apply to development under this alternative. Therefore, this alternative would be the same when compared to the proposed project.

l. Energy Conservation

Because this alternative would result in the same number of dwelling units, energy consumption for construction and operation of the project would be similar to the proposed project.

m. Population and Housing

The proposed project would result in new population on the site of approximately 30 residents. This increase is not considered substantial in relation to the existing County population or long-term growth projections, as identified in the Countywide Plan. The residence population under this alternative would be similar to the proposed project, but this alternative would further support the County's goal of increasing affordable housing stock through the inclusion of six below market rate housing units. Therefore, this alternative would result in a substantial improvement compared to the proposed project.

n. Utilities

Because the number of dwelling units would be the same under this alternative, demand for utilities would be similar to the proposed project. Similar to the proposed project, this alternative would result in a potentially significant impact on sanitary sewer capacity, which could be mitigated to a less than significant level.

**3. Ability to Meet Project Objectives**

This alternative would achieve the primary project density objectives of constructing 12 residential units. The alternative would support the County's efforts to incorporate "green" building practices into new development and through the inclusion of six below market rate units, as opposed to two, would more fully support Marin County's affordable housing goal. Therefore, the project is considered to provide an insubstantial improvement in meeting the project objectives.

**4. Comparison to Proposed Project**

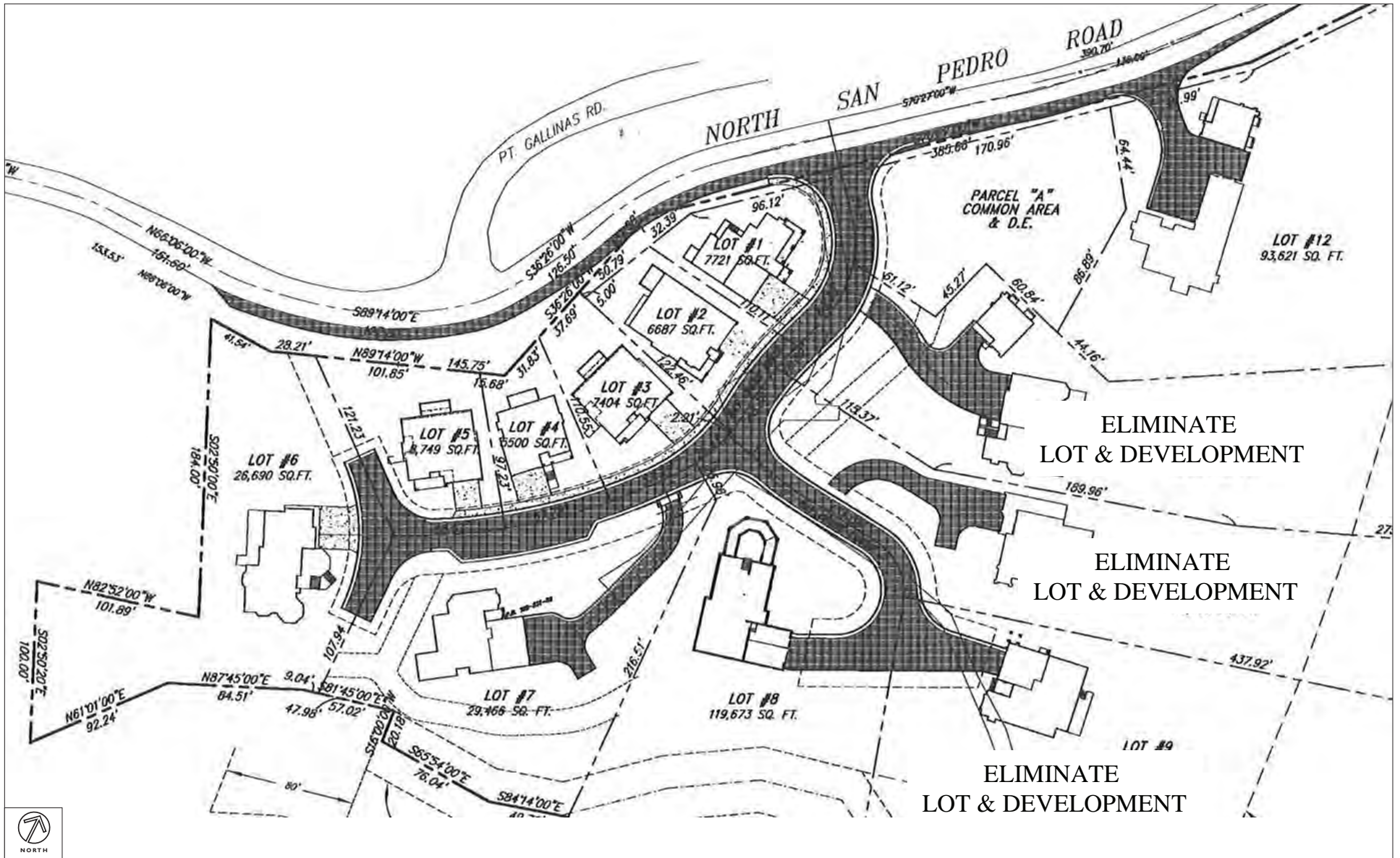
The Alternate Use Alternative would be environmentally superior to the proposed project. Eight the 12 units would be clustered in pairs, thereby reducing the extent of the project footprint. Development would be focused to the northwestern portion of the property where the greatest amount of disturbance has occurred from exiting development. All improvements, with the exception of a section of the primary driveway (Bay Creek Drive) would be constructed outside the 100-foot Wetland Conservation Area. Similar to the proposed project, this alternative would not involve encroachment into the 20-foot creek setback. Furthermore, development clustering would reduce the amount of visual change associated with the project and the amount of new impermeable surface area created on the site.

