

***DRAFT***  
***ENVIRONMENTAL IMPACT REPORT***

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***BIG WAVE WELLNESS CENTER AND  
OFFICE PARK PROJECT***

*Lead Agency:*  
County of San Mateo  
Planning and Building Department  
455 County Center, 2<sup>nd</sup> Floor  
Redwood City, CA 94063



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October 2009



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## I. INTRODUCTION

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### A. INTRODUCTION TO THE DRAFT EIR

The subject of this Draft Environmental Impact Report (DEIR) is the proposed Big Wave Wellness Center and Office Park project (“proposed project”). A detailed description of the proposed project is contained in Section III (Project Description) of this DEIR.

Because the proposed project will require approval of certain discretionary actions by the County of San Mateo (“County”), the proposed project is subject to the California Environmental Quality Act (CEQA), for which the County is the designated lead agency. The County Planning and Building Department administers the process by which environmental documents for private projects are prepared and reviewed. On the basis of these procedures, it was determined that the proposed project may have a significant effect on the environment and that an Environmental Impact Report (EIR) should be prepared.

As described in Section 15121(a) and 15362 of the CEQA Guidelines, an EIR is an informational document that will inform public agency decision makers and the general public of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to a project. The purpose of this DEIR is to focus the discussion on potential effects of the proposed project on the environment, and the potential effects of the environment on the project, that the lead agency has determined are or may be significant. Pursuant to CEQA, feasible mitigation measures are required, when applicable, that could reduce significant impacts to less-than-significant levels.

This EIR was prepared in accordance with Section 15151 of the CEQA Guidelines, which defines the standards for EIR adequacy as follows:

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

### B. ENVIRONMENTAL REVIEW PROCESS

Based on a review of the proposed project and environmental site constraints, the County concluded that the project could result in potentially significant environmental impacts. Therefore, an EIR was required. The County circulated a Notice of Preparation (NOP) of an EIR for the proposed project to the State Clearinghouse and interested agencies and persons on November 5, 2008 for a 30-day review period. A scoping meeting was held on November 18, 2008. The NOP process solicited comments regarding the scope of the DEIR from responsible and trustee agencies identified by the County and other interested

parties. A copy of the NOP is included in Appendix A of this DEIR. Comment letters submitted to the County in response to the NOP and comments from the public scoping meeting are included as Appendix B of this DEIR. Additionally, for informational purposes, public comments provided on the County circulated, applicant-prepared proposed project Facilities Plan<sup>1</sup> are also provided in Appendix B.

This DEIR is being circulated for review and comment by public agencies, private parties and organizations for 45 days. A public hearing on the DEIR will be held during the 45-day review period, and public hearings on the proposed project will be held after the review period and before the preparation of the Final EIR (FEIR). Notice of the time and location will be published prior to the public hearing date, in accordance with State open meeting law (i.e., the Brown Act). All comments or questions about the DEIR should be addressed to:

County of San Mateo, Planning and Building Department  
455 County Center, 2<sup>nd</sup> Floor  
Redwood City, CA 94063  
Attn: Camille Leung, Planner  
Phone: (650) 363-1826

Following public review, a Final EIR (FEIR) will be prepared in response to comments received during the DEIR public review period. The FEIR will be available for public review prior to consideration of certification by the County.

### **C. ORGANIZATION OF THE DRAFT EIR**

This DEIR is organized into eight sections as follows:

Section I (Introduction): This section provides an introduction to the DEIR, briefly describes the environmental review process, and describes the organization of the DEIR.

Section II (Summary): This section provides a summary of the project description; lists the environmental issues that are addressed in the DEIR; summarizes the alternatives to the proposed project; lists the areas of known controversy based on issues raised in responses received during the NOP process; and summarizes the significant environmental impacts and mitigation measures.

Section III (Project Description): The project description includes an overview of the study area's environmental setting and includes: a description of existing land uses onsite and surrounding the site, a list of related projects proposed in the project area, and a complete description of the proposed project (e.g., project location, project characteristics, project objectives, and required discretionary actions).

Section IV (Environmental Impact Analysis): This section is the primary focus of this DEIR. Each environmental issue contains a discussion of existing conditions for the project area, an assessment and

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<sup>1</sup> *Big Wave, LLC, Facilities Plan: Draft #2, Big Wave Property, January 2009.*



discussion of the significance of impacts associated with the proposed project, proposed mitigation measures (if necessary), cumulative impacts, and level of impact significance after mitigation.

Section V (General Impact Categories): This section provides a discussion of the environmental impacts that were found to be less than significant (and therefore are not analyzed in detail in the DEIR), a summary of significant and unavoidable impacts, a discussion of the potential growth inducement of the proposed project, and a discussion of the significant irreversible changes to the environment.

Section VI (Alternatives to the Proposed Project): This section includes an analysis of a range of reasonable alternatives to the proposed project. The range of alternatives selected is based on their ability to feasibly attain most of the basic objectives of the project and to avoid or substantially lessen any of the significant effects of the project.

Section VII (Preparers of the EIR and Persons Consulted): This section presents a list of County and other agencies and consultant team members that contributed to the preparation of the DEIR.

Section VIII (Bibliography): This section includes all of the sources of information used in the preparation of the DEIR.

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## II. SUMMARY

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### A. INTRODUCTION

The purpose of this summary is to provide the reader with a clear and simple description of the proposed project and its potential environmental impacts. Section 15123 of the CEQA Guidelines requires that the summary identify each significant effect and recommended mitigation measures and alternatives that would minimize or avoid potential significant impacts. The summary is also required to identify areas of controversy known to the lead agency (San Mateo County), including issues raised by agencies and the public, and issues to be resolved, including the choice among alternatives and whether or how to mitigate significant effects. This section focuses on the major areas of the proposed project that are important to decision-makers.

### B. SUMMARY OF THE PROPOSED PROJECT

The 19.4-acre project site is located on Airport Street, northwest of the Princeton/Pillar Point Harbor area in unincorporated County of San Mateo and comprises two Assessor's Parcel Numbers (APN) 047-311-060 and APN 047-312-040. APN 047-311-060 ("northern parcel") is approximately 14.25 acres in size, and APN 047-312-040 ("southern parcel") is approximately 5.28 acres.

The proposed Big Wave Wellness Center and Office Park project ("proposed project") is designed as an economically and environmentally sustainable community development that provides housing and employment opportunities for low-income developmentally disabled (DD) adults at the Wellness Center whereas the Office Park would be occupied by private firms with their own workers (not DD residents). The two primary components of the proposed project include:

- The Office Park property (northern parcel) would be subdivided into five lots (Lots 1-5). Lots 1-4 would include four, three-story buildings (225,000 sf total) planned for mixed office use. Lot 5 would include common areas, a Communications Building, and a 640-space parking lot.
- The Wellness Center property (southern parcel) would be subdivided into three separate lots (Lots 1-3). Lot 1 would include a separate storage building (Building 4). Lot 2 would include the Wellness Center with a maximum of 70 units for approximately 50 DD adults and 20 live-in staff members, other onsite living and recreation facilities (Buildings 1-3, 5-7), and associated fencing. Lot 3 would include a 73-space parking lot.

The above components would be designed in tandem, so that the DD adults would be employed by the Wellness Center and would also provide services to the Office Park, with the Wellness Center funded through association fees and shared development costs.

In addition to these above primary components, the proposed project includes: development of an onsite trail system; restoration of wetland habitat; use of sustainable organic/non-organic, onsite/offsite farming for supplemental food sources; a native plant nursery for revegetation/landscaping efforts; recycling and

composting; dog walking and grooming services; and development of bus stops and shuttle services. Proposed utilities and service systems include: solar cells for heating/energy; carbonate fuel cells; natural gas generators; wind turbines and generators; geothermal cooling systems; rain garden infiltration/treatment ponds; options for water systems such as: (1) domestic hook-ups and one fire system hook-up, and (2) use of well water/treatment systems; options for wastewater systems such as: (1) use of an onsite wastewater treatment plant with disposal through irrigation and infiltration, and/or (2) municipal hook-ups; and a Communications Building with two microwave dishes.

All buildings and development would be designed to meet Platinum-level Leadership in Energy and Environmental Design (LEED) certified construction.

Further, various project-related business operations are included, which will be utilized to manage the above, as well as to generate income for the Wellness Center residents for the project services of the non-profit, such as: Big Wave (BW) Catering/Food Services; BW Energy; BW Farming; BW Water; BW Transportation; BW Recycling; BW Communications (radio telecom link); and BW Maintenance.

### **C. TOPICS OF KNOWN CONCERN**

Based on a review of environmental issues by the County of San Mateo, this Draft EIR (DEIR) analyzes the following environmental impact areas:

- Aesthetics
- Agriculture Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population & Housing
- Public Services
  - Police
  - Fire Protection
  - Schools
  - Parks and Recreation
  - Libraries
- Transportation/Traffic

- Utilities and Service Systems
  - Sewer
  - Water
  - Solid Waste
  - Energy

## **D. SUMMARY OF ALTERNATIVES TO THE PROPOSED PROJECT**

This EIR considers a range of alternatives to the proposed project to provide informed decision-making in accordance with Section 15126(f) of the *CEQA Guidelines*. The alternatives analyzed in this EIR include: A) No Project Alternative; B) Reduced Density/Height for Office Park and Reduced Size for Wellness Center Alternative; C) Modified Office Park Site Plan Alternative 1; and D) Modified Office Park Site Plan Alternative 2. For further discussion of these alternatives, see Section VI of this EIR.

## **E. AREAS OF CONTROVERSY**

Section 15123 of the CEQA Guidelines requires an EIR to identify areas of controversy known to the lead agency, including issues raised by agencies and the public, and issues to be resolved. Environmental concerns raised at the EIR scoping meetings and in letters submitted to the County of San Mateo in response to the Notice of Preparation (NOP) of the EIR include:

- Water Supply & Water Quality Impacts
- Cumulative Impacts
- Traffic Impacts; limited access in and out of the area
- Trail and Common Area Maintenance
- Visual Impacts
- Noise Impacts
- Structural Impacts
- Air Quality Impacts
- Geological Impacts
- Biological Impacts
- Socioeconomic Impacts
- Air Quality
- Cultural Impacts
- Hazards and Hazardous Material Impacts
- Phasing of the Project Development
- Public Services
- Utilities

**F. SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Table II-1 summarizes the various environmental impacts and mitigation measures associated with the construction and operation of the proposed project. Mitigation measures are included and required for significant environmental impacts, as well as recommended for various less-than-significant impacts to further reduce any adverse impacts. The level of impact significance after mitigation is also identified in Table II-1.

**Table II-1  
Summary of Environmental Impacts & Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<b>AESTHETICS</b>		
<p><b>Impact AES-4</b> Create a New Source of Substantial Light or Glare which would Adversely Affect Day or Nighttime Views in the Area</p> <p>A significant impact may occur if a project introduces new sources of light or glare on the project site that would be incompatible with the areas surrounding the project site or which pose a safety hazard, such as to motorists utilizing adjacent streets. There are currently no sources of light and glare on the project site as the project site is undeveloped.</p> <p>The proposed project would introduce additional sources of lighting and reflective surfaces to the project site, as compared to the site's existing conditions. New lighting sources would include outdoor street lighting and security lighting, indoor lighting, and light generated by vehicle headlights. Lighting would be used as a design tool to highlight architectural elements and landscaping. Lighting would also provide security and safety in parking areas, service passages, and common areas of the project. As noted in Section III, Project Description, a detailed lighting plan is not available at this time. The applicant has indicated that all outdoor lighting will be low-level to illuminate walkways and provide safe access to parking. While it appears the project would not introduce new sources of light or glare on the project site that would be incompatible with the areas surrounding the project site or which pose a safety hazard, until a detailed lighting plan is prepared, impacts would be <i>significant</i>.</p>	<p><b>Mitigation Measure AES-4</b> Create a New Source of Substantial Light or Glare which would Adversely Affect Day or Nighttime Views in the Area</p> <ul style="list-style-type: none"> <li>Prior to the approval of final project plans, a detailed lighting plan shall be submitted to San Mateo County for review and approval, consistent with their requirements. The lighting plan shall prohibit light spillover across property lines and limit lighting to the minimum necessary for security and exterior lighting purposes, as determined by the Community Development Director. All lighting shall be designed to be compatible with surrounding development. The project shall not propose light sources that are atypical of the surrounding environment.</li> <li>Reflective glass or other glaring building materials shall be discouraged. The exterior of the proposed building shall be constructed of non-reflective materials such as, but not limited to: high-performance tinted non-reflective glass, metal panel, and pre-cast concrete or cast in-place or fabricated wall surfaces. The proposed materials shall be reviewed and approved by the Community Development Director prior to approval of the Final Map.</li> </ul>	<p><i>Less than Significant</i></p>
<b>AIR QUALITY</b>		
<p><b>Impact AQ-2 Construction and Operation Emissions</b></p> <p><i>Construction Emissions</i></p> <p>The project construction time schedule would be between approximately 30 and 36 months to fully complete the Wellness Center and Office Park development.</p> <p>Although there are exhaust emissions emitted from all engine-powered equipment, the <i>BAAQMD CEQA Guidelines</i> states that PM<sub>10</sub>, typically in the form of fugitive dust, is the pollutant of greatest concern with respect to construction activities. Fugitive dust is mostly caused by material handling,</p>	<p><b>Mitigation Measure AQ-2 Construction Emissions</b></p> <p>The applicant shall require the construction contractor to implement a dust control program. The program shall be applied to all construction activities involving grading, excavation, and use of unpaved areas for staging, extensive hauling of materials, or building demolition. The dust control program shall include the following measures:</p> <ul style="list-style-type: none"> <li>Water all active construction areas at least twice daily.</li> <li>Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard.</li> <li>Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all</li> </ul>	<p><i>Less than Significant</i></p>

**Table II-1  
Summary of Environmental Impacts & Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<p>grading activities, and traffic on unpaved or unimproved surfaces. As such, the BAAQMD requires that particular mitigation measures (depending on the size of the project site) geared towards PM<sub>10</sub> reduction be implemented. As stated in the BAAQMD CEQA Guidelines, “[t]he District’s approach to CEQA analyses of construction impacts is to emphasize implementation of effective and comprehensive control measures rather than detailed quantification of emissions. If all of the control measures indicated [here] (as appropriate, depending on the size of the project area) will be implemented, then air pollutant emissions from construction activities would be considered a less-than-significant impact.” Therefore, if all of the construction mitigation measures required by the BAAQMD for a project site greater than four acres are implemented (identified below in Mitigation Measure AQ-2), air quality impacts related to construction of the project would be <i>less than significant</i>.</p>	<p>unpaved access roads, parking areas, and staging areas at construction sites.</p> <ul style="list-style-type: none"> <li>• Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites.</li> <li>• Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.</li> <li>• Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more).</li> <li>• Enclose, cover, water twice daily, or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.).</li> <li>• Limit traffic speeds on unpaved roads to 15 miles per hour (mph).</li> <li>• Install sandbags or other erosion control measures to prevent silt runoff to public roadways.</li> <li>• Replant vegetation in disturbed areas as quickly as possible.</li> <li>• Install wheel washers for all existing, or wash off the tires or tracks of all trucks and equipment leaving the site.</li> <li>• Limit the area subject to excavation, grading, and other construction activity at any one time.</li> </ul>	
<p><b>Impact AQ-5 Objectionable Odors</b> <i>Onsite Facilities</i></p> <p>A wastewater treatment plant would be constructed onsite as part of the proposed project. All sewage treatment plants generate odors, with hydrogen sulfide (H<sub>2</sub>S) being the most prevalent malodorous gas. It has a very unique, unpleasant and discernable odor (rotten eggs). Odors can become a nuisance if they are allowed to escape the immediate sewage treatment area and spread to areas where people reside, work or congregate. The proposed wastewater treatment plant would be completely covered with aluminum plates and hatches and sealed with rubber gaskets. A vacuum fan would distribute all process air through a soil scrubber constructed adjacent to the plant. The wastewater plans for the project indicate that odors will be vented to a soil scrubber system that will be constructed adjacent to the treatment plant. The soil scrubber system is described as being 150 square feet in area, covered in loam, wood or root chips, and planted in native</p>	<p><b>Mitigation Measure AQ-5 Sewage Treatment Odors</b></p> <p>The project applicant shall provide supporting engineering calculations and site plan details to verify the basis of design for the odor removal system. This information shall be supplied as part of the engineering report to be submitted for review and approval by the RWQCB.</p>	<p><i>Less than Significant</i></p>



Table II-1  
Summary of Environmental Impacts & Mitigation Measures

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<p>vegetation.</p> <p>This type of odor removal system is common and can be effective. Soil scrubber and other odor removal systems are normally sized on the basis of the air flow from the treatment plant blower system. Preliminary calculations should be provided to support the proposed sizing and confirm how the scrubber will be incorporated into the site plan. Odor generation is a potentially significant concern due to the location of the treatment plant in the southern corner of the project site, where there is very little buffer area between the treatment plant and neighboring properties or the Wellness Center buildings on the site. This is a <b>potentially significant</b> impact.</p> <p><b>BIOLOGICAL RESOURCES</b></p> <p><b>Impact BIO-1 Special-Status Species</b></p> <p><i>Special-Status Wildlife Species</i></p> <p>No direct impact or take of special-status species is expected as a result of the proposed project due to the lack of habitat suitable onsite to support those species with a potential to occur or known to occur in the project vicinity. However, development on the project site has the potential to indirectly impact special-status species such as western pond turtle, San Francisco garter snake and California red-legged frog due to the availability of suitable habitat in the immediate vicinity of the project as well as documented occurrences of the species in the project vicinity. Therefore, impacts would be <b>potentially significant</b>.</p>	<p><b>Mitigation Measure BIO-1 Special-Status Species</b></p> <p><i>Mitigation Measure BIO-1a Special-Status Species</i></p> <p>A qualified biologist (hereafter, biological monitor), capable of monitoring projects with potential habitat for Western pond turtle (WPT), San Francisco garter snakes (SFGS), and California red-legged frogs (CRLF) shall be present at the site as follows:</p> <ol style="list-style-type: none"> <li>1. Prior to and within 3 days of installation of exclusion fencing (type to be determined through consultation with CDFG and USFWS), the monitor shall survey the location for the installation for the presence of WPT, SFGS and CRLF. In addition, should any burrows be observed, the burrows shall be inspected by the biologist to determine if it is being used by any of the species. Should any of these species be observed, the area shall be vacated and re-inspected in one week. If no animal use is noted, the burrows shall be carefully excavated using a small trowel or shovel. Careful prodding using a blunt object will aid in determining the course of the tunnel such that the tunnel is excavated from the sides rather than the top, reducing the potential for any injury should an animal be present. Excavated burrows with no WPT, CRLF or SFGS shall be left open so they cannot be re-occupied. If any non-listed species are located, they shall be translocated outside of the construction zone. Should any individual WPT, CRLF or SFGS be found during the field survey or excavation, the area where that individual has been found shall remain undisturbed. If any life stage of the WPT, SFGS or CRLF is found during these surveys or excavations, the Department of Fish and Game and the US Fish and Wildlife Service shall be contacted immediately, and activities that could result in take shall be postponed until appropriate actions are taken</li> </ol>	<p>Less than Significant</p>

**Table II-1  
Summary of Environmental Impacts & Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	<p>to allow project activities to continue.</p> <p>2. During installation of construction zone exclusion fencing, the biological monitor shall be present and will oversee the installation of all construction fencing. The exclusionary fencing shall be installed on one parcel site first so that if any animals are within the construction zone, they will have the opportunity to move out of the area freely.</p> <p>Immediately following installation of exclusion fencing, the biological monitor shall survey the enclosed construction zone for the presence of WPT, SFGS and CRLF. If any life stage of the SFGS or CRLF is found during these surveys, the Department of Fish and Game and the U.S. Fish and Wildlife Service shall be contacted immediately, and activities that could result in take shall be postponed until appropriate actions are taken to allow project activities to continue.</p> <p>The biological monitor shall be present at all times during restoration area planting activities outside the construction zone and within the buffer area, to monitor for the presence of WPT, SFGS and CRLF.</p> <p>The biological monitor shall prepare a training document in both English and Spanish about the animals of concern, their identification, and the methods of avoidance and reporting requirements and procedures, should the species be observed. The document shall provide photographs of the species and notification numbers for the monitor, the Department of Fish and Game, and the U.S. Fish and Wildlife Service. The training document and contact information for the monitor shall be posted at the construction zone and maintained in the monitoring log. Every contractor, sub-contractor and construction worker shall be provided a copy of the training document in advance of their respective construction activities and shall be required to adhere to its contents.</p> <p>A highly visible warning sign shall be installed along the project perimeter. The warning sign shall be in English and Spanish and shall state: "Stay Out - Habitat Area of Federally Protected Species." A document drop shall be attached to several warning signs and stocked with a supply of training documents.</p> <p>The biological monitor shall conduct weekly site visits when construction is occurring to verify that all construction zone exclusionary fencing is in place and functioning as intended. Any repair or maintenance to the fencing deemed necessary by the biological monitor shall be completed under the monitor's</p>	

**Table II-1  
Summary of Environmental Impacts & Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<p><b>Bird Species</b> The project site does not provide suitable nesting habitat for any of the special-status bird species with the potential to occur or known to occur in the vicinity of the project site. Although the site currently provides some suitable foraging habitat, the proposed project proposes 32 acres of farming, 12 in row crop production in the immediate vicinity of the project site. A 5-</p>	<p>supervision. Such maintenance activities include adequate removal of vegetation at the construction fence line to ensure that vegetation “ladders” for species access are not allowed to establish. Once restoration activities are complete, the exclusion fencing shall be removed under the supervision of the biological monitor. Prior to the removal of the buffer area/restoration area fencing, permanent exclusionary measures shall be put in place to prevent special-status species movement beyond the buffer areas. Wildlife movement through the site shall be facilitated via a buffer zone on either side of the drainage that bisects the parcels. The general contractor shall assign a crew member that will be responsible for conducting site inspections, monitoring gate opening and closing, and assuring that other species protection measures are in place and being enforced when the Biological Monitor is not present. The crew member shall adhere to the procedures contained in the training document and shall be able to contact the biological monitor should any violations be noted or listed species observed onsite. The biological monitor has the authority to halt all or some construction activities and or modify all or some construction methods as necessary to protect habitat and individual sensitive species. The monitor shall be responsible for contacting USFWS should any endangered or threatened species be observed within the construction zones. The biological monitor shall complete daily monitoring reports for each day present, to be maintained in a monitoring log-book kept onsite. Reports must contain the date and time of work, weather conditions, biological monitor’s name, construction or project activity and progress performed that day, any listed species observed, any measures taken to repair and or maintain fencing, and any construction modifications required to protect habitat. The monitoring log-book with compiled reports shall be submitted to the Executive Director upon cessation of construction as part of a construction monitoring report.</p>	
<p><b>Bird Species</b> The project site does not provide suitable nesting habitat for any of the special-status bird species with the potential to occur or known to occur in the vicinity of the project site. Although the site currently provides some suitable foraging habitat, the proposed project proposes 32 acres of farming, 12 in row crop production in the immediate vicinity of the project site. A 5-</p>	<p><i>Mitigation Measure BIO-1b Special-Status Species</i> Any active bird nests in the vicinity of proposed grading shall be avoided until young birds are able to leave the nest (i.e., fledged) and forage on their own. Avoidance may be accomplished either by scheduling grading and tree removal during the non-nesting period (September through February), or if this is not feasible, by conducting a pre-construction nesting bird survey. Provisions of the pre-construction survey and nest-</p>	<p><i>Less than Significant</i></p>

**Table II-1  
Summary of Environmental Impacts & Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<p>acre native plant nursery will also occur onsite as part of the project. In addition, the project will provide 9 acres of riverine wetland and riparian ecosystem restoration. The restored wetlands will extend both foraging and breeding habitat currently available in Pillar Point Marsh for project area special-status species as well as provide a wider, protected movement corridor through the site. No special-status bird species will be substantially affected as a result of the proposed project.</p> <p>While no nests were observed on the site during the surveys conducted by the applicant's biologist, there is a potential for new nests to be established prior to project implementation, or during later phases of construction. Tree removal, vegetation clearing, or disturbance in the immediate vicinity of a nest in active use could result in abandonment of the nest or loss of eggs and young, which would be a violation of the Migratory Bird Treaty Act. Preconstruction surveys would be necessary in advance of construction during the nesting season (March through August) to confirm presence or absence of any new nests. This is considered a <b>potentially significant</b> impact.</p>	<p>avoidance, if necessary, shall include the following:</p> <p>If grading is scheduled during the active nesting period (March through August), a qualified wildlife biologist shall conduct a pre-construction nesting survey no more than 30 days prior to initiation of grading to provide confirmation on presence or absence of active nests in the vicinity.</p> <p>If active nests are encountered, species-specific measures shall be prepared by a qualified biologist in consultation with CDFG and implemented to prevent nest abandonment. At a minimum, grading in the vicinity of the nest shall be deferred until the young birds have fledged. A nest-setback zone shall be established via consultation with CDFG and USFWS, within which all construction-related disturbances shall be prohibited. The perimeter of the nest-setback zone shall be fenced or adequately demarcated, and construction personnel restricted from the area.</p> <p>If permanent avoidance of the nest is not feasible, impacts shall be minimized by prohibiting disturbance within the nest-setback zone until a qualified biologist verifies that the birds have either a) not begun egg-laying and incubation, or b) that the juveniles from the nest are foraging independently and capable of independent survival at an earlier date. A survey report by the qualified biologist verifying that the young have fledged shall be submitted to CDFG and USFWS prior to initiation of grading in the nest-setback zone.</p>	<p>Less than Significant</p>
	<p><i>Mitigation Measure BIO-1c Special-Status Species</i></p> <p>Proposed project construction activities will not result in impacts to project area wetlands and/or habitat for special-status species known to occur in the vicinity of the site. The applicant's biologist has obtained a verified wetland delineation and has consulted with the regulatory agencies regarding special-status species. The applicant shall continue to coordinate all project activities potentially regulated by State, Federal, and local agencies and shall obtain all necessary permits from CDFG, Corps, USFWS, and the RWQCB as required by federal and State law to avoid, minimize or offset impacts to any species listed under either the State or federal Endangered Species Acts or protected under any other State or federal law.</p> <p><i>Mitigation Measure BIO-1d Special-Status Species</i></p> <p>Sensitive and general habitat features outside the limits of approved grading and development shall be protected by identifying a construction and development boundary on all project plans and prohibiting construction equipment operation within this</p>	<p>Less than Significant</p>

**Table II-1  
Summary of Environmental Impacts & Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<p><b>Impact BIO-4 Wildlife Movement and Habitat Connectivity</b></p> <p>Sensitive wildlife habitats are located south of the project site within the adjacent Pillar Point Marsh. Due to the continuous and ongoing agricultural activities on the project site, special-status and common wildlife species movement across the site is limited. The drainage that bisects the project parcels contains the only sensitive habitat onsite. This area will be restored and protected by a 100-foot buffer on either side, enhancing its habitat value and availability for use as a protected movement corridor through the site. No wildlife corridors or sensitive habitats will be affected as a result of the proposed project. Impacts would be <i>less than significant</i>.</p>	<p>The boundary shall be staked and flagged in the field with a highly visible color coded system and all construction and equipment operators shall be instructed to remain outside this no-disturbance boundary for the duration of construction. This measure is in addition to the wildlife exclusion fencing described in Mitigation Measure Bio-1a and applies to the protection of all habitat features outside of the project limits.</p> <p><b>Mitigation Measure BIO-4a Wildlife Movement and Habitat Connectivity</b></p> <p>Measures recommended in Mitigation Measures BIO-1a through BIO-1d would serve to protect important natural habitat on the site for wildlife, avoid the potential loss of bird nests, and protect sensitive natural areas. Although wildlife movement and habitat connectivity impacts were found to be less than significant, the following additional provisions shall be implemented to further protect wildlife habitat resources:</p> <p>Fencing that obstructs wildlife movement shall be restricted to building envelopes and wildlife exclusionary fencing along special-status species protection corridors and shall not be allowed elsewhere on the site. Fencing that obstructs wildlife movement contains one or more of the following conditions: lowest horizontal is within 1.5 feet of the ground OR highest horizontal is over 6 feet OR top or bottom wire is barbed OR distance between top wires is less than 10 inches OR it combines with existing structures or fences, even on neighboring parcels, to create an obstacle to wildlife movement.</p> <p>Lighting shall be carefully designed and controlled to prevent unnecessary illumination of natural habitat on the site. Lighting shall be restricted to building envelopes, at the minimum level necessary to illuminate roadways and other outdoor areas. Lighting shall generally be kept low to the ground, directed downward, and shielded to prevent illumination into adjacent natural areas.</p> <p>Dogs and cats shall be confined to individual residences and the fenced portion of the building envelopes to minimize harassment and loss of wildlife.</p> <p>All garbage, recycling, and composting shall be kept in closed containers and latched or locked to prevent wildlife from using the waste as a food source.</p>	<p><i>Less than Significant</i></p>
<p><b>CULTURAL RESOURCES</b></p>		
<p><b>Impact CULT-2 Archaeological Resources</b></p> <p>Site CA-SMA-151</p> <p>Prehistoric archaeological site CA-SMA-151 extends into the project site. The archaeological site is listed on the National Register, California</p>	<p><b>Mitigation Measure CULT-2 Archaeological Resources</b></p> <p><i>Mitigation Measure CULT-2a Archaeological Resources</i></p> <p>All final improvements for the proposed project shall be designed and approved by County staff, as well as a County-approved qualified archaeologist, to avoid impacts to</p>	<p><i>Less than Significant</i></p>

**Table II-1  
Summary of Environmental Impacts & Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<p>Register, meets criteria 1 and 2 for a “unique archaeological resource,” and is considered to be an important Native American site, known to contain human burials. As currently proposed, development on the proposed project would occur within the mapped boundaries of archaeological site CA-SMA-151.</p> <p>The majority of the project site is utilized for agricultural uses. The deepest soil penetration is approximately 18 inches with a ripper for irrigation piping, while normal depth is approximately 12 inches. Although the project site has been slightly disturbed from past agricultural activities, prehistoric archaeological site CA-SMA-151 is still intact and would be impacted by development of the proposed project. Possible indirect impacts that could occur include unauthorized artifact collection by construction workers and people drawn to this location through development. Therefore, without mitigation, project impacts to archaeological site CA-SMA-151 would be <i>significant</i>.</p>	<p>prehistoric archaeological site CA-SMA-151 due to the proposed development. To avoid impacts to CA-SMA-151, the archaeological site shall be excluded from disruption during project construction. Avoidance shall be assured by fencing the site perimeter (to be confirmed by a County-approved qualified archaeologist or licensed surveyor prior to any start of grading) to exclude construction equipment, particularly for grading activities. Fencing shall be removed when all construction activities are finished to avoid drawing attention to the site. Additionally, identified site CA-SMA-151 shall be included in a deed restriction recorded with the County Recorder’s Office to further protect this archaeological resource. The deed restriction shall limit uses within the site perimeter of CA-SMA-151 to farming within the existing plow zone and require any ground disturbing activity or development within the cultural site perimeter to be subject to a Coastal Development Permit and meet California Environmental Quality Act (CEQA) requirements for disturbance of a mapped cultural resource.</p> <p><b>OR</b></p> <p>If avoidance of site CA-SMA-151 is impractical or infeasible, a County-approved archaeologist shall be retained to conduct test excavations at the site to determine the integrity of its subsurface deposit. Additionally, a mitigation plan shall be developed by a County-approved archaeologist that addresses specific project impacts and outlines appropriate mitigation measures. At a minimum, the mitigation plan shall include the following:</p> <ul style="list-style-type: none"> <li>• Preparation of a research design that outlines regional issues and how they can be addressed through recovery of materials at CA-SMA-151;</li> <li>• Discussion of field, laboratory, and analytical methods;</li> <li>• Expected involvement of the Native American community;</li> <li>• Actions to be taken in the event that human remains are discovered;</li> <li>• Expected schedule for completing mitigation, including submittal of technical report; and</li> <li>• Curation plan for recovered materials.</li> </ul> <p>The site may continue to be used for growing crops, provided that no ground disturbing activity such as ripping, plowing, disking, etc. is allowed to extend deeper than the existing plow zone (approximately six inches from the existing grade). However, building on the flake scatter portion of the site would also be allowed as long as the improvements would require no ground disturbing activity below the plow zone. Prior to placing fill materials on top of the area being covered, an archaeological investigation</p>	