**C. Reduced Density Alternative**

**1. Principal Characteristics**

As illustrated in Figure 5-3, this alternative would consist of nine residential units, seven of which would be priced as market rate units, while the remaining two would be affordable. Lots 9, 10, and 11 would be removed from the





Source: Marin County Community Development Agency

FIGURE 5-3

REDUCED DENSITY ALTERNATIVE



project to reduce impacts to environmentally sensitive areas. As a result, the driveway to Lot 8 could be reconfigured to access the lot from the lower portion of the slope, avoiding the necessity of constructing a longer driveway with a fire turnaround. Aside from removal of these three units and modification of this driveway, this alternative would retain the nine remaining units in their proposed location, as well as roadways and driveways. The eucalyptus tree containing the existing heron nest would be taken down during non-nesting season because it is a hazard to the occupants of the property.

## **2. Impact Analysis**

### **a. Land Use and Policy Consistency**

Construction and operation of this alternative would be compatible with surrounding uses. The surrounding residential development is of relatively low density, and comprised of single-family homes. The construction of nine detached single family homes under this alternative would be consistent with the existing land use pattern in the Santa Venetia neighborhood. ~~Moreover, the construction of three fewer units and reduced density on the site may increase the degree of compatibility.~~

The removal of units on Lots 9, 10, and 11 under this alternative would eliminate the proposed improvements that have the greatest potential to impact sensitive biological resources, including the 100-foot area around the delineated wetland and the creek corridor. As a result, this alternative would represent a substantial improvement in relation to consistency with County policy.

### **b. Geology and Soils**

The reduced units count under this alternative would result in a smaller area of disturbance on project site, which would reduce the potential for erosion and sedimentation. Similar to the proposed project, all other potential impacts related to seismic hazards occurring under this alternative could be reduced to a less-than-significant level through mitigation. As a result this alternative would have the same degree of impact when compared to the proposed project.

c. Biological Resources

This alternative would result in a smaller area of development on project site, which could reduce the potential for disturbing biological resources. More specifically, improvements on Lots 9, 10 and 11 would not occur, thereby precluding the potentially significant impacts that this development could have on sensitive biological resources, especially the upland area surrounding the wetland. As a result, this alternative would represent a substantial improvement in comparison to the proposed project.

d. Hydrology and Water Quality

This alternative would result in a smaller development footprint and a lesser amount of new, impermeable surface area on the site. As a result, this alternative would have less of an impact on hydrology and water quality during both the construction and operation phases of the project. During construction, there would be reduced potential for erosion and sedimentation in receiving water bodies because the area of soil disturbance would be reduced. During the operational phase of the project, a reduced amount of impermeable surface area would result in a lowered stormwater runoff volume. As a result, this alternative would be an insubstantial improvement when compared to the proposed project.

e. Air Quality

Similar to the proposed project, the Reduced Density Alternative would result in construction-period air quality impacts and contribute to green house gas emissions during both the construction and operation phases. Construction-period impacts would be reduced to a less than significant level through mitigation and the alternative's contribution to cumulative green house gases would be a less than significant. Because this alternative will result in three fewer residential units than the proposed project, it would result in reduced emissions during both the construction and operational phases. Therefore, this alternative would represent an insubstantial improvement when compared to the proposed project.

f. Traffic and Circulation

Because the number of dwelling units under this alternative would be reduced by three units, the number of trips generated by the project would be reduced during both the construction and operational phases. In that the decrease is not expected to be substantial, this alternative would be an insubstantial improvement in relation to the proposed project.

g. Public Services

The lower number of dwelling units would reduce project-based demand for public services, however the level of demand is not expected to be substantially reduced. As a result, this alternative would be an insubstantial improvement in comparison to the proposed project.

h. Aesthetics

This alternative would result in nine residential units, three less than the proposed project and would affect the appearance of the project site by reducing the building mass. Additionally, like the proposed alternative, this alternative would avoid the most scenic portions of the site, which include the wooded ridgelines in the southern portion of the property, and would include a tree replacement and planting plan to preserve the site's largely wooded appearance. Because the number of units is reduced, this alternative is considered to be a substantial improvement when compared to the proposed project.

i. Cultural Resources

Although no cultural resources are anticipated to be located on-site, construction of this alternative involves the possibility of disturbing previously unknown cultural resources. The State regulations that protect cultural resources, as identified in Section 4.9 of this EIR, would also apply to implementation of this alternative and similarly reduce potential impacts to a less than significant level. Therefore, this alternative would be the same as the proposed project.

j. Noise

Like the proposed project, this alternative would result in temporary, construction-period noise impacts that could be mitigated to a less than significant level. However, since this alternative would involve three fewer units, the amount of construction activity required to complete the project would be reduced. As a result, this alternative would be an insubstantial improvement in relation to the proposed project.

k. Hazardous Materials

Like the proposed project, this alternative would result in the transport and use of hazardous materials during the demolition of the existing home on-site, as well as during both the construction and operation phases. The same set of regulations related to the transport, storage, and disposal of hazardous materials would apply to development under this alternative. Therefore, this alternative would be the same when compared to the proposed project.

l. Energy Conservation

This alternative would result in the construction and subsequent operation of nine residential units. Because the number of residential units under this alternative would be less than the proposed project, combined energy use during construction and operation would be reduced. Therefore, this alternative would be an insubstantial improvement compared to the proposed project.

m. Population and Housing

This alternative proposes 9 residential units, including two below market rate units. The increase in population on the site that would occur as a result of the project would not be substantial in relation to the County's existing population or its long-term population projections, as identified in the Countywide Plan. Similar to the proposed project, this alternative would not trigger a substantial increase or displace substantial numbers of people. Therefore, it is considered the same as the proposed project.

n. Utilities

With three fewer units, this alternative would result in a slight decrease in the demand for utility services including water supply, sanitary waste water and storm water conveyance and treatment, and solid waste disposal. Any decrease in demand is expected to be minimal. Like the proposed project, it is not expected that this alternative would result in any potentially significant impacts. Because of a slight expected decrease in collective demand for services, this alternative is considered an insubstantial improvement in relation to the proposed project.

**3. Ability to Meet Project Objectives**

This alternative would involve the construction of three fewer residential units than the proposed project, which isn't consistent with one of the primary project objectives. However, the project will support the county's efforts to incorporate "green" building practices into new development as well as increasing the number of affordable housing units within Marin County. In conclusion, this alternative will meet most but not all of the project objectives and would therefore be considered an insubstantial deterioration.