**Table II-1  
Summary of Environmental Impacts & Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<p><i>Unrecorded Archaeological Deposits</i></p> <p>There is a possibility of accidental discovery and disturbance to unrecorded archaeological deposits found during excavation and grading of the project, including areas where offsite construction is necessary for infrastructure implementation. Without mitigation, project impacts on previously unidentified archaeological deposits would be <b>potentially significant</b>.</p>	<p>shall be conducted to gather baseline data about the nature of the site.</p> <p><i>Mitigation Measure CULT-2b Archaeological Resources</i></p> <p>A qualified archaeologist, as determined by the County, and a Native American shall monitor future ground-disturbing activities in the monitoring area north of site CA-SMA-151.</p>	
<p><i>Impact CULT-3 Paleontological Resources</i></p> <p>A significant adverse effect could occur if grading or excavation activities associated with the proposed project would disturb paleontological resources or geologic features which presently exist within the project site. Although no known paleontological resources have been identified on the project site, it is possible that the subsurface sediments could contain fossil-bearing or undiscovered paleontological resources. There is still the potential for these resources to be encountered during the grading and construction phases of the project, including areas where any offsite construction is necessary for implementation of infrastructure. Without proper care during the grading and excavation phases of the proposed project, unknown paleontological resources could be damaged or destroyed. Without mitigation, project impacts to unknown paleontological resources would be <b>potentially significant</b>.</p>	<p><i>Mitigation Measure CULT-2c Archaeological Resources</i></p> <p>In the event that additional subsurface archaeological resources are encountered during the course of grading and/or excavation, all development shall temporarily cease in these areas until the County Planning Department is contacted and agrees upon a qualified archaeologist to be brought onto the project site to properly assess the resources and make recommendations for their disposition. Construction activities could continue in other areas. If any findings are determined to be significant by the archeologist, they shall be subject to scientific analysis; duration/disposition of archaeological specimens as agreed to by the Native American community, land owner, and the County; and a report prepared according to current professional standards.</p>	<p><i>Less than Significant</i></p>
	<p><i>Mitigation Measure CULT-3 Paleontological Resources</i></p> <p>A qualified paleontologist, as determined by the County, shall monitor future ground-disturbing activities in native soil both onsite and offsite as related to the project. In the event that paleontological resources are discovered during grading and/or excavation, the monitor shall be empowered to temporarily halt or divert construction in the immediate vicinity of the discovery while it is evaluated for significance. Construction activities could continue in other areas. If any findings are determined to be significant by the paleontologist, they shall be subject to scientific analysis, professional museum curation, and a report prepared according to current professional standards.</p>	<p><i>Less than Significant</i></p>

Table II-1  
Summary of Environmental Impacts & Mitigation Measures

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<b>GEOLOGY AND SOILS</b>		
<p><b>Impact GEO-3 Seismic-Related Ground Failure</b></p> <p><i>Cyclic Densification</i> The settlement analysis performed for the project site estimates that differential settlement of the ground surface would be between 0.5 and 3.5 inches at the Office Park property. A preliminary evaluation of cyclic densification at the Wellness Center property indicates that ground settlement due to cyclic densification would be on the order of approximately 0.25 inches. Therefore, loose layers of sandy soil above the groundwater table that may densify during a major earthquake are present at the site. Impacts to the project due to differential ground settlement resulting from cyclic densification of the loose sandy soils would be <b>potentially significant</b>.</p>	<p><b>Mitigation Measure GEO-3 Seismic-Related Ground Failure</b></p> <p><i>Mitigation Measure GEO-3a Seismic-Related Ground Failure</i> The final geotechnical investigation for the project shall evaluate the potential for cyclic densification and develop final mitigation measures, as needed. Potential mitigation measures may include, but are not limited to: (1) overexcavating and replacing loose sandy soil with compacted engineered fill; (2) applying deep soil compaction techniques, such as DDC, RIC, or equivalent soil densification method; and (3) designing building foundations to accommodate total and differential ground settlement resulting from cyclic densification, as well as post-liquefaction settlement and consolidation ground settlement (if applicable).</p>	<p><i>Less than Significant</i></p>
<p><i>Liquefaction and Associated Hazards</i> The liquefaction potential and associated hazards at the Office Park and Wellness Center properties, was reviewed, including the impacts associated with extensive surface water recharge and wastewater disposal/infiltration. Existing subsurface information indicate liquefaction is likely to occur at the site. Potential liquefaction-induced hazards include: lateral spreading, ground settlement due to post-liquefaction reconsolidation, and surface manifestations such as sand boils and lurch cracking.</p> <p><u>Lateral Spreading</u> Based on the thickness and the relative density of the potentially liquefiable soil, the potential for lateral spreading to occur at the site is low and therefore project impacts would be <b>less than significant</b> and no mitigation measures are required.</p> <p><u>Liquefaction-induced Ground Surface Settlement</u> The estimate for liquefaction-induced ground surface settlement for the Office Park property is between 0 and 6 inches with differential settlement of about 3 inches across a 50-foot horizontal distance; and for the Wellness Center property is between 0 and 2.5 inches with differential settlement of</p>	<p><b>Mitigation Measure GEO-3b Seismic-Related Ground Failure</b></p> <p><i>Mitigation Measure GEO-3b Seismic-Related Ground Failure</i> Additional subsurface exploration using rotary-wash drilling methods and/or CPTs shall be performed to better characterize the subsurface conditions at the sites. Based on the results of subsurface investigation, the potential for soil liquefaction and liquefaction-induced ground failures, such as lateral spreading, post-liquefaction reconsolidation, lurch cracking, and sand boils shall be re-evaluated at the site. The final geotechnical investigation report shall provide mitigation measures for liquefaction-induced hazards. Potential mitigation measures may include: (1) improving the soil with deep soil compaction techniques, such as DDC, RIC, or equivalent method, to reduce the liquefaction potential; (2) buildings supported on stiffened shallow foundations (i.e. footings with interlocking grade beams) bearing on a layer of well-compacted fill; (3) buildings supported on deep foundations such as drilled piers, driven piles or proprietary piles (i.e., torque-down piles and auger cast piles); and (4) constructing a structural slab that spans supported between columns.</p>	<p><i>Less than Significant</i></p>



Table II-1  
Summary of Environmental Impacts & Mitigation Measures

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<p>about 1.5 inches across a 50-foot horizontal distance. Therefore, impact to the proposed project due to liquefaction-induced ground surface settlement is <b>potentially significant</b>.</p> <p><u>Surface Manifestations</u></p> <p>Because of the potential for soil liquefaction within relatively shallow soil layers, the impact of surface manifestations of the liquefaction, such as sand boils or lurch cracking, is high at the Office Park and Wellness Center properties and therefore project impacts would be <b>potentially significant</b>.</p> <p><b>Impact GEO-4 Total and Differential Settlement</b></p> <p>Ground settlement at the project site will include cyclic densification settlement and post-liquefaction reconsolidation settlement (see above discussion), as well as consolidation settlement. Foundation settlement may occur due to the consolidation and compression of weak soil under the weight of new fill and structural loads as a result of the proposed project. The static settlement of soft and loose soil layers due to the placement of fill would range from 0.5 to 3 inches with differential settlement of about 1.25 inches over a 100-foot-distance for the Office Park property; no settlement estimates were provided for the Wellness Center property. There is currently insufficient data available to accurately predict the amount of settlement that would occur at the site due to the weight of new fill and building loads. Therefore, settlement impacts to the proposed project would be <b>potentially significant</b>.</p>	<p><b>Mitigation Measure GEO-4 Total and Differential Settlement</b></p> <p>Additional subsurface exploration using rotary-wash drilling methods and/or CPTs and consolidation laboratory testing shall be performed to better characterize the subsurface conditions and soil properties at the site. Based on the results of subsurface investigation, total and differential ground settlement due to cyclic densification, post-liquefaction reconsolidation, and consolidation settlement due to building loads and fill placement shall be re-evaluated. The final geotechnical investigation report shall provide mitigation measures for ground settlement. Potential mitigation measures may include: (1) improving the soil with deep soil compaction techniques, such as DDC, RIC, or equivalent method, to reduce the potential for total and differential ground settlement; (2) supporting the buildings on stiffened shallow foundations (i.e. footings with interlocking grade beams) bearing on a layer of well-compacted fill; (3) supporting the buildings on deep foundations such as drilled piers, driven piles or proprietary piles (i.e., torque-down piles and auger cast piles); and (4) constructing a structural slab that spans supported between columns. If deep foundations are selected, they shall be designed to accommodate load conditions resulting from post-liquefaction reconsolidation and consolidation due to the placement of new fill (if applicable).</p>	<p><i>Less than Significant</i></p>
<p><b>Impact GEO-6 Expansive Soil</b></p> <p>The near-surface soil encountered in the borings drilled at the Office Park property primarily consisted of medium to high plasticity clay. The near-surface soil encountered in the borings drilled at the Wellness Center property consisted of low to high plasticity clay. The site is blanketed by about 1.5 to 2.5 feet of potentially expansive clayey soil. Therefore, project impacts related to expansive soils would be <b>potentially significant</b>.</p>	<p><b>Mitigation Measure GEO-6 Expansive Soil</b></p> <p>The final geotechnical investigation shall provide an estimate of differential movement associated with the shrinking and swelling of the existing onsite expansive soil at the site. Mitigation measures for expansive soils may include designing the buildings to be supported on: (1) shallow foundations that rest on a layer of non-expansive engineered fill; (2) a deepened spread footing system where the proposed footings gain support at or below the depth of significant seasonal moisture fluctuation and the slab-on-grade floor will be supported on a layer non-expansive fill, as described above; (3) a stiffened</p>	<p><i>Less than Significant</i></p>

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Summary of Environmental Impacts & Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<p><b>Impact GEO-7 Pervious Pavements and Other Water/Wastewater Infiltration Systems</b></p> <p>Pervious pavements would be utilized for both the Office Park and Wellness Center properties. Additionally, extensive groundwater recharge and wastewater infiltration are proposed. The anticipated water/wastewater loading rate would be approximately 20,000 gallons per day. The near-surface soil consists of moderately to highly expansive clay and one of the proposed import fill materials is proposed to be fine-grained material with a plasticity index (PI) of less than 25; therefore, special subgrade preparation and pavement design recommendations may be required to prevent the near-surface clayey soil from ponding water, and becoming saturated and weak under the proposed traffic loads. Therefore, impacts to the proposed project would be <i>potentially significant</i>.</p>	<p>foundation system, such as a reinforced concrete or post-tensioned mat, that is capable of resisting the differential movement and soil pressures associated with the expansive soil; or (4) a deep foundation system that transfers the building and slab loads to competent soil beneath the near-surface moderately to highly expansive soil layer.</p> <p><b>Mitigation Measure GEO-7 Pervious Pavements and Other Water/Wastewater Infiltration Systems</b></p> <p>Considering the near-surface soil may consist of moderately to highly expansive clay, special subgrade preparation, and foundation and pavement design recommendations shall be required to prevent the near-surface clayey soil from ponding water, and becoming saturated and weak under the proposed site loading conditions, such as foundation and traffic loads. Final design recommendations for a pervious pavement system shall allow surface water to percolate through the pavement without causing adverse impacts to new pavements and building foundations due to moisture fluctuations in the near-surface expansive clay. Potential mitigation measures may include: (1) collecting and redirecting surface and subsurface water away from the proposed building foundations; (2) using permeable base material within pavement areas; and (3) installing subdrains to collect and redirect water from areas that could adversely impact building foundations and vehicular pavement to a suitable outlet.</p>	<p><i>Less than Significant</i></p>
	<p><b>Mitigation Measure GEO-8 Review and Approval of Final Grading, Drainage, and Foundation Plans and Specifications</b></p> <p>To ensure the applicant's geotechnical consultant is given the opportunity to participate in the final design and construction phases of the project, the applicant's consultant (Registered Geotechnical Engineer and Registered Engineering Geologist) shall review and approve the final grading, drainage, and foundation plans and specifications. Also, upon completion of construction activities, the applicant's consultant shall provide a final statement indicating whether the work was performed in accordance with project plans and specifications, and the consultant's recommendations. All mitigations and final design recommendations shall be reviewed and approved by the County prior to issuance of applicable permits and approval of the Final Map.</p>	<p><i>Less than Significant</i></p>

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Summary of Environmental Impacts & Mitigation Measures

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<p><b>HAZARDS AND HAZARDOUS MATERIALS</b></p> <p><b>Impact HAZ-2 Accidental Release of Hazardous Materials</b></p> <p><i>Potential Solvents in Groundwater from Hydraulically Up-Gradient Properties</i></p> <p>An agricultural supply well was installed in the northern part of the project site and has been pumping water intermittently for agricultural use since 1987. The agricultural well is screened within the same aquifer as the Corona, Culebra, and Retiro Wells (up-gradient of the project site) where chlorinated solvents have historically been detected. The pumping of water from this agricultural well may have drawn chlorinated solvents onto the project site. But based on laboratory analytical results from the Retiro Well and on information from the County Health Department, this condition generally does not represent a threat to human health or the environment and generally would not be the subject of an enforcement action. Therefore, this does not qualify as a recognized environmental condition and the impact would be <b>less than significant</b> and no mitigation measures are required. However, to determine whether hazardous substances have migrated onto the project site from the north or northeast, it is recommended that a groundwater sample be collected from the agricultural supply well (refer to Mitigation Measure HAZ-2).</p> <p><i>Pesticide Use at the Project Site</i></p> <p>Pesticides may have been applied to soil at the project site during previous agricultural use. Although the current owner and project site operator both indicate that to their knowledge pesticides have not been applied to soil at the project site, pesticides may have been applied to soil by previous project site users. Based on Treadwell &amp; Rollo's professional experience with similar projects, the presence of pesticides at the project site is likely to be present and therefore qualifies as a recognized environmental condition, constituting a <b>potentially significant</b> impact. Because the extent of potential past contamination of soils is not yet fully known, the impacts related to the exposure of contaminants to construction workers, nearby businesses and residents during soil grading and excavation activities is unknown; therefore, the Mitigation Measure HAZ-2 is required.</p>	<p><b>Mitigation Measure HAZ-2 Accidental Release of Hazardous Materials</b></p> <p>Prior to approval of final development plans, a Phase II Environmental Site Assessment (Phase II ESA) shall be performed at the project site to evaluate whether the recognized environmental conditions identified in the Phase I ESA represent an actual release of hazardous substances to soil or groundwater at the project site. To determine whether hazardous substances have migrated onto the project site from the north or northeast, a groundwater sample shall be collected from the agricultural supply well. The Phase II ESA shall include parameters that may be applied to a health risk assessment and remediation (Site Management Plan) if soil is inappropriate for reuse and required to be transported off the project site. The recommendations of the Phase II ESA shall be incorporated into project plans to the satisfaction of the County and in conformance with applicable regulations.</p>	<p><i>Less than Significant</i></p>

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Summary of Environmental Impacts & Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<p><b>Impact HAZ-3 Hazards Associated with Airport Operations</b></p> <p>An impact would be significant if the proposed land uses present a safety hazard associated with airport operations to people or property onsite or in the project area, or if the proposed land use would present a hazard to aircraft utilizing the Airport. Relatively few aircraft accidents are caused by land use conditions which are hazards to aircraft in flight. However, such potential exists, and protecting against such conditions is essential to airport/land use safety compatibility. Airport safety zones are established by the ALUP. Both project parcels fall within approximately 100 feet of the Approach Protection Zone (APZ) of the southern approach (Runway 30). The proposed Communications and Storage buildings would be located in the Airport Overlay (AO) setback. The AO setback is the required distance setback from the airport runway approaches. The structures proposed within the AO setback do not include residential uses or uses with three or more persons occupying the use at one time. These buildings would also have an approximately 20-foot setback from the Airport Street Right-of-Way (ROW) line.</p> <p>The San Mateo County Comprehensive Airport Land Use Plan has designed safety and land use compatibility criteria to minimize the risks associated with potential aircraft accidents. It is the policy of the Airport Land Use Commission to keep APZs free of structures. Although the project does propose structures within the APZ, the structures do not include residential uses or uses with three or more persons occupying the use at one time, consistent with AO setback requirements.</p> <p>Architectural and design features of the proposed project would comply with all applicable regulations and standards.</p> <p>During the preparation of the Draft EIR, the County received comments regarding potential wind impacts from the project to planes landing onto Half Moon Bay Airport runway. The comments expressed concern that, due to the orientation of the proposed Office Buildings, a wind tunnel could be created between two of the buildings, directly strong winds towards the Half Moon Bay Airport runways, making it hard for pilots to land planes at the airport, particularly smaller, lighter planes. However, the potential for a project-related wind tunnel is anticipated to be low, due to the terrain at the project site. The Pillar Ridge mountains currently block prevailing winds</p>	<p><b>Mitigation Measure HAZ-3 Hazards Associated with Airport Operations</b></p> <p>Prior to approval of final development plans, a navigational easement shall be established for the project site, to the satisfaction of the County Director of Public Works. The navigational easement shall be recorded and shown on the vesting tentative map.</p>	<p><i>Less than Significant</i></p>