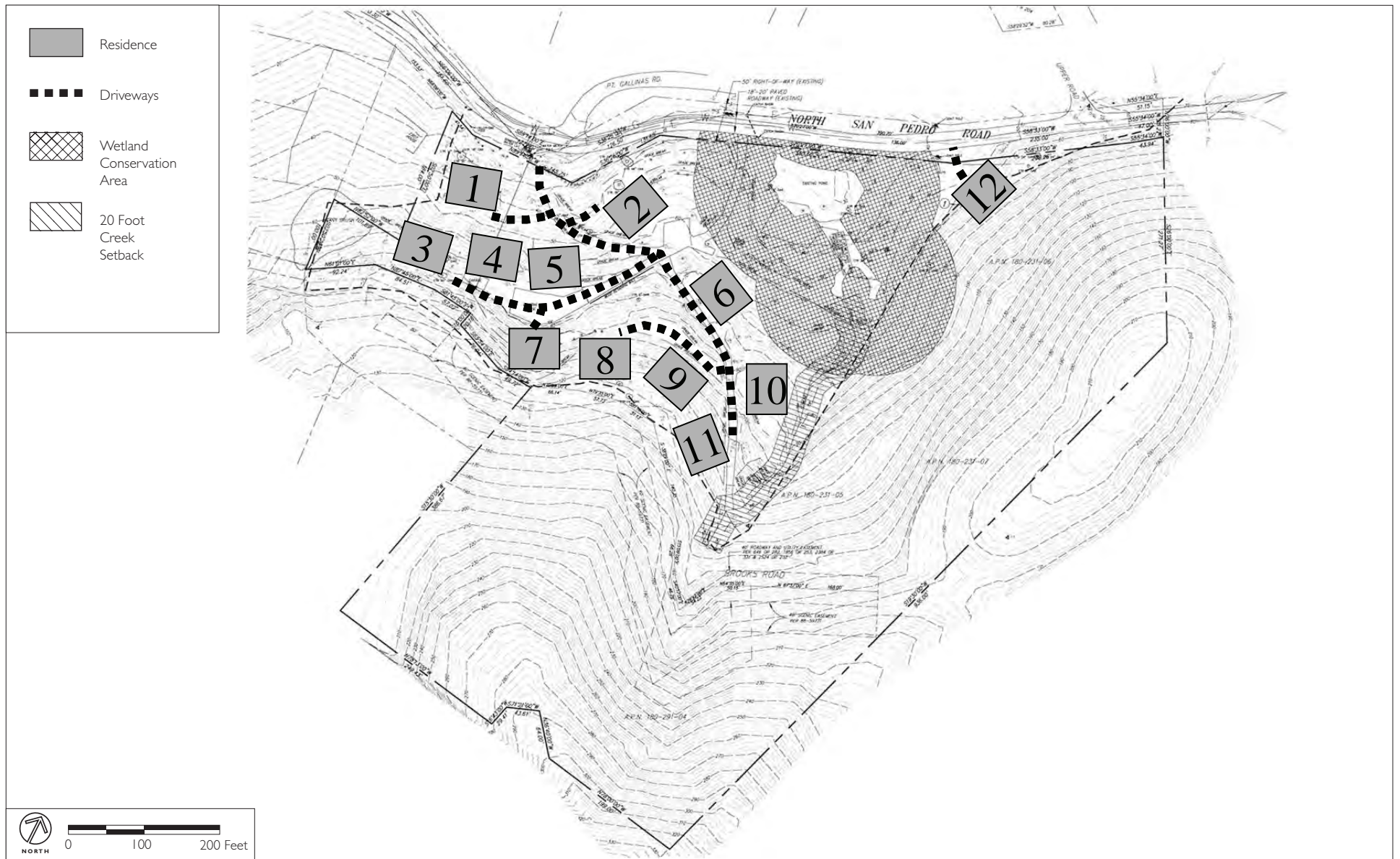
**4. Comparison to the Proposed Project**

The Reduced Density Alternative would be environmentally superior to the proposed project. Through eliminating the proposed improvements on Lots 9, 10, and 11, the degree of potential project impact on sensitive biological resources is notably reduced. Much of the proposed encroachment into the 100-foot area around the wetland would not occur and the amount of development occurring in close proximity to the creek corridor is substantially reduced. Furthermore, the smaller, combined footprint of the project would reduce the amount of visual change occurring on the site and the amount of new impermeable surface area created.

***D. Mitigated Alternative***

**1. Principal Characteristics**

As illustrated in Figure 5-4, this alternative would consist of a redesign of the proposed site plan. Although the proposed number of units would remain



Source: Marin County Community Development Agency

FIGURE 5-4  
MITIGATED PROJECT DESIGN ALTERNATIVE

the same (12), primary access to and from Lots 1-11 would be from a driveway south of the current driveway and the proposed location of Bay Creek Drive. This existing driveway would be gated off and restricted to use by emergency vehicles only. As a result, the reconfigured, primary driveway would be outside the WCA and all units would be located outside of the WCA and the 20-foot creek setback. The eucalyptus tree containing the existing heron nest would be taken down during non-nesting season because it is a hazard to the occupants of the property.

This alternative would include all mitigation measures recommended in the EIR, and other features to more fully support the goals and objectives of the Countywide Plan. One such feature would be formal rezoning of the proposed conservation area to Open Space.

## **2. Impact Analysis**

### **a. Land Use and Policy Consistency**

Construction and operation of this alternative would be compatible with surrounding uses. The surrounding residential development is of relatively low density, and comprised of single-family homes.

Although the proposed project would not result in any inconsistencies with County policy, this alternative would be more aligned with County policies related to protection of wetlands. Under this alternative, all improvements would be constructed outside the Wetland Conservation Area. This alternative is therefore considered a substantial improvement in relation to consistency with County policy. Additionally, areas within the project site would be permanently rezoned as open space to ensure long-term protection. Unique to this alternative, this action would support County policies to preserve and expand the amount of open space as development occurs. This alternative would be an insubstantial improvement in comparison to the proposed project.

b. Geology and Soils

The development pattern under this alternative would result in a similar total area of disturbance, which would result in the potential for erosion. All potential impacts related to geology and soils could be reduced to a less-than-significant level through incorporation of mitigation measures. This alternative would therefore be considered similar to the proposed project.

c. Biological Resources

The development pattern under this alternative would result in a similar area of disturbance. As is the case under the proposed project, the tree containing the heron rookery would be removed to prevent injury and property damage. This alternative would be an insubstantial improvement when compared to the proposed project without mitigation.

In relation to the proposed project, this alternative would be an improvement in relation to the WCA encroachment. As shown on Figure 5-4, there would be no encroachment into the WCA. However, in moving the unit on Lot 12 eastward so that it's outside the WCA, it would encroach into native grassland habitat where it does not do so under the current proposal. This is likely to result in a potentially significant impact that could be mitigated to a less than significant level by on-site and/or off-site native grassland habitat enhancement programs. On balance, this alternative is considered to be similar to the proposed project in terms of the level of impact.

d. Hydrology and Water Quality

This alternative would result in the same or similar amount of urban footprint and impermeable surface area on the project site. Similar to the proposed project, potentially significant impacts could be reduced to a less than significant impact through mitigation. As a result, this alternative would be similar to the proposed project.

e. Air Quality

This alternative would result in construction-period air quality impacts and contribute to green house gas emissions during both the construction and



operation phases. As is the case with the proposed project, construction-period impacts could be reduced to a less-than-significant level through mitigation. Like the proposed project, this alternative's contribution to green house gases would also be a less-than-significant cumulative impact. This project would therefore be similar to the proposed project.

f. Traffic and Circulation

Although the configuration of residential units under this alternative would be different than under the proposed project, the number of dwelling units would be the same and the number of trips generated by the project would be similar. This alternative would therefore be similar to the proposed project.

g. Public Services

Because this alternative would include the same number of dwelling units, the demand on public services would be comparable to the proposed project. Therefore, this alternative would have a similar level of impact when compared to the proposed project.

h. Aesthetics

Like the proposed project, this alternative would avoid the most scenic portions of the site, which include the wooded ridgelines in the southern portion of the property. In addition, this alternative would also include a tree replacement and planting plan to preserve the site's largely wooded appearance. However, as indicated in the information submitted by the applicant, including a primary driveway at the suggested location would result in a substantial increase in grading and retaining walls in order for the roadway to meet the specifications for emergency access. While the grading would not adversely affect drainage or slope stability, reforming the natural terrain and constructing high retaining walls would diminish the aesthetic quality of the development. Further, the new roadway, in addition to the existing driveway (emergency access only) would detract from what would otherwise be a landscaped hillside. This alternative is therefore considered to be a substantial deterioration when compared to the proposed project.

i. Cultural Resources

Although no cultural resources are anticipated to be located on-site, construction of this alternative involves the possibility of disturbing previously unknown cultural resources. The State regulations that protect cultural resources, as identified in Section 4.9 of this EIR, would also apply to implementation of this alternative and similarly reduce potential impacts to a less than significant level. Therefore, this alternative would be the same as the proposed project.

j. Noise

This alternative would be similar in scale to the proposed project and would result in similar temporary, construction-period noise impacts. As is the case under the proposed project, construction-period noise could be reduced to a less than significant level through mitigation. Therefore, this alternative would have the same impacts as proposed project.

k. Hazardous Materials

Like the proposed project, this alternative would result in the transport and use of hazardous materials during the demolition of the existing home on-site, as well as during both the construction and operation phases. The same set of regulations related to the transport, storage, and disposal of hazardous materials would apply to development under this alternative. Therefore, this alternative would be the same when compared to the proposed project.

l. Energy Conservation

Like the proposed project, this alternative would result in the construction and subsequent operation of nine residential units. Because the number of residential units under this alternative would be the same as the proposed project, combined energy use during construction and operation would be similar. Therefore, this alternative would be considered the same as the proposed project.

m. Population and Housing

Like the proposed project, this alternative proposes 12 residential units, including two below market rate units. The increase in population on the site that would occur as a result of the project would not therefore be the same or similar to what is proposed. This increase would not be substantial in relation to the County's existing population or its long-term population projections, as identified in the Countywide Plan. Similar to the proposed project, this alternative would not trigger a substantial increase or displace substantial numbers of residents. Therefore, it is considered the same as the proposed project.

n. Utilities

Because this alternative would also include the construction of 12 dwelling units, the combined increase in demand for utility services on the site is projected to be similar to what it would be under the proposed project. This alternative would not result in any impacts that could not be mitigated to a less than significant level. As a result, this alternative is considered to be the same as the proposed project.