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<p>from the west and would prevent a wind tunnel effect.</p> <p>Full compliance with all applicable federal, state, regional, and local regulations, programs and plans related to land uses in proximity to a public airport would be required. Therefore, the project would result in a <i>less-than-significant</i> impact associated with airport safety hazards to people residing or working in the area of a public airport.</p> <p>Mitigation Measure HAZ-3 is provided to assure that impacts remain less than significant.</p>		
<b>HYDROLOGY AND WATER QUALITY</b>		
<p><b>Impact HYDRO-3 Substantially Alter Drainage Patterns Resulting in Increased Erosion or Siltation</b></p> <p>The existing project site drains generally to the southwest towards the Pillar Point Marsh. The proposed project would essentially maintain the drainage discharge points onsite. Also, the nearby drainage swale would not be altered, so no stream or river would be altered as part of the proposed project. However, the proposed project would increase the amount of imperviousness onsite since the site currently has no impervious development, and the buildings are considered impervious cover. The increase in imperviousness serves to increase runoff amounts by 80 percent.</p> <p>The site includes soils with a low erosion potential, but the relatively steep parts of the site at the edges of the development will require attention during and after construction to avoid erosion. Erosion control plan sheets have been prepared by the applicant. However, these sheets only show short- or mid-term controls, such as fiber rolls and jute mesh at the downstream edges of the development. Clear flow paths of stormwater are not shown, and long-term erosion control measures are not described. Long-term erosion control measures are necessary, in particular for the relatively steep parts of the site at the edges of development. Indeed, these are the primary areas where construction BMPs are already being planned. A SWPPP has not yet been prepared for the project site. Measures to dissipate energy and control runoff velocities would be required to prevent discharges from eroding slopes and cause gully and sediment transport downstream. Without a complete erosion control plan, a SWPPP, and a landscape plan showing erosion control measures, including measures that adequately control runoff velocities during larger events, the altered drainage patterns could cause</p>	<p><b>Mitigation Measure HYDRO-3 Substantially Alter Drainage Patterns Resulting in Increased Erosion or Siltation</b></p> <p>The applicant shall prepare and submit a SWPPP for the proposed project. The applicant's SWPPP shall identify the BMPs to control erosion and sedimentation and provide for treatment of 80 to 85 percent of post-construction runoff from new impervious areas. Neighborhood- and/or lot-level treatment BMPs shall be emphasized, consistent with San Francisco Bay RWQCB and SMCWPPP guidance for NPDES Phase 2 compliance. These types of BMPs, which may also assist in reducing post-project peak flows, include infiltration basins and trenches, dry wells, rain gardens, on-contour grassy swales, media filters, biofiltration features and grassy swales. BMPs shall be designed in accordance with engineering criteria in the California Stormwater BMP Handbook or other accepted guidance and designs shall be reviewed and approved by the County prior to issuance of grading or building permits. As discussed under Mitigation Measure HYDRO-5, if lot-level BMPs are accepted by SMCWPPP as a suitable control measure, the applicant shall establish a mechanism for enforcement to assure that BMP functioning is being maintained as designed. The applicant has included a detailed maintenance schedule, which includes monthly inspection of system components, annual weeding, annual replanting, bi-annual cleaning of catch basins, bi-monthly parking lot vacuuming, and daily trash pickup in the parking lots.</p> <p>Submittal of a project erosion control plan and SWPPP to San Mateo County for review shall be required as part of the Final Map application. The erosion control plan shall include components for erosion control, such as phasing of grading, limiting areas of disturbance, designation of restricted-entry zones, diversion of runoff away from disturbed areas, protective measures for sensitive areas, outlet protection, and provision for revegetation or mulching. The plan shall also prescribe treatment measures to trap sediment once it has been mobilized, at a scale and density appropriate to the size and</p>	<p><i>Less than Significant</i></p>

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Summary of Environmental Impacts & Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<p><b>significant</b> erosion impacts.</p> <p><b>Impact HYDRO-4 Substantially Alter Drainage Patterns Resulting in Increased Flooding</b></p> <p>Placing fill or other structures in such a way as to block existing drainage paths could result in increased onsite or offsite flooding, particularly if there is significant offsite drainage that flows through the site. However, since no drainage report was provided by the applicant, it is unknown if there are substantial stormwater discharges that would travel onto the site from neighboring areas, particularly the residential development to the northwest. Increased flooding from onsite runoff can be analyzed by looking at the effects on Pillar Point Marsh of the increased runoff. The surface area of the freshwater portion of the marsh, which is upstream of West Point Avenue, is about 23.5 acres, based on Figure IV.H-6 and other reports. Based on the estimated precipitation for a 100-year, 24-hour storm and the increase in site impermeability, runoff volume is expected to increase by 17.0 acre-inches. This would increase the marsh level by about seven-tenths (0.7) of an inch over the existing level during a 100-year storm, assuming no increased outflow due to the higher water level. Therefore, the proposed project could have a <b>significant</b> impact on flooding.</p>	<p>slope of the catchment. These measures typically include inlet protection, straw bale barriers, straw mulching, straw wattles, silt fencing, check dams, terracing, and siltation or sediment ponds. Other aspects of the SWPPP, especially those related to water quality, are discussed below for other mitigation measures.</p> <p>Landscape plans showing the grassy swales and indicating flow paths shall also be provided.</p> <p><b>Mitigation Measure HYDRO-4 Alteration of Drainage Patterns Resulting in Increased Flooding</b></p> <p>The applicant shall submit a drainage report and plans to the County that identify the drainage pathways and the extent of any offsite drainage that flows onsite. How such offsite drainage will be conveyed through the site shall also be detailed. The drainage plan shall provide designs consistent with recognized engineering criteria. The drainage plan shall be reviewed and approved by the County prior to issuance of grading or building permits.</p>	<p><i>Less than Significant</i></p>
<p><b>Impact HYDRO-5 Create or Contribute Runoff Water Which Would Exceed the Capacity of Existing or Planned Stormwater Drainage Systems or Provide Substantial Additional Sources of Polluted Runoff</b></p> <p><i>Quality of Surface Water Runoff</i></p> <p>The proposed project may generate significant adverse impacts on water quality. Pollutants and chemicals associated with urban development would runoff new roadways and other transportation facilities, such as parking lots. The pollutants can then flow into the main Pillar Point Marsh or the associated drainage swale. Such contaminated urban runoff remains</p>	<p><b>Mitigation Measure HYDRO-5 Surface Water Runoff Quality</b></p> <p>The applicant shall prepared and submit a comprehensive erosion control plan and SWPPP. Potential construction-phase and post-construction pollutant impacts from development can be controlled through preparation and implementation of an erosion control plan and a SWPPP consistent with recommended design criteria, in accordance with the NPDES permitting requirements enforced by SMCWPPP and the San Francisco Bay RWQCB. The erosion control plan forms a significant portion of the construction-</p>	<p><i>Less than Significant</i></p>

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<p>relatively untreated, thus resulting in incremental long-term degradation of water quality. Increased stormwater runoff can also lead to erosion, which can then contribute sediment to receiving waters; sediment can impair water quality by carrying with it any of the pollutants mentioned above.</p> <p>Short-term adverse impacts to water quality may also occur during construction of the project when areas of disturbed soils become susceptible to water erosion and downstream sedimentation. This impact is of particular concern where projects are located on previously contaminated sites. Grading and vegetation removal in proximity to drainage features, such as the drainage swale, could result in an increase in bank erosion, affecting both water quality and slope stability along the drainage feature.</p> <p>Under existing conditions, fertilizer and pesticide compounds are the most likely pollutants of concern since the project site is currently in vegetable crop production. Given that agricultural production would be reduced following project construction, the project could potentially reduce any existing nitrate-nitrogen, ammonia-nitrogen and agriculture-related organic contributions to the surface water and ground water, a benefit to water quality.</p> <p>However, there are several pollutants that the project development could contribute to the surface water, including sediment and typical urban pollutants. In contrast to other potential pollutants, sediment is typically of greatest potential concern during the construction-phase of development. After a project has been constructed and the landscaping has been installed, erosion and sedimentation from development sites is usually minimal.</p> <p>Potential post-project contributions of sediment to surface waters from storm drain outlets have been discussed above. Pollutants other than sediment which might typically degrade surface-water quality during project construction include petroleum products (gasoline, diesel, kerosene, oil, and grease), hydrocarbons from asphalt paving, paints, and solvents, detergents, nutrients (fertilizers), pesticides (insecticides, fungicides, herbicides, rodenticides), and litter. Once the buildings and roadways have been constructed, typical urban runoff contaminants might include all of the above constituents, as well as trace metals from pavement runoff, nutrients, and bacteria from pet wastes, and landscape maintenance debris. Since the drainage system discharges directly to Pillar Point Marsh, these pollutants could affect aquatic and wetland habitats and sensitive species, and sediment could reduce flood storage of the marsh. Without mitigation, the effects on</p>	<p>phase controls required in a SWPPP, which also details the construction-phase housekeeping measures for control of contaminants other than sediment, as well as the treatment measures and BMPs to be implemented for control of pollutants once the project has been constructed. The SWPPP also sets forth the BMP monitoring and maintenance schedule and identifies the responsible entities during the construction and post-construction phases.</p> <p>The applicant's SWPPP shall identify the BMPs that will be used to reduce post-construction peak flows to existing levels in all onsite drainages where construction will occur. Neighborhood- and/or lot-level BMPs to promote infiltration of storm runoff shall be emphasized, consistent with San Francisco Bay RWQCB and SMCWPPP guidance for NPDES Phase 2 permit compliance. These types of BMPs, which may also enhance water quality, include infiltration basins and trenches, dry wells, rain gardens, on-contour grassy swales, media filters, and biofiltration features. BMPs shall be designed in accordance with engineering criteria in the California Stormwater BMP Handbook or other accepted guidance and designs shall be reviewed and approved by the County prior to issuance of grading or building permits. The applicant shall prepare a clearly defined operations and maintenance plan for water quality and quality control measures. The design and maintenance documents shall include measures to limit vector concerns, especially with respect to control of mosquitoes. The applicant shall identify the responsible parties and provide adequate funding to operate and maintain stormwater improvements (through a HOA, Geological Hazard Abatement District, CSD, CFD or similar organization). If lot-level BMPs are accepted by the County as a suitable control measure, the applicant shall establish a mechanism for enforcement to assure that BMP functioning is being maintained as designed. The applicant shall also establish financial assurances, as deemed appropriate by the Community Development Director, enabling the County to maintain the stormwater improvements should the HOA or other entity disband or cease to perform its maintenance responsibilities.</p> <p>The SWPPP must also include post-construction water quality BMPs that control pollutant levels to pre-development levels, or to the maximum extent practicable (MEP). To confirm that structural BMPs (e.g., biofiltration features, wet ponds, vegetated swales, constructed wetlands, or media filters) will function as intended, design must be consistent with engineering criteria, as set forth in guidance such as the recently revised California Storm Water BMP Handbook for New and Redevelopment. These types of structural BMPs are intended to supplement other storm water management program measures, such as street sweeping and litter control, outreach regarding appropriate fertilizer and pesticide use practices, and managed disposal of hazardous wastes.</p> <p>The main post-construction water quality enhancement measure indicated by the</p>	

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<p>surface water quality could be <i>significant</i>.</p> <p><b>Impact HYDRO-6</b> <i>Otherwise Substantially Degrade Groundwater Quality</i></p> <p>The proposed project could potentially degrade groundwater quality due to contractor activities during construction, residents' and workers' activities following occupation of the constructed facilities, and contamination of unused wells.</p> <p>Constituent pollutants from the first two sources are the same as described above for surface waters, and the regulatory framework and mitigation measures proposed to minimize impacts are also identical. No further mitigation would be required.</p> <p>The project applicant has indicated that an existing well, permitted for potable water use although currently used only for agricultural purposes, is onsite and planned for continued use during project operation. If any other wells do exist, are not used, and are not properly destroyed, the unused wells could pose a potentially significant impact to ground water quality as pollutants entering the well would be rapidly conveyed to the subsurface aquifer. This would be a <i>significant</i> impact on ground water quality.</p>	<p>applicant report is the use of rain gardens (constructed wetlands) to control pollutants. Locations and designs of the stormwater infiltration system should be provided to the County as part of the grading plans during Final Map review.</p> <p>Many of the distributed BMPs that could prove useful to address control of post-project peak flows at the lot- and/or neighborhood level could reasonably be linked with measures to enhance water quality, thereby providing compliance with the NPDES Phase 2 permit requirements as well. For example, downspouts could direct roof runoff to biofiltration features, with percolated stormwater conveyed through subdrains to small infiltration basins or dry wells.</p> <p><b>Mitigation Measure HYDRO-6</b> <i>Groundwater Quality</i></p> <p>The applicant shall abandon all unused wells on the project site consistent with San Mateo County Department of Environmental Health standards and the standards described in the State of California Department of Water Resources Well Standards (Bulletins 74-81 and 74-90).</p> <p>Any onsite wells left in service should meet CDPH criteria for well protection. The applicant shall prepare, if required by the CDPH or County Department of Health Services, a Drinking Water Source Assessment and Protection (DWSAP) application to identify and protect against potential well contaminants.</p>	<p><i>Less than Significant</i></p>
<p><b>Impact HYDRO-9</b> <i>Expose People or Structures to Inundation by Seiche, Tsunami, or Mudflow</i></p> <p>There are hydrologic risks associated with seismic activity near large bodies of water, which can cause a tsunami, a seiche, or flow of mud and other debris from hillsides.</p> <p>A tsunami is a series of waves created when a body of water, such as an ocean, is rapidly displaced on a massive scale. Earthquakes, mass movements above or below water, volcanic eruptions, and other underwater explosions, landslides, and large meteoric impacts all have the potential to</p>	<p><b>Mitigation Measure HYDRO-9</b> <i>Exposure to Tsunami and Seiche</i></p> <p>In areas subject to tsunami and seiche effects, implementing agencies shall, where appropriate, ensure that the project incorporates features designed to minimize damage from a tsunami or seiche. Structures should either be placed at elevations above those likely to be adversely affected during a tsunami or seiche event or be designed to allow swift water to flow around, through, or underneath without causing collapse. Other features to be considered in designing projects within areas subject to tsunami or seiche may include using structures as buffer zones, providing front-line defenses, and securing</p>	<p><i>Less than Significant</i></p>



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 Summary of Environmental Impacts & Mitigation Measures

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<p>generate a tsunami or teletsunami. As described earlier, ABAG has created tsunami maps for the Bay Area. The map showing the project vicinity indicates that the project would place residential and commercial structures within a mapped tsunami area, understandable given its proximity to the Pacific Ocean. This could represent a <b>potentially significant</b> impact.</p> <p>The resonant oscillation of water (a standing wave) in an enclosed or partially enclosed water body is a seiche, which can raise flood levels of a water body. The Pillar Point Harbor near the project site is mostly enclosed by engineered and constructed jetties. While these jetties tend to protect the harbor from the day-to-day effects of currents and tides, they could lead to seiche effects, especially if a tsunami were to affect the harbor. There are no other lakes or other enclosed bodies of water in the general vicinity of the project that would produce seiche events and affect the project site. The proximity of the project to the partially enclosed Pillar Point Harbor and the potential for tsunami events could expose people to inundation by seiche, which represents a <b>potentially significant</b> impact. The mitigations for such an occurrence would coincide with mitigations for tsunami events.</p> <p>Landslides and mudflows tend to occur in steeply sloped areas. A USGS map of landslide potential for San Mateo County lists the project vicinity as a “flat land” area with a low potential for landslides, and a USGS map of debris-flow source areas does not include the project vicinity in an area predicted to be a principal debris source area. The USGS Quad Sheet confirms the flat terrain. Therefore, given the relative flatness of the area and the mapping results, the potential for impacts from mudflow are considered <b>less than significant</b> within the project area and site.</p>	<p>foundations of expendable structures so as not to add to debris in the flowing waters.</p>	
<b>NOISE</b>		
<p><b>Impact NOISE-1 Construction Noise</b></p> <p>Construction of the proposed project would require grading and excavation, installation of utilities, and construction and finishing of the proposed structures and facilities. The project construction time schedule would be between approximately 30 and 36 months to fully complete the Wellness Center and Office Park property development.</p> <p>The highest noise levels that would be experienced by the sensitive receptors would only occur for a limited duration during construction of the proposed project. General construction activities occurring more than 100</p>	<p><b>Mitigation Measure NOISE-1 Construction Noise</b></p> <p>The construction contractor shall implement measures to reduce the noise levels generated by construction equipment operating at the project site during project grading and construction phases. The construction contractor shall include in construction contracts the following requirements or measures shown to be equally effective:</p> <ul style="list-style-type: none"> <li>All construction equipment shall be equipped with improved noise muffling, and maintain the manufacturers’ recommended noise abatement measures, such as mufflers, engine covers, and engine isolators in good working</li> </ul>	<p><i>Less than Significant</i></p>

**Table II-1  
Summary of Environmental Impacts & Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<p>feet from the existing residences would not exceed 80 dBA and would not be significant. However, the temporary or periodic impact when grading or construction activities (e.g. paving and concrete installation) occur within 100 feet of an occupied residence would generate noise levels of up to 86 dBA, which would be <b>significant</b>. Also, the noise levels generated by pile driving operations at the site would generate substantial noise levels at the nearby residential units that would be highly disturbing and result in a <b>significant</b> impact.</p>	<p>condition.</p> <ul style="list-style-type: none"> <li>• Stationary construction equipment that generates noise levels in excess of 65 dBA <math>L_{eq}</math> shall be located as far away from existing residential areas as possible. The equipment shall be shielded from noise sensitive receptors by using temporary walls, sound curtains, or other similar devices.</li> <li>• Heavy-duty vehicle storage and start-up areas shall be located a minimum of 150 feet from occupied residences where feasible.</li> <li>• All equipment shall be turned off if not in use for more than five minutes.</li> <li>• Drilled piles or the use of sonic or vibratory pile drivers shall be used instead of impact pile drivers. The driving heads of sonic or vibratory pile drivers shall be screened on all sides by acoustic blankets capable of reducing noise levels by at least 15 dBA.</li> <li>• Temporary barriers such as flexible sound control curtains shall be erected between the proposed project and the El Granada Mobile Home Park to minimize the amount of noise during construction. The sound control curtains shall reduce construction-related noise levels at the El Granada Mobile Home Park to less than 80 dBA <math>L_{eq}</math>.</li> <li>• Two weeks prior to the commencement of grading or construction at the project site, notification must be provided to the immediate surrounding offsite residential uses that discloses the construction schedule, including the various types of activities and equipment that would be occurring throughout the duration of the grading and construction periods.</li> <li>• Two weeks prior to the commencement of grading or construction at the project site, an information sign shall be posted at the entrance to each construction site that identifies the permitted construction hours and provides a telephone number to call and receive information about the construction project or to report complaints regarding excessive noise levels. The applicant shall rectify all reasonable complaints within 24 hours of their receipt. The County may be required to determine whether a complaint is reasonable and subject to being rectified. Should the applicant consider a complaint to be unreasonable, the applicant shall contact the County Planning Department within 24 hours of the receipt of the complaint to discuss how the complaint should be addressed.</li> </ul>	

Table II-1  
Summary of Environmental Impacts & Mitigation Measures

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<p><b>Impact NOISE-2 Construction-Related Groundborne Vibration</b></p> <p>Project-related construction activities would include grading, excavation, and building construction, which would have the potential to generate low levels of groundborne vibration. In addition, pile driving may be required to offset the potential liquefaction-induced ground failures.</p> <p>Vibration velocities could reach as high as approximately 0.031 inches per second PPV at a distance of 50 feet from the source activity. This corresponds to a RMS velocity level (in VdB) of 78 VdB at 50 feet from the source activity.</p> <p>Construction activities would be limited to the hours of 7:00 A.M. to 6:00 P.M. on weekdays and 9:00 A.M. and 5:00 P.M. on Saturdays in accordance with Section 4.88.360 of the Mateo County Ordinance Code. Construction activities are also prohibited at any time on Sundays, Thanksgiving and Christmas. While the use of impact pile drivers at the project site would not occur during recognized sleep hours for residences, the impact of daytime groundborne vibration levels during construction of Building A or the Office Park would still be considered <b>significant</b>.</p>	<p><b>Mitigation Measure NOISE-1 Construction Noise</b></p> <p>Mitigation Measure NOISE-1 identified above requires the use of drilled piles or the use of sonic or vibratory pile drivers instead of impact pile drivers if at all feasible based on geological conditions (see above).</p>	<p><i>Less than Significant</i></p>
<p><b>PUBLIC SERVICES</b></p>		
<p><b>Impact PS-1 Police Services</b></p> <p>While the project would increase the number of persons and level of activity on the project site, given the type of use, it is reasonable to expect that the project would not result in a meaningful increase in the amount of crime in the project area. Further, given that the project is not expected to generate a considerable increase in crime, the affect that the project would have on response times would be minimal. Additionally, according to the Sheriff's Department, although additional deputies and equipment could be necessary to accommodate the project, the additional demand for police services created by the project would not require the need for new or altered police facilities. Therefore, project impacts on police services would be <b>less than significant</b> and no mitigation measures are required.</p> <p>Although impacts were found to be less than significant, the following mitigation measure is recommended by the Sheriff's Department to further reduce impacts related to an increased demand for police services associated</p>	<p><b>Mitigation Measure PS-1 Police Services</b></p> <p>Provide onsite manned security with clear lines of communication to fire and emergency medical response.</p>	<p><i>Less than Significant</i></p>

Table II-1  
 Summary of Environmental Impacts & Mitigation Measures

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<p>with the proposed project.</p> <p><b>Impact PS-2 Fire Protection Services</b></p> <p><i>Construction</i></p> <p>Construction of the proposed project would increase the potential for accidental onsite fires from sources such as the operation of mechanical equipment and use of flammable construction materials. In most cases, the implementation of “good housekeeping” procedures by the construction contractors and the work crews would minimize these hazards. Good housekeeping procedures that would be implemented during construction of the proposed project include: the maintenance of mechanical equipment in good operating condition; careful storage of flammable materials in appropriate containers; and the immediate and complete cleanup of spills of flammable materials when they occur.</p> <p>Construction of the proposed project would not be expected to tax fire fighting and emergency services to the extent that there would be a need for new, expanded, consolidated, or relocated fire facilities, in order to maintain acceptable performance objectives set by the District. Therefore, impacts associated with fire protection services during construction would be <b>less than significant</b> and no mitigation measures are required.</p> <p>Although impacts were found to be less than significant, Mitigation Measure PS-2a would further reduce impacts associated with fire protection services during construction.</p>	<p><b>Mitigation Measure PS-2 Fire Protection Services</b></p> <p><i>Mitigation Measure PS-2a Fire Protection Services</i></p> <p>When there are partial closures, roadblocks, or encroachments to streets surrounding the project site during the grading and construction periods, flagmen shall be utilized to facilitate the traffic flow.</p>	<p><i>Less than Significant</i></p>
<b>TRANSPORTATION AND TRAFFIC</b>		
<p><b>Impact TRANS-1 Intersection Level of Service and Capacity</b></p> <p>The proposed project would bring additional traffic to the project site and the surrounding roadways. The proposed project would add approximately 2,123 daily trips to roads in the vicinity of the project site.</p> <p>The results of the LOS analysis under average project conditions show that all of the study intersections would operate at an acceptable LOS C or better. However, the eastbound left-turn movement at the intersection of SR 1 and Cypress Avenue is shown to operate at LOS F with a delay of 59.8 seconds under worst-case project conditions (the LOS calculation sheets are included in Appendix J of this DEIR). The traffic analysis found that there are no improvements possible at this intersection to improve this LOS F other than</p>	<p><b>Mitigation Measure TRANS-1 Intersection Level of Service and Capacity</b></p> <p>Following project occupancy, the applicant shall submit a bi-annual report, signed and stamped by a Professional Transportation Engineer in the State of California, to the Director of Planning and Building on the level of service at the intersection of Cypress Avenue and SR 1 stating whether or not this location warrants a signal. If it meets warrants, then the applicant shall coordinate with Caltrans to pay a fair share for the installation of a signal within 5 years of the date of that report.</p>	<p><i>Less than Significant</i></p>

Table II-1  
 Summary of Environmental Impacts & Mitigation Measures

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<p>signalization; therefore, with the project, the peak-hour signal warrant would be met at the intersection of SR 1 at Cypress Avenue and impacts to intersection LOS and capacity would be <b>significant</b> (the signal warrant analysis sheets are included in Appendix J of this DEIR). With signalization, this intersection would operate at LOS A under the AM and PM peak-hours for both (average and worst-case) project scenarios. Under signalized conditions, the existing roadway geometry would be adequate to handle the anticipated traffic demand.</p> <p><b>Impact TRANS-8 Construction</b></p> <p>Construction activities have the potential to add construction traffic to the street network in the vicinity of the project site. Construction activities are temporary by nature and project-related construction activities are not expected to cause a substantial disruption to roadway capacity. To fully complete the Wellness Center and Office Park development, the project's construction time schedule is anticipated to last between 30 and 36 months. Construction activities would occur in phases and would be required to comply with applicable County construction standards. The proposed project would not import or export any soil and grading would be balanced on the project site, eliminating truck haul-trips on regional roads. County and emergency services would be notified of any restrictions on any roadways, alternative emergency routes, and detours due to construction activities of the project. Therefore, impacts related to construction traffic would be <b>less than significant</b> and no mitigation measures are required. While traffic impacts during construction would be less than significant, Mitigation Measure TRANS-8 is recommended to further reduce adverse construction traffic impacts.</p>	<p><b>Mitigation Measure TRANS-8 Construction</b></p> <p>Prior to issuance of grading permits, the applicant shall also submit a traffic control plan to the County Department of Public Works for review and approval. All staging during construction shall occur onsite.</p>	<p><i>Less than Significant</i></p>
<p><b>Impact TRANS-9 Intersection Levels of Service Under Cumulative Conditions</b></p> <p>The results of the LOS analysis under Cumulative Conditions both with and without the project show that all the intersections would operate at LOS C or better under average conditions. Under cumulative with no project PM peak-hour conditions there would be a 46.0 second delay for the worst-case movement (eastbound left) of the Cypress Avenue at SR 1 intersection. This delay would continue to increase under the project condition scenario. The worst-case delay for this</p>	<p><b>Mitigation Measure TRANS-1 Intersection Level of Service and Capacity</b></p> <p>With implementation of Mitigation Measure TRANS-1 above, cumulative impacts related to peak-hour traffic volume and intersection LOS would be reduced to a less-than-significant level.</p>	<p><i>Less than Significant</i></p>

**Table II-1  
Summary of Environmental Impacts & Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<p>movement would be 177.7 seconds during the PM peak-hour (131.7 seconds more than without the project). As a result, some of the project trips might take the southbound Airport Street route to equalize this delay. However, the traffic analysis found that even if 25 percent of the project traffic took the southbound route as opposed to the northbound route, the delay at the intersection would continue to operate at LOS F for the left turn from Cypress Avenue onto SR 1 and the signal warrant would be met. This would result in a <i>significant</i> impact.</p> <p><b>Impact TRANS-10 Cumulative Signal Warrant Analysis</b></p> <p>The peak-hour signal warrant was checked for the seven currently unsignalized intersections to determine whether signalization would be justified on the basis of cumulative peak-hour volumes. The analysis showed that the study intersection of SR 1 at Cypress Avenue would meet the peak-hour signal warrant under cumulative conditions both with and without the project.</p> <p>Based on project and cumulative with and without project conditions, the peak-hour signal warrant is met at the intersection of SR 1 at Cypress Avenue. With this improvement, the SR 1/Cypress Avenue intersection would operate at LOS A during both the AM and PM peak-hours. Under signalized conditions, the existing roadway geometry would be adequate to handle the anticipated traffic demand.</p>	<p><b>Mitigation Measure TRANS-1 Intersection Level of Service and Capacity</b></p> <p>With implementation of Mitigation Measure TRANS-1, cumulative impacts related to project peak-hour traffic volume and intersection LOS would be reduced to a less-than-significant level.</p>	<p><i>Less than Significant</i></p>
<b>UTILITIES AND SERVICE SYSTEMS</b>		
<p><b>Impact UTIL-2 Wastewater Collection System Capacity</b></p> <p>The project proposes to have a sewer connection to the Granada Sanitary District as a contingency for surplus flows during the wet season and for other emergency purposes. The applicant has not provided estimates of the amount of sewage flow that would be directed to the sewer system from the project. However, based on the analysis in this DEIR, it should be anticipated that there will be times when the entire daily sewage flow (26,000 gpd) would be discharged to the sewer. This would occur, for example, as a result of having to suspend water recycling due to non-compliance with Title 22 treatment limits. No hydraulic analysis has been completed by the applicant to confirm that the existing 8-inch sewer line in Stanford Avenue has sufficient capacity to accommodate additional flows of 26,000 gpd. Analysis by the DEIR authors indicate that an average flow of</p>	<p><b>Mitigation Measure UTIL-2 Wastewater Collection System Capacity</b></p> <p>The applicant shall either: (a) revise the project design to limit the maximum amount of sewage flow to the Granada Sanitary District sewer system to that which can be accommodated by the existing 8-inch sewer line in Stanford Avenue and the Princeton Pump Station; or (b) provide necessary expansion of the capacity of the sewer system to accommodate the addition of the expected maximum sewage flow of 26,000 gpd from the project.</p>	<p><i>Less than Significant</i></p>

Table II-1  
 Summary of Environmental Impacts & Mitigation Measures

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<p>26,000 gpd would likely require a minimum sewer line diameter of 12 inches or greater; thus the existing 8-inch line would not be adequate for the project. The Princeton Pump Station may also have inadequate capacity for the additional surcharge of 26,000 gpd sewage flow from the project. The potential lack of adequate capacity for the project wastewater flows in the existing Granada Sanitary District sewage collection system may require improvements that have not been accounted for in the project plans. This is a <i>potentially significant</i> impact.</p>	<p><b>Mitigation Measure UTIL-4 Wastewater Recycling and Disposal Requirements</b></p> <p>The applicant shall comply with State Health Department and RWQCB requirements for wastewater recycling.</p>	<p><i>Less than Significant</i></p>
<p><b>Impact UTIL-5 Wastewater and Recycling Water Flow Estimates</b></p> <p>The projected volume of wastewater recycling for toilet flushing appears to have been overestimated by the project applicant. The applicant estimates that approximately 16,000 gpd of recycled water will be used for toilet flushing at the Office Park and Wellness Center. The corrected estimate of water for toilet flushing could be two-thirds this amount. The estimates of toilet flushing flows have been used by the applicant to estimate: (a) the amount of recycled water available for irrigation uses; and (b) the total amount of wastewater flow to be disposed of by other means (i.e., leachfield beds) during the winter non-irrigation period. As a consequence of overestimating the toilet flushing flows, further analysis is needed to determine whether or not there are sufficient irrigation areas and necessary capacity in the drain fields for the corrected (larger) amount of wastewater flow. This is a <i>potentially significant</i> impact.</p>	<p><b>Mitigation Measure UTIL-5 Wastewater and Recycling Water Flow Estimates</b></p> <p>The applicant shall revise the project plans and water budget analysis to correct the inconsistencies in the water recycling assumptions and calculations, and shall use this information to verify: (a) the adequacy of plans for irrigation uses of recycled water; and (b) the sufficiency of the proposed leachfields for winter season dispersal of all wastewater flow not distributed for toilet flushing. This information shall be provided for review and approval by the RWQCB.</p>	<p><i>Less than Significant</i></p>
<p><b>Impact UTIL-6 Creek Crossing by Sewage Pipeline</b></p> <p>The preliminary utility plans for the project show a gravity sewer line running from the North Parcel to the South Parcel along the westerly side of Airport Street. It appears that the proposed alignment for the sewer line, as well as other utilities, crosses through the open creek channel area, on the downstream side of the existing concrete headwall. Correspondence from</p>	<p><b>Mitigation Measure UTIL-6 Creek Crossing by Sewage Pipeline</b></p> <p>The project applicant shall modify the current plans for sewer connection between the North and South parcels to provide either: (a) re-alignment and profile correction to accommodate a gravity sewer line; or (b) incorporation of a lift station on either the North or South parcel.</p>	<p><i>Less than Significant</i></p>