**3. Ability to Meet Project Objectives**

This alternative would involve construction of the same number of residential units as the proposed project. Furthermore, the project will support the county's efforts to incorporate "green" building practices into new development as well as increasing the number of affordable housing units within Marin County. This alternative would achieve a project objective of constructing 12 residential units and incorporating proposed mitigation measures as components of the project. Therefore, this alternative would achieve all project objectives and is therefore considered similar to the proposed project.

**4. Comparison to Proposed Project**

In relation to most issues discussed, the Mitigated Alternative would be similar to the proposed project. It would be environmentally superior to the proposed project in that it would eliminate any encroachment into the WCA, however, in moving the dwelling unit on Lot 12 further east, that unit would

encroach into native grassland habitat in this portion of the site that would not otherwise be adversely affected by the project. Further, reconfiguring the access roadway would substantially diminish the aesthetic quality of the development. On balance, this alternative is neither environmentally superior nor inferior to the proposed project.

*E. Revised Project Alternative*

**1. Principal Characteristics**

As illustrated in Figure 5-5, this alternative would encompass twelve primary units and two secondary units, as would the proposed project. However the locations of buildings on Lots 8-12 and the driveways serving Lots 8-11 have been modified. As Figure 5-5 shows, driveways for homes on Lots 8-11 would be provided from a shortened Bay Creek Court. As a result, the currently proposed driveway to Lot 11 off of Bay Creek Drive would be eliminated and the proposed driveway lengths to homes on Lots 8-10 would be reduced. The home on Lot 9 would be relocated down slope to the approximate location of the currently proposed Lot 10 unit. The home on Lot 10 would be moved downslope to the southwest so that the primary home and secondary unit on Lot 11 could be moved upslope from the pond area and delineated wetland. Lastly, the secondary unit on Lot 12 would be moved across the site to Lot 6.

The eucalyptus tree containing the existing heron nest would be taken down during non-nesting season because it is a hazard to the occupants of the property.

This alternative would include all mitigation measures recommended in the EIR.



## **2. Impact Analysis**

### **a. Land Use and Policy Consistency**

Construction and operation of this alternative would be generally compatible with surrounding uses. The surrounding residential development is of relatively low density, and comprised of single-family detached homes. Although the proposed project would not result in any inconsistencies with County policy, this alternative would be more aligned with County policies related to protection and enhancement of wetlands. Under this alternative, the degree of encroachment onto the 100-foot Wetland Conservation Area (WCA) would be effectively reduced via increased wetland setbacks. This alternative is therefore considered an insubstantial improvement in relation to consistency with County policy.

### **b. Geology and Soils**

The development pattern under this alternative is characterized by increased accessibility from Bay Creek Drive and Bay Creek Court and an accompanying reduction in driveway surface area. The approximate area of disturbance for this alternative (116,000 square feet) would be approximately 25 percent smaller than the area under the proposed project (155,000 square feet), substantially reducing the potential for site erosion during grading.

Because all potential impacts under the proposed related to geology and soils could be reduced to a less-than-significant level through the incorporation of identified mitigation measures, this alternative would be considered an insubstantial improvement to the proposed project.

### **c. Biological Resources**

As discussed above under Geology and Soils, this alternative would involve a reduction in site disturbance. This is due to the repositioning of homes and shortening of driveways explained above in the description of the alternative. Because of the modifications to Lots 8-12, this alternative would result in a reduced amount of tree loss and the minimum setback from the edge of delineated wetland would be doubled to 40 feet, with an average setback of 55 feet.

Although this alternative, like the proposed project, would result in the removal of the eucalyptus tree containing the heron nest, it is considered a substantial improvement due the reduced amount of site disturbance, reduced tree removal, and increased setbacks to the edge of delineated wetland.

d. Hydrology and Water Quality

Although of the same density as the proposed project, this alternative would result in an approximately 8,800-square foot reduction in impermeable surface area on the project site due to the reduction in driveway coverage. Because all potential impacts related to hydrology and water quality could be reduced to a less-than-significant level through the incorporation of mitigation measures identified in the DEIR, this alternative is considered an insubstantial improvement to the proposed project.