**Table II-1  
Summary of Environmental Impacts & Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<p><b>Impact UTIL-11 Be Served by a Landfill with Insufficient Permitted Capacity to Accommodate the Project's Solid Waste Disposal Needs</b></p> <p><i>Construction Phase</i></p> <p>The construction phase of the proposed project would generate debris in the form of wood, scrap metal, asphalt/concrete, dry wall, plastics, roofing, green waste, and other miscellaneous and composite materials. Much of the solid waste generated during the construction phase would be recycled and salvaged to the maximum extent feasible. County Ordinance Code 04099 requires all major construction projects to submit a Waste Management Plan to the County. This plan requires identifying that 100 percent of inert solids (e.g., asphalt, brick, concrete, dirt, fines, rock, sand, soil and stone) must be recycled or salvaged, and 50 percent of non-inert debris (e.g., wood, metal, roofing, etc.) must be recycled or salvaged.</p> <p>Construction materials not recycled would be disposed of at local landfills. Provided the project conforms to County Ordinance No. 04099, impacts to landfill and solid waste services associated with the short-term generation of solid waste during project construction would be <i>less than significant</i>.</p>	<p><b>Mitigation Measure UTIL-11 Be Served by a Landfill with Insufficient Permitted Capacity to Accommodate the Project's Solid Waste Disposal Needs</b></p> <ul style="list-style-type: none"> <li>To facilitate onsite separation and recycling of construction-related wastes, the contractor(s) shall provide temporary waste separation bins onsite during construction. These bins shall be emptied and recycled accordingly as a part of the project's regular solid waste disposal program.</li> <li>The applicant shall prepare and submit a facility recycling program for the collection and loading of recyclable materials prepared in response to the California Solid Waste Reuse and Recycling Access Act of 1991 as described by the CIWMB, Model Ordinance, Relating to Areas for Collecting and Loading Recyclable Materials in Development Projects, March 31, 1993. Adequate space or enclosures for recycling bins shall be provided at appropriate locations to promote recycling of paper, metal, glass, and other recyclable material.</li> </ul>	<p><i>Less than Significant</i></p>



Table II-1  
 Summary of Environmental Impacts & Mitigation Measures

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<p><i>Operational Impacts</i></p> <p>The site is currently in agricultural use and produces a negligible amount of solid waste. Implementation of the proposed project would result in an ongoing generation of solid waste throughout the lifespan of the project.</p> <p>While the Ox Mountain landfill is currently in excess of its total permitted capacity, it continues to accept waste as the landfill gradually settles and new space becomes available. Ox Mountain has sufficient capacity to meet the solid waste service demands of the proposed project. The proposed project would comply with all applicable County policies and ordinances (e.g., Green Building Ordinance). Implementation of the proposed project would result in a negligible increase in solid waste on a regional scale, and thus would not significantly impact available landfill capacity. The proposed project would not result in the need for additional waste collection routes or recycling or disposal facilities. Therefore, impacts associated with solid waste service during operation of the project would be <i>less than significant</i>.</p> <p>Although impacts were found to be less than significant, Mitigation Measure UTIL-11 is recommended to further reduce any adverse solid waste impacts.</p>		

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## III. PROJECT DESCRIPTION

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### A. OVERVIEW OF THE ENVIRONMENTAL SETTING

This section provides a brief overview of the project site's existing regional and local setting. Additional descriptions of the environmental setting as the setting relates to each of the environmental issues analyzed in this Draft EIR (DEIR) are included in the environmental setting discussions contained within Sections IV.A through IV.N. Also provided in this project description is a list of related projects, which is used as the basis for the discussion of cumulative impacts in Section IV (Environmental Impact Analysis).

#### **Regional Setting**

The County of San Mateo is located on the San Francisco Peninsula, bordered by San Francisco County to the north, Santa Cruz County to the south, the San Francisco Bay and Alameda County to the east, Santa Clara County to the southeast, and the Pacific Ocean to the west. The major roadways that traverse the County include Interstates 280 (I-280) and 380 (I-380), U.S. Highway 101 (US 101), and State Routes 1, 92, and 84 (SR 1, SR 92, and SR 84).

As shown in Figure III-1, the project site is situated in northwestern County of San Mateo along the coast of the Pacific Ocean just north of Princeton by the Sea, approximately 25 miles south of San Francisco, 10 miles west of the City of San Mateo, and 45 miles north of the City of Santa Cruz.

#### **Local Setting**

The 19.4-acre project site is located on Airport Street, northwest of the Princeton/Pillar Point Harbor area in unincorporated County of San Mateo and comprises two Assessor's Parcel Numbers (APN) 047-311-060 and APN 047-312-040. APN 047-311-060 (referred to herein as the "northern parcel") is approximately 14.25 acres in size, and APN 047-312-040 (referred to herein as the "southern parcel") is approximately 5.28 acres. The project area is accessible via SR 1 (Cabrillo Highway), located less than 0.5 miles to the east, and Airport Street. The project site can be directly accessed from the surrounding streets, including: Cypress Avenue, Marine Boulevard; Capistrano Road, Prospect Way; and California, Cornell and Stanford Avenues, located to the west, east and south of the site, respectively. The project site is in the boundaries of the Granada Sanitary District and in the sphere of influence of the City of Half Moon Bay. It is also in the sphere of influence of the Coastside County Water District (CCWD), contiguous to CCWD boundaries and eligible for annexation to the District.

The project site currently consists of two adjacent agricultural fields that are part of a larger ongoing and continuous farming operation. The site is relatively flat with elevations at the project site ranging from 9.0 to 27.7 feet National Geodetic Vertical Datum (NGVD), with gentle slopes to the south and west. Soils within the site include coarse-grained, older alluvial fan and stream terrace deposits (Qof) of the Pleistocene Age, consisting of poorly consolidated gravel, sand, and silt, coarser grained at heads of old fans and in narrow canyons, and younger (outer) alluvial fan deposits (Qyfo) of the Holocene age,

consisting of unconsolidated fine sand, silt, and clayey silt (refer to Figures III-2A and III-2B). Due to extensive site farming activities little to no native vegetation remains over the great majority of the project site. In those areas where normal farming activities have not occurred recently (e.g., along Airport Street shoulder and in very small, scattered patches within the agricultural fields), non-native annual grasses and herbs occur. A natural drainage swale separates the two parcels and leads to the Pillar Point Marsh, a salt marsh habitat influenced by both tidal action and freshwater runoff from its tributary drainage area. A total of 0.74 acres (32,180 square feet (sf)) of wetlands under the protection of the California Coastal Commission of which 0.45 acres is Federal jurisdictional waters/wetlands occur on the project site under the permit authority of the US Army Corps of Engineers (USACOE). For views of the project site refer to Figure III-3 through Figure III-6.

The County of San Mateo General Plan Mid-Coast Area Land Use map designates both the northern and southern parcels as General Industrial. The zoning designations for the properties are as follows:

Northern Parcel: Light Industrial/Design Review/Coastal Development District (M-1/DR/CD)

Light Industrial/Airport Overlay/Design Review/Coastal Development District (M-1/AO/DR/CD)

Southern Parcel: Waterfront/Design Review/Coastal Development District (W/DR/CD)

Waterfront/Airport Overlay/Design Review/Coastal Development District (W/AO/DR/CD)

### **Surrounding Land Uses**

The project site is surrounded by the following: the Half Moon Bay Airport (east), the El Granada Mobile Home Park (north), the Pillar Point Headlands and Pillar Point Marsh (west), and the Princeton/Pillar Point Harbor industrial/commercial area (south). The Fitzgerald Marine Reserve, which is bracketed by Maverick's Surf break to the south and Montara Beach to the north, is located approximately 0.25 miles to the west. Views of the surrounding areas are shown in Figure III-7 and Figure III-8.

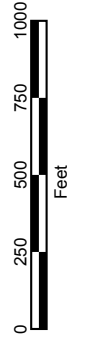


Figure III-1  
Regional Vicinity Map

CHRISTOPHER A. JOSEPH & ASSOCIATES  
Environmental Planning and Research

Source: San Mateo County GIS, CAJA 2007

No Scale  
Source: Christopher Joseph & Associates, 2004.



Project Site

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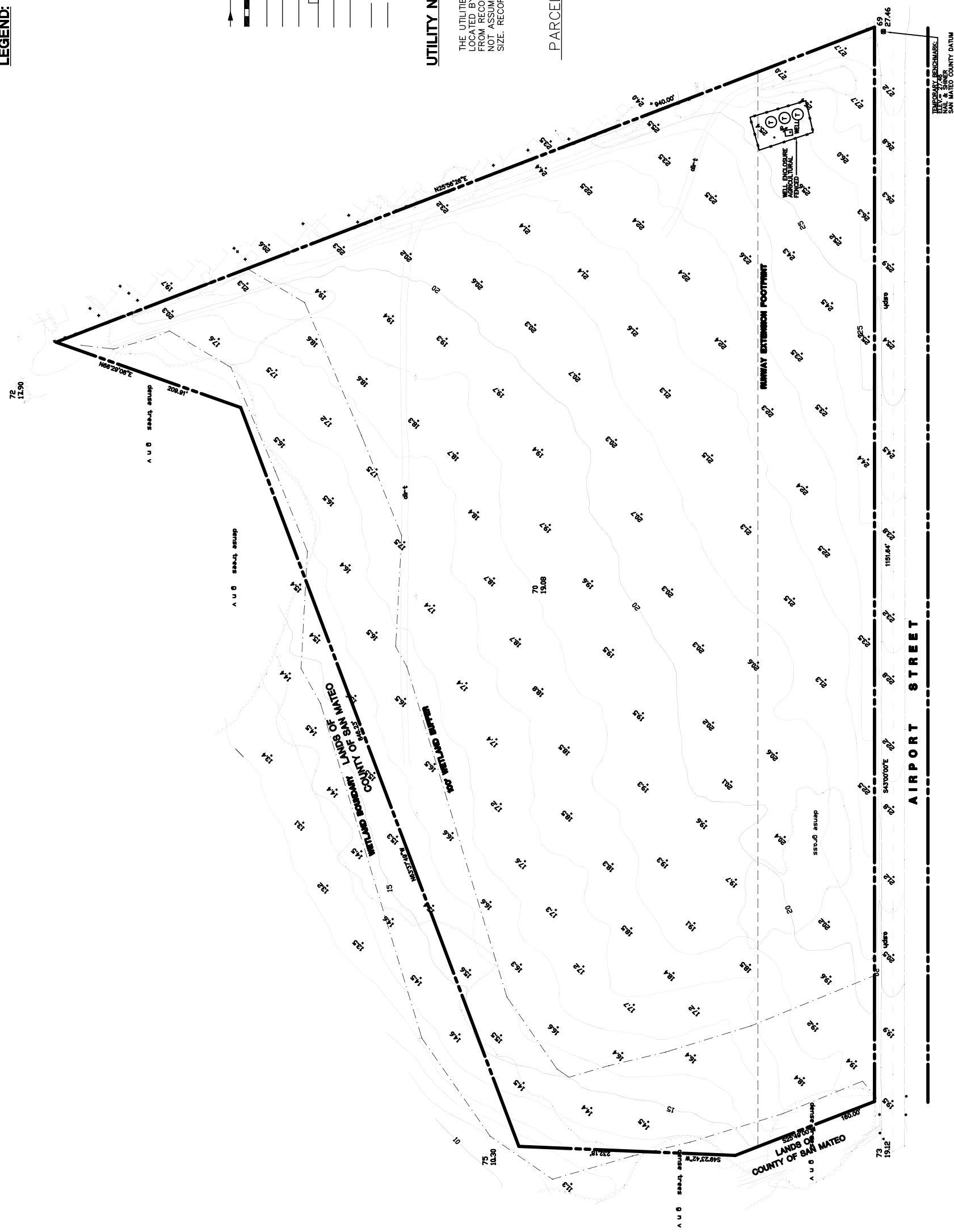
**LEGEND:**

- |      |                          |
|------|--------------------------|
| CB   | CATCH BASIN              |
| FF   | FINISHED FLOOR ELEVATION |
| FP   | FINISHED PAVEMENT        |
| FL   | FLOWLINE                 |
| TC   | TOP OF CURB              |
| TG   | TOP OF GRATE             |
| SDMH | STORM DRAIN MANHOLE      |
| SSMH | SANITARY SEWER MANHOLE   |
| INV. | INVERT                   |
| H.P. | HIGH POINT               |
| G.B. | GRADE BREAK              |
| JP   | JOINT POINT              |
| SS   | NEW SANITARY SEWER LINE  |
| SD   | NEW STORM DRAIN LINE     |
| G    | GAS LINE                 |
| E    | ELECTRIC LINE            |
| W    | WATER LINE               |
| 25   | NEW CONTOUR LINE         |
| WW   | WELL WATER               |
| RW   | RECYCLED WATER           |
| PVJT | PRIVATE JOINT TRENCH     |
| PJT  | PUBLIC JOINT TRENCH      |

**UTILITY NOTE:**

THE UTILITIES EXISTING ON THE SURFACE AND SHOWN ON THIS DRAWING HAVE BEEN LOCATED BY FIELD SURVEY. ALL UNDERGROUND UTILITIES SHOWN ON THIS DRAWING ARE FROM RECORDS OF THE VARIOUS UTILITY COMPANIES AND THE SURVEYOR/ENGINEER DOES NOT ASSUME RESPONSIBILITY FOR THEIR COMPLETENESS, INDICATED LOCATION, OR SIZE. RECORD UTILITY LOCATION SHOULD BE CONFIRMED BY EXPOSING THE UTILITY.

PARCEL AREA = 14.253 ± ACRES



Source: MacLeod and Associates, 07/28/08.



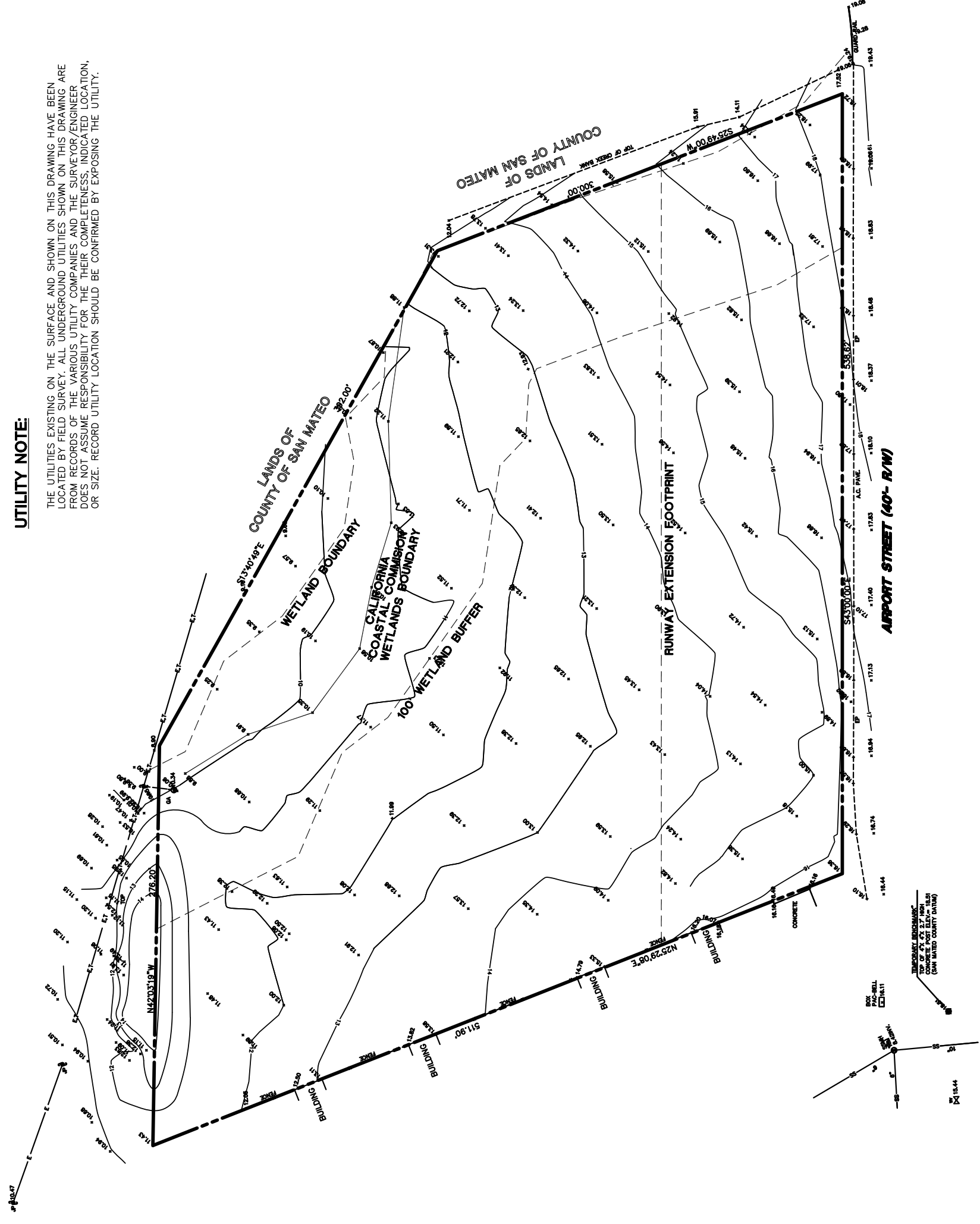


**UTILITY NOTE:**

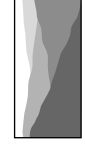
THE UTILITIES EXISTING ON THE SURFACE AND SHOWN ON THIS DRAWING HAVE BEEN LOCATED BY FIELD SURVEY. ALL UNDERGROUND UTILITIES SHOWN ON THIS DRAWING ARE FROM RECORDS OF THE VARIOUS UTILITY COMPANIES AND THE SURVEYOR/ENGINEER DOES NOT ASSUME RESPONSIBILITY FOR THEIR COMPLETENESS, INDICATED LOCATION, OR SIZE. RECORD UTILITY LOCATION SHOULD BE CONFIRMED BY EXPOSING THE UTILITY.

**LEGEND:**

- |      |                          |
|------|--------------------------|
| CB   | CATCH BASIN              |
| FF   | FINISHED FLOOR ELEVATION |
| FP   | FINISHED PAVEMENT        |
| FL   | FLOW LINE                |
| TC   | TOP OF CURB              |
| TG   | TOP OF GRATE             |
| SDMH | STORM DRAIN MANHOLE      |
| SSMH | SANITARY SEWER MANHOLE   |
| INV. | INVERT                   |
| H.P. | HIGH POINT               |
| G.B. | GRADE BREAK              |
| JP   | JOINT POINT              |
| WM   | WATER METER              |
| DCV  | DETECTOR CHECK VALVE     |
| BFV  | BACKFLOW                 |
| SS   | NEW SANITARY SEWER LINE  |
| SD   | NEW STORM DRAIN LINE     |
| G    | GAS LINE                 |
| E    | ELECTRIC LINE            |
| W    | WATER LINE               |
| 15   | NEW CONTOUR LINE         |
| FS   | FIRE SERVICE LINE        |
| DW   | DOMESTIC WATER LINE      |
| WW   | WELL WATER               |
| RW   | RECYCLED WATER           |
| PVJT | PRIVATE JOINT TRENCH     |
| PJT  | PUBLIC JOINT TRENCH      |
| RWD  | RAINWATER DRAIN          |



Source: MacLeod and Associates, 07/28/08.



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Figure III-2B  
Topography of Southern Parcel







Source: Google Earth Pro, 2009.

**Figure III-4**  
**Aerial Photograph of the**  
**Project Site and Surrounding Area**



**View 1:** Looking west onto the northern parcel. El Granada Mobile Home Park is visible in the background at the project site's northern boundary.

**View 2:** Looking southwest onto the northern parcel. Marsh vegetation is visible at the parcel's western boundary and a coastal bluff with trees is visible in the background.



**View 3:** Looking south onto the northern parcel. Riparian vegetation in the drainage area that separates the parcels is visible in mid-view, commercial and industrial development is visible beyond the vegetation.

Source: Christopher A. Joseph & Associates, 2007.





**View 4:** Looking north onto the southern parcel. Riparian vegetation in the drainage area between the parcels is visible.

**View 5:** Looking west onto the southern parcel. The radome on top of the knoll is visible in the background.



**View 6:** Looking south onto the southern parcel. Commercial and industrial development is visible at the project's southern boundary.

Source: Christopher A. Joseph & Associates, 2007.





**View 1:** Viewing from the northern parcel, El Granada Mobile Home Park is visible in the background at the project's northern boundary.

**View 2:** Viewing from the project site across Airport Street, Half Moon Bay Airport facilities are visible in the background. Beyond the airport is County of San Mateo open space.



**View 3:** Viewing from within the project's southern parcel, the radome and road leading to it are visible. Marsh vegetation is visible at the parcel's western boundary and the Pacific Ocean is just over the bluffs.

Source: Christopher A. Joseph & Associates, 2007.





**View 4:** Along Airport Street, commercial and industrial development in the town of Princeton is adjacent to and south of the project site.

**View 5:** Along Airport Street, the roadway culvert identifies the drainage area that separates the project parcels. Half Moon Bay Airport facilities are visible in the background.



**View 6:** South from the project site along West Point Avenue is Pillar Point Marsh.

Source: Christopher A. Joseph & Associates, 2007.





## B. RELATED PROJECTS

Sections 15126 and 15130 of the CEQA Guidelines provide that EIRs consider the significant environmental effects of a proposed project, as well as “cumulative impacts.” Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or that compound or increase other environmental impacts (CEQA Guidelines Section 15355). Cumulative impacts may be analyzed by considering a list of past, present, and probable future projects producing related or cumulative impacts [CEQA Guidelines Section 15130(b)(1)(A)].

All projects that are proposed (i.e., with pending applications), recently approved, under construction, or reasonably foreseeable that could produce a cumulative impact on the local environment when considered in conjunction with a proposed project are required to be evaluated in an EIR. These projects can include, if necessary, projects outside of the control of the lead agency. If a concise list of related projects is not available, cumulative impacts may be analyzed using the regional or area-wide growth projections contained in an adopted or certified General Plan or related planning document. Table III-1 lists the related projects identified for the proposed project. These related projects consist of approved, proposed, or projects currently under construction in the County of San Mateo (specifically the Mid-Coast Area), the City of Pacifica, City of San Bruno, City of Half Moon Bay, and the Town of Hillsborough. The list provided in Table III-1 includes 37 projects of various land uses, including: commercial, industrial, mixed-use, residential, and park uses.

**Table III-1  
Related Projects List**

Number	Name & Location	Land Use	Size	Status
<b>County of San Mateo – Mid-Coast Area</b>				
1	Turner Building West Point Ave.	Commercial	3,450 sf	Approved
2	Kissick Building Princeton at Columbia	Commercial	3,425 sf	Approved
3	Ruben Building 151 Vassar Ave.	Industrial	3,155 sf	Approved
4	Foss Project 264, 268, 272, 276 & 280 Princeton Ave.	Commercial	17,147 sf	Proposed
5	Shook Project Princeton at Broadway	Mixed-use	1,622 sf	On Appeal at California Coastal Commission
6	Johnson Building 358 Princeton Ave.	Mixed-use	2,374 sf	Approved
7	Stebbins Building 102 California Ave.	Commercial/ Industrial	1,982 sf	Approved
<b>City of Pacifica</b>				
8	Mixed-use Building Waterford/Monterey	Mixed-use	5 units 8,609 sf	Building Permits Pending
9	Connemara “Lower Milagra Ridge” 900 Oceana Blvd.	Mixed-use	23 units 40+ acres 10,000 sf	Under Construction

**Table III-1  
Related Projects List**

<b>Number</b>	<b>Name &amp; Location</b>	<b>Land Use</b>	<b>Size</b>	<b>Status</b>
10	Rockaway Center 279 Rockaway Beach Ave.	Commercial	33,594 sf	Proposed
11	Walgreens 520 Palmetto Ave.	Commercial	13,870 sf	Under Construction
12	Mixed-use Building 4545 Coast Hwy	Mixed-use	63 condos 22,670 sf	Inactive
13	Mixed-use Building 2270-2286 Palmetto	Mixed-use	2 retail 3 residential 6,000 sf	Incomplete
14	“The Bowl” N. End of Palmetto	Residential	43 units 4.2 acres	Inactive
15	Piedmont Subdivision Piedmont Ave.	Residential	5 single family homes	Application Incomplete
16	Oceanside Meadows 1570 Higgins Way	Residential	11 single family homes 10,061-22,760 sf	Application Incomplete
17	Vistamar Development 501-511 Monterey	Residential	8 town homes 1 acre	Application Incomplete
18	Sunset Estates 500 block of Palmetto Ave.	Residential	7 lots 12,806-36,677 sf	Inactive
19	Beach Boulevard 1567 Beach Blvd.	Residential	9 units 30,698 sf	Building Permits Pending
20	Westview School Site 367 Glen Court Way	Residential	95 units 10.45 acres	Under Construction
21	Lorry Lane Lorry Lane	Residential	7 units 53,418 sf	Inactive
22	The Prospects Fassler Ave.	Residential	29 units 11 acres	Approved
23	Roberts Rd. Fassler Ave. at Roberts Rd.	Residential	13 lots 65+ acres	Final Parcel Map Pending
24	Gypsy Hill Gypsy Hill Rd./Clarendon Rd.	Residential	8 lots 13.9 acres	Application Incomplete
<b>City of San Bruno</b>				
25	Pacific Bay Vistas 4300 Susan Drive (Skyline Blvd. & Sharp Park Rd.)	Residential	510 apartment units	Approved
26	Skycrest Center 100 Skycrest Center (San Bruno Ave. & Glenview Drive)	Mixed-use	24 single family homes 3 acres	Under Construction
27	Glenview Terrace 2880 & 2890 San Bruno Ave.	Residential	16 town homes	Approved
28	The Crossing Parcels 3&4 Navy Site Specific Plan Area (El Camino Real at I-380)	Residential	350 residential units	Under Construction
29	Merimont Project 2936 Evergreen Drive	Residential	70 single family homes	Under Construction
30	Downtown Mixed-Use Project 406-418 San Mateo Ave.	Mixed-use	48 condominium units 14,650 sf retail	Approved

**Table III-1  
Related Projects List**

Number	Name & Location	Land Use	Size	Status
31	Crossing Retail Navy Site Specific Plan Area (El Camino Real at I-380)	Commercial	12,250 sf retail building	Proposed
32	Cedar Glen Townhouse Project Corner of Pepper Dr. and Cedar Ave.	Residential	14 single family homes	Approved
<b>City of Half Moon Bay</b>				
33	Pacific Ridge Project Terrace Ave.	Residential	63 single family homes	Approved
34	Beachwood Property East of SR 1, between Terrace Ave. and Grandview Blvd.	Park Use	24 acres	Proposed
35	Carnoustie Project South of Redondo Beach Road	Residential	32 single family homes 7.95 acres	Under Construction
<b>Town of Hillsborough</b>				
36	De Guigne Estate Crystal Springs Rd.	Residential	50 acres	Proposed
37	Lands of Callan Crystal Springs Rd.	Residential	20 acres	Proposed
<p>Notes: sf = square feet.  Source:  County of San Mateo, correspondence with Camille Leung, Planner on April 7, 2009;  City of Pacifica, Residential Developments - <a href="http://www.cityofpacifica.org/civica/filebank/blobdload.asp?BlobID=2593">http://www.cityofpacifica.org/civica/filebank/blobdload.asp?BlobID=2593</a> and  Commercial, Mixed Used and Misc Development - <a href="http://www.cityofpacifica.org/civica/filebank/blobdload.asp?BlobID=2592">http://www.cityofpacifica.org/civica/filebank/blobdload.asp?BlobID=2592</a>, accessed by  CAJA Staff on April 1, 2009;  City of San Bruno, Current Development Projects -  <a href="http://www.sanbruno.ca.gov/comdev_images/CurrentProjects/Current%20Dev%20Handout/Current%20Development%20Projects%20Nov%202008_.pdf">http://www.sanbruno.ca.gov/comdev_images/CurrentProjects/Current%20Dev%20Handout/Current%20Development%20Projects%20Nov%202008_.pdf</a>, accessed by CAJA Staff on April 1, 2009;  City of Half Moon Bay, 7/26/07 commission meeting minutes - <a href="http://www.half-moon-bay.ca.us/calendar_2007/pcagenda072607.htm">http://www.half-moon-bay.ca.us/calendar_2007/pcagenda072607.htm</a>,  <a href="http://www.hmbreview.com/articles/2008/10/23/news/doc4900bdd502f79365190501.txt">http://www.hmbreview.com/articles/2008/10/23/news/doc4900bdd502f79365190501.txt</a>,  <a href="http://www.coastsidewater.org/agendas/022609specialagenda/3.pdf">http://www.coastsidewater.org/agendas/022609specialagenda/3.pdf</a>,  <a href="http://www.hmbreview.com/articles/2009/04/08/news/doc49dcf43dc4341829840505.txt">http://www.hmbreview.com/articles/2009/04/08/news/doc49dcf43dc4341829840505.txt</a>;  Town of Hillsborough, correspondence with Liz Cullinan, Planner on April 1, 2009;</p>				

### C. PROJECT APPLICANT

The project applicant for the proposed project includes:

Big Wave, LLC  
Mr. Scott Holmes  
P.O. Box 1901  
El Granada, CA 94018

### D. PROJECT CHARACTERISTICS

As discussed previously, the project site includes a northern parcel of approximately 14.25 acres in size and a southern parcel consisting of approximately 5.28 acres. The proposed Big Wave Wellness Center

and Office Park project (“proposed project”) is designed as an economically and environmentally sustainable community development that provides housing and employment opportunities for low-income developmentally disabled (DD) adults at the Wellness Center whereas the Office Park would be occupied by private firms with their own workers (not DD residents). The two primary components of the proposed project include:

- Office Park property (northern parcel) development to be subdivided into five lots (Lots 1-5):
  - Lots 1-4 would include four, three-story buildings (225,000 sf total) planned for mixed office use (referred to as Buildings A-D); and
  - Lot 5 would include common areas, a Communications Building, and a 640-space parking lot.
- Wellness Center property (southern parcel) development to be subdivided into three separate lots (Lots 1-3):
  - Lot 1 would include a separate storage building (Building 4);
  - Lot 2 would include the Wellness Center with a maximum of 70 units for approximately 50 DD adults and 20 live-in staff members, other onsite living and recreation facilities (Buildings 1-3, 5-7), and associated fencing; and
  - Lot 3 would include a 73-space parking lot.

The above components would be designed in tandem, so that the DD adults would be employed by the Wellness Center and would also provide services to the Office Park, with the Wellness Center funded through association fees and shared development costs. The Wellness Center property and future development would be owned and administratively controlled by Big Wave Group, Inc., a certified 501(c)3 public benefit, non-profit corporation. The Office Park property and development will be owned and administratively controlled by Big Wave, LLC a for profit corporation. Ultimately, for the Wellness Center property the storage building (Lot 1) and Wellness Center (Lot 2) would be donated by the Big Wave, LLC to the non-profit Big Wave Group, Inc. The Big Wave Group may sell the storage building to a private firm to help fund the construction of the Wellness Center. Parking would be required for both the Wellness Center and the storage building; therefore, the parking lot (Lot 3) includes a parking and utility easement for both Lot 1 and Lot 2. This insures that both parcels even if they are separately owned would have legal access to the parking lot and utilities.