As a result, project roads and total impervious surface area would be reduced by approximately 8,800 square feet.

e. Air Quality

This alternative would result in construction-period air quality impacts and contribute to green house gas emissions during both the construction and operation phases. As is the case with the proposed project, construction-period impacts could be reduced to a less-than-significant level through mitigation. Like the proposed project, this alternative's contribution to green house gases would also be a less-than-significant cumulative impact. However, because this alternative would involve an approximately 25 percent reduction in the area of site disturbance and require less grading and paving for driveways, it would be an insubstantial improvement in relation to the proposed project.

f. Traffic and Circulation

Although the configuration of residential units under this alternative would be different than under the proposed project, the number of dwelling units would be the same and the number of trips generated by the project would be

similar. In the long-term (operational phase of project), this alternative is therefore considered similar to the proposed project. However, due to the reduced amount of site disturbance and driveway, fewer truck trips would be necessary to and from the site to remove off-haul that is not reused on site. Because the impacts from construction traffic would be mitigated to a less than significant level under the proposed project, a reduction of such trips during construction under this alternative is considered an insubstantial improvement.

g. Public Services

Because this alternative would include the same number of dwelling units, the demand on public services would be comparable to the proposed project. Therefore, this alternative would have a similar level of impact when compared to the proposed project.

h. Aesthetics

Like the proposed project, this alternative would avoid the most scenic portions of the site, which include the wooded ridgelines in the southern portion of the property. However, this alternative would lower the maximum elevation at which development would occur, resulting in a decreased overall visual profile and increased preservation of scenic ridgelines. In addition, the reduction in paved surfaces branching off of Bay Creek Drive would result in greater conformance to the existing rural, “hidden” character of the site. This alternative, like the proposed project, would also include a tree replacement and planting plan to further preserve the site’s largely wooded appearance. This alternative is therefore considered to be a substantial improvement over the proposed project.

i. Cultural Resources

Although no cultural resources are anticipated to be located on-site, construction of this alternative involves the possibility of disturbing previously unknown cultural resources. The State regulations that protect cultural resources, as identified in Section 4.9 of this EIR, would also apply to implementation of this alternative and similarly reduce potential impacts to a less



than significant level. Therefore, this alternative would be the same as the proposed project.

j. Noise

This alternative would be similar in scale to the proposed project and would result in similar temporary, construction-period noise impacts. As is the case under the proposed project, construction-period noise could be reduced to a less than significant level through mitigation. Therefore, this alternative would have the same impacts as the proposed project.

k. Hazardous Materials

Like the proposed project, this alternative would result in the transport and use of hazardous materials during the demolition of the existing home on-site, as well as during both the construction and operation phases. The same set of regulations related to the transport, storage, and disposal of hazardous materials would apply to development under this alternative. Therefore, this alternative would be the same when compared to the proposed project.

l. Energy Conservation

Like the proposed project, this alternative would result in the construction and subsequent operation of 12 residential units. Because the number of residential units under this alternative would be the same as the proposed project, combined energy use during operation would be similar. However, during construction, the reductions in site disturbance and driveway surface area would be expected to have related reductions in relation to the usage of energy. Therefore, this alternative would be considered an insubstantial improvement in relation to the proposed project.

m. Population and Housing

Like the proposed project, this alternative proposes 12 residential units, including two below market rate units. The increase in population on the site that would occur as a result of the project would therefore be the same or similar to what is proposed. This increase would not be substantial in relation to the County's existing population or its long-term population projec-

tions, as identified in the Countywide Plan. Similar to the proposed project, this alternative would not trigger a substantial increase or displace substantial numbers of residents. Therefore, it is considered the same as the proposed project.

n. Utilities

Because this alternative would also include the construction of 12 dwelling units, the combined increase in demand for utility services on the site is projected to be similar to what it would be under the proposed project. This alternative would not result in any impacts that could not be mitigated to a less than significant level. As a result, this alternative is considered to be the same as the proposed project.

**3. Ability to Meet Project Objectives**

This alternative would be considered the same as the proposed project in terms of consistency with objectives. This alternative would involve the construction of 12 units on the project site, support the County's efforts to incorporate "green" building practices into new development, increase the number of market-rate affordable housing units within the County, improve safety relating to site access and fire risk, enable the applicant to develop a financially-profitable project, and improve the visual quality of the site.

**4. Comparison to Proposed Project**

For the majority (8 of 14) of the environmental issues discussed above, the Revised Project Alternative would be either an insubstantial or substantial improvement to the proposed project. For the reasons explained above, this alternative is therefore considered environmentally superior to the proposed project.

*F. Environmentally Superior Alternative*

CEQA requires the identification of the environmentally superior alternative in an EIR. Based on the foregoing analysis, which is summarized in Table 5-1, it can be seen that the Reduced Density Alternative is the environmen-

tally superior alternative, however it would fail to meet all project objectives. The ~~Alternative Use Alternative~~ Revised Project Alternative is the next most environmentally superior alternative and it would meet all project objectives. After these two alternatives, the Alternate Use Alternative is the next most environmentally superior alternative that would meet most project objectives. ¶The No Project Alternative and the Mitigated Alternative ~~have~~ would have a similar level of impact overall, but the Mitigated Alternative would meet most of the project objectives, where as the No Project Alternative would not meet any.

COUNTY OF MARIN  
650 NORTH SAN PEDRO ROAD EIR  
ALTERNATIVES TO THE PROPOSED PROJECT

## 6 CEQA-REQUIRED ASSESSMENT CONCLUSIONS

As required by CEQA, this chapter provides an overview of the impacts of the proposed project based on the technical topical analyses. The topics covered in this chapter include growth inducement, cumulative impacts, unavoidable significant effects, significant irreversible changes, short-term uses versus long-term productivity, and impacts not found to be significant. A more detailed analysis of the effects the project would have on the environment is provided in Chapter 4, Environmental Evaluation.

### *A. Growth Inducement*

A project is considered to be growth-inducing if it fosters economic or population growth beyond the boundaries of the project site. Typical growth inducements might be the extension of urban services or transportation infrastructure to a previously unserved or under-served area, or the removal of major boundaries to development.

The site already contains one single-family dwelling, and is surrounded by residential development, and is currently served by public infrastructure and utilities. No extension of services would be necessary, however upgrading of existing infrastructure and services will be required. Because the project site is located in an area of existing residential development the project would not remove a major obstacle to development.

Overall, the proposed project would not be expected to induce growth beyond the limits of the project site or set a precedent for additional growth in the area. The proposed project site is a relatively undeveloped parcel of land within Marin County with residential development to the north and west of the project site. Furthermore, China Camp State Park is located to the south of the project site, and the Marin County Open Space District manages the Santa Venetia Marsh to the northeast of the project site. These areas are protected in perpetuity and development is not anticipated or allowed.

*B. Cumulative Impacts*

CEQA Guidelines require consideration of the potential cumulative impacts that could result from a proposed project in conjunction with other projects in the vicinity. Such impacts can occur when two or more individual effects either together create a considerable environmental impact or compound other environmental consequences. A discussion of potential cumulative impacts for each topic area is included in Sections 4.1 through 4.14.

*C. Unavoidable Significant Impacts*

Unavoidable significant impacts are those significant impacts that cannot be mitigated to a less-than-significant level. As described in Section 4.3, Biological Resources.

*D. Significant Irreversible Changes*

CEQA requires that an EIR assess whether a project will result in significant irreversible changes to the environment. The CEQA Guidelines describe three distinct categories of irreversible changes that should be considered:

**1. Changes in Land Use which Commit Future Generations**

The proposed project would commit future generations to development on the proposed project site. Once the proposed project is developed it is unlikely to be economically feasible or desirable to change to a significantly different land use for several decades or to return the site to its current, largely vacant state. However, this is not considered to be an adverse impact, since part of the site is already developed as a residential use.

**2. Irreversible Damage from Environmental Accidents**

Since the project would not involve the routine use or transport of hazardous materials in substantial quantities, no significant environmental damage, such

as the accidental spill or explosion of hazardous material, is anticipated as a result of the proposed project.

### **3. Consumption of Natural Resources**

The assessment of a proposed project's consumption of nonrenewable resources includes increased energy consumption, conservation of agricultural lands, and loss of access to mining reserves.

Development of the project site would irretrievably commit nonrenewable resources to the construction and maintenance of proposed buildings and internal driveways. The building materials and energy consumed as part of development of the project would include, but are not limited to, nonrenewable and limited resources such as oil, gasoline, lumber, sand and gravel, asphalt, water, and steel. Increased energy demands would be used for construction, lighting, heating and cooling, and transportation of people within, to, and from the area. This represents an irreversible commitment of nonrenewable resources.

The property is not on agricultural land, nor does it provide access to a mining reserve. Therefore, the proposed project would not have significant impacts on the consumption of these types of resources.

### ***E. Impacts Found Not to Be Significant***

CEQA allows environmental issues for which there is no likelihood of an impact to be "scoped out" during the EIR scoping process and not covered in an EIR. Based on the location and nature of this project, potential impacts to agricultural and mineral resources have been "scoped out" from detailed analysis.

COUNTY OF MARIN  
650 NORTH SAN PEDRO ROAD EIR  
CEQA-REQUIRED ASSESSMENT CONCLUSIONS