In addition to these above primary components, the proposed project includes: development of an onsite trail system; restoration of wetland habitat; use of sustainable organic, onsite/offsite farming for supplemental food sources; a native plant nursery for revegetation/landscaping efforts; recycling and composting; dog walking and grooming services; and development of bus stops and shuttle services. Proposed utilities and service systems include: solar cells for heating/energy; carbonate fuel cells; natural gas generators; wind turbines and generators; geothermal cooling systems; rain garden

infiltration/treatment ponds; options for water systems such as: (1) domestic hook-ups and one fire system hook-up, and (2) use of well water/treatment systems; options for wastewater systems such as: (1) use of an onsite wastewater treatment plant with disposal through irrigation and infiltration, and/or (2) municipal hook-ups; and a Communications Building with two microwave dishes.

All buildings and development would be designed to meet Platinum-level Leadership in Energy and Environmental Design (LEED) certified construction.

Further, various project-related business operations are included, which will be utilized to manage the above, as well as to generate income for the Wellness Center residents for the project services of the non-profit, such as: Big Wave (BW) Catering/Food Services; BW Energy; BW Farming; BW Water; BW Transportation; BW Recycling; BW Communications (radio telecom link); and BW Maintenance.

The specific proposed facilities associated with the Office Park and Wellness Center properties, as well as associated amenities and infrastructure proposed for use in development of both parcels are described in detail below:

### **Office Park and Wellness Center Property Facilities and Programs**

#### ***Office Park***

##### *Facilities*

The proposed Office Park property would be developed on the northern parcel and would include a total disturbed footprint of 8 acres (refer to Figure III-9). Development of the Office Park facilities (Lots 1-5) would consist of four, three-story (class A; Lots 1-4 or Buildings A-D) office, research and development, storage, and light manufacturing buildings, and associated common areas (i.e., Lot 5 or the parking lot, walkways, wetlands and Communications Building). The Office Park Buildings A-D would be a 225,000 sf mixed-use office park comprised of the following uses: 40 percent general office, 25 percent research and development, 15 percent storage, and 20 percent light manufacturing (refer to Table III-2).

**Table III-2  
Buildings A-D, Office Park Use Areas**

<b>Proposed Use</b>	<b>Area (%)</b>	<b>Area (sf)</b>
General Office	40%	90,000
Research and Development	25%	56,250
Storage	15%	33,750
Light Manufacturing	20%	45,000
<b>Total</b>	<b>100%</b>	<b>225,000</b>
<i>Notes: sf = square feet.</i>		
<i>Source: Big Wave, LLC, Facilities Plan: Draft #2, Big Wave Property, January 2009.</i>		

Building heights would not exceed 45 feet 6 inches (refer to Figures III-10 through III-13), with setbacks proposed at 153 feet for the front and approximately 40 feet for the rear. The four buildings would have first floor footprints totaling 78,000 sf. The Office Park building finishes are proposed to be stucco/concrete in pale neutrals and colors, including reddish beige and ivory. The roof would be metal with a matte finish. The aluminum window frames would be grey and wood siding would be white. Refer to Figure III-14.

The Communications Building would be two-stories in height (maximum height of 32 feet) and have a footprint of 2,000 sf (refer to Figure III-15), bringing the total building footprint for the Office Park property to 80,000 sf. The Communications Building would be located on the southeast corner of the proposed Office Park parking lot. Two 36-inch microwave dishes would be mounted on the east face of the building.

### ***Wellness Center***

The proposed Wellness Center facilities would provide DD affordable housing through a cooperative, owned by the residents, with the membership shares based on the number and type of units, the amenities of the units and the services to be provided to the residents. Other membership costs would include association fees (for maintenance and staffing), utility costs, and food expenses.

The Wellness Center facilities (Lot 2) would include the following development characteristics: apartment- and single-story style residential units; a commercial kitchen, dining area, laundry, office space, living/recreation room, multipurpose auditorium/theater; and recreational uses (i.e., indoor pool, basketball courts, fitness center); and associated fencing. Additional property development attributes would include a separate storage building (Lot 1). These elements are described further below, while Table III-3 provides a summary of the proposed building floor areas for the Wellness Center property. Additionally, refer to Figure III-16 and Figures III-17 through 21 for the Wellness Center property site plans and associated building elevations, respectively. The construction of the Wellness Center property facilities would be wood frame modular construction that meets Platinum LEED standards. The chosen exterior finishes (a palette of colors and materials) are illustrated in Figure III-22.

**Table III-3  
Proposed Wellness Center Property Floor Areas**

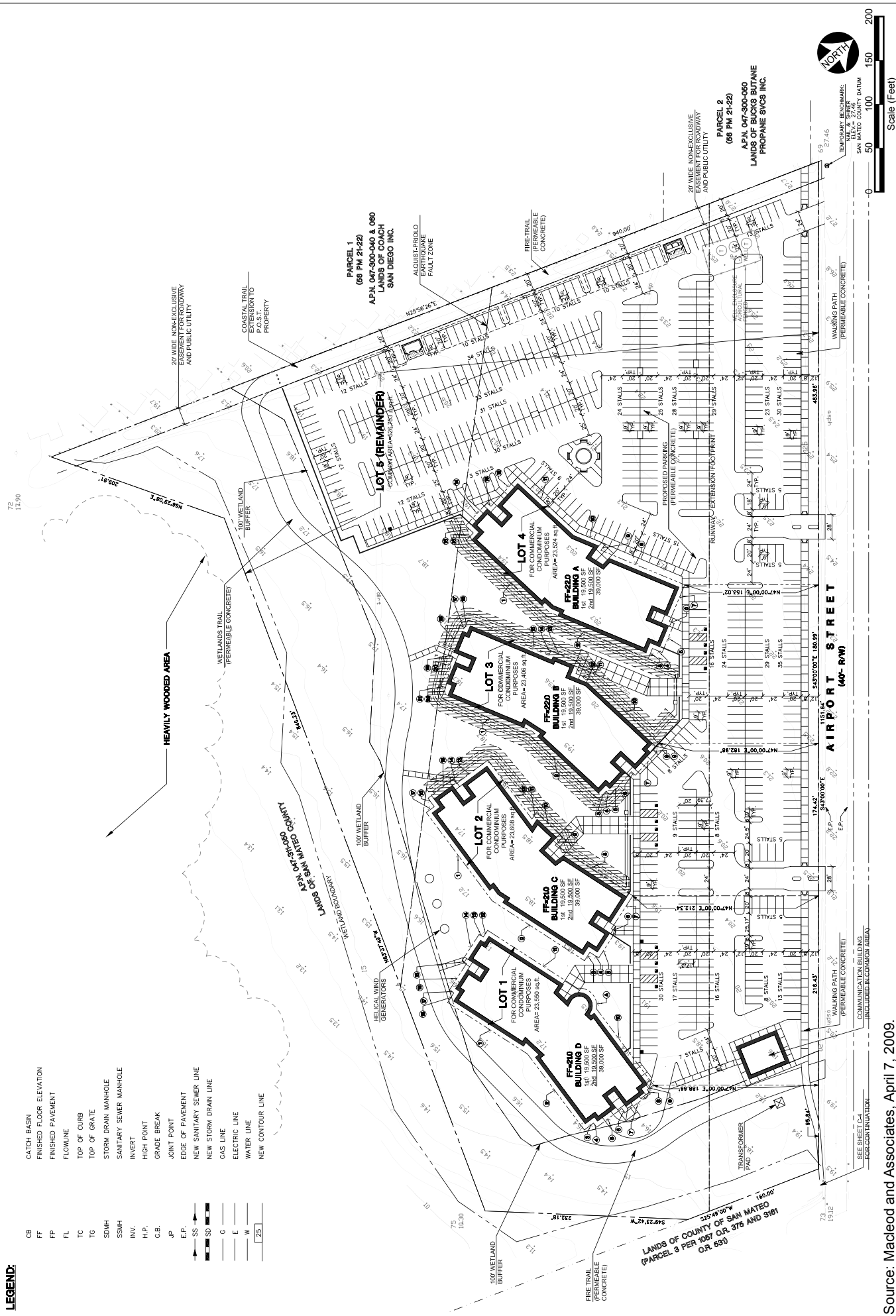
Floor Areas	Size (sf)
<b>Building 1 (North and South Stacks; Common Areas)</b>	
<b><i>First Floor</i></b>	
Kitchen	1,488
Lobby	1,320
Dining Room	2,578
Offices	1,862
Dog Grooming	372.4
Laundry	744.8
Maintenance/Janitorial	1,489.6
Single Bed/Bath Unit	2,234.4

**Table III-3  
Proposed Wellness Center Property Floor Areas**

Floor Areas	Size (sf)
Elevator/Stair Unit	744.8
Double Unit/One Bedroom	2,234.4
Hallways	1,834.2
Pool Building	3,464
Pool Equipment Room	372.4
Men's Locker Room	372.4
Women's Locker Room	372.4
Fitness Rooms	1,117.2
<b>First Floor Total</b>	<b>22,601</b>
<b>Second Floor</b>	
Single Bed/Bath Unit	4,468.8
Elevator/Stair Unit	744.8
Double Unit/One Bedroom	5,213.6
Hallways	1,834.2
Offices/Meeting Rooms	5,897.6
<b>Second Floor Total</b>	<b>18,159</b>
<b>Third Floor</b>	
Single Bed/Bath Unit	372.4
Elevator/Stair Unit	744.8
Double Unit/One Bedroom	744.8
Triple Unit/Two Bedrooms	5,586
Four Unit/Two Bedrooms	2,979.2
Hallways	2,034.2
Offices	744.8
Theatre	2,280
Living Room	4,690.8
<b>Third Floor Total</b>	<b>20,177</b>
<b>Buildings 2, 3, 5-7 (4 Bedroom Breezeway, 5 total)</b>	<b>17,848</b>
<b>Building 4 (Storage Building)</b>	<b>20,000</b>
<b>Total Building Area</b>	<b>98,785</b>
<i>Notes: sf = square feet.</i>	
<i>Source: Big Wave, LLC, Facilities Plan: Draft #2, Big Wave Property, January 2009.</i>	

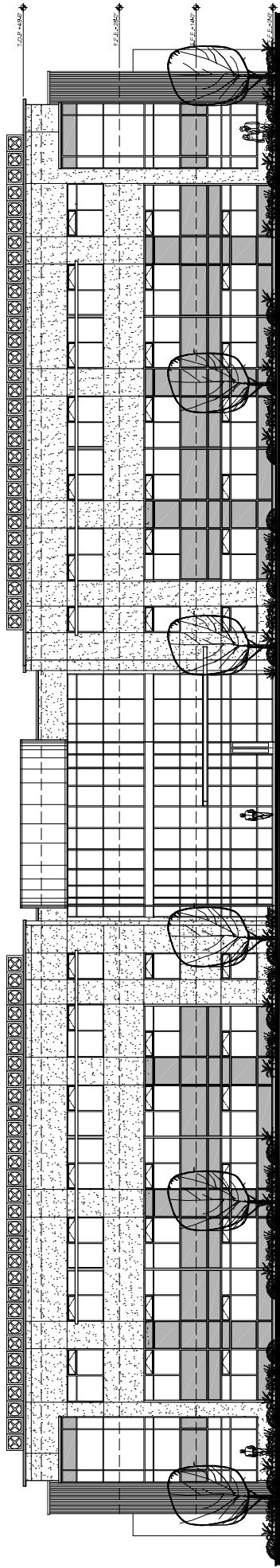
**LEGEND:**

- CB CATCH BASIN
- FF FINISHED FLOOR ELEVATION
- FP FINISHED PAVEMENT
- FL FLOWLINE
- TC TOP OF CURB
- TO TOP OF GRATE
- SDH STORM DRAIN MANHOLE
- SMH SANITARY SEWER MANHOLE
- INV INVERT
- H.P. HIGH POINT
- G.B. GRADE BREAK
- JP JOINT POINT
- E.P. EDGE OF PAVEMENT
- SS NEW SANITARY SEWER LINE
- SD NEW STORM DRAIN LINE
- G GAS LINE
- E ELECTRIC LINE
- W WATER LINE
- 25 NEW CONTOUR LINE



Source: Macleod and Associates, April 7, 2009.

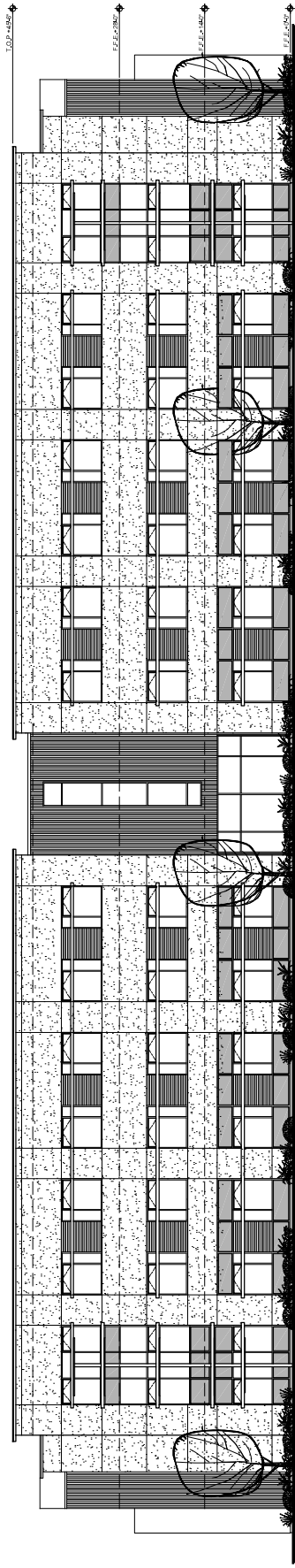




**NORTH/FRONT ELEVATION**



**EAST & WEST/RIGHT & LEFT SIDE ELEVATION**

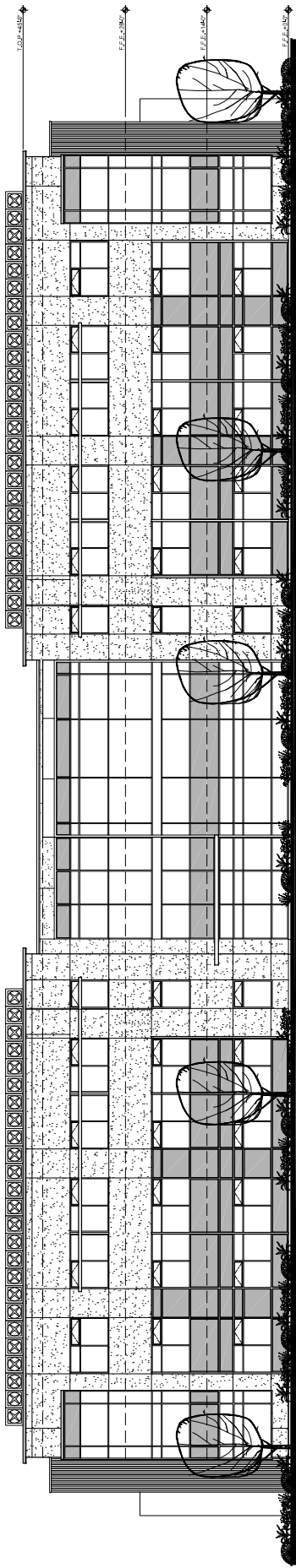


**SOUTH/REAR ELEVATION**

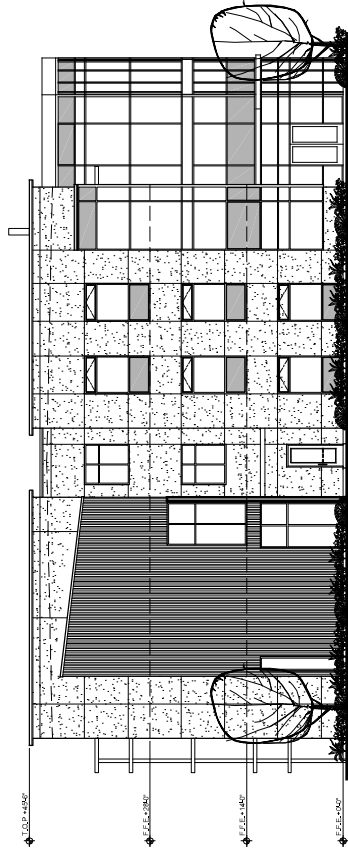
Source: Waid Ruhnke & Dost Architects LLP, July 2009.

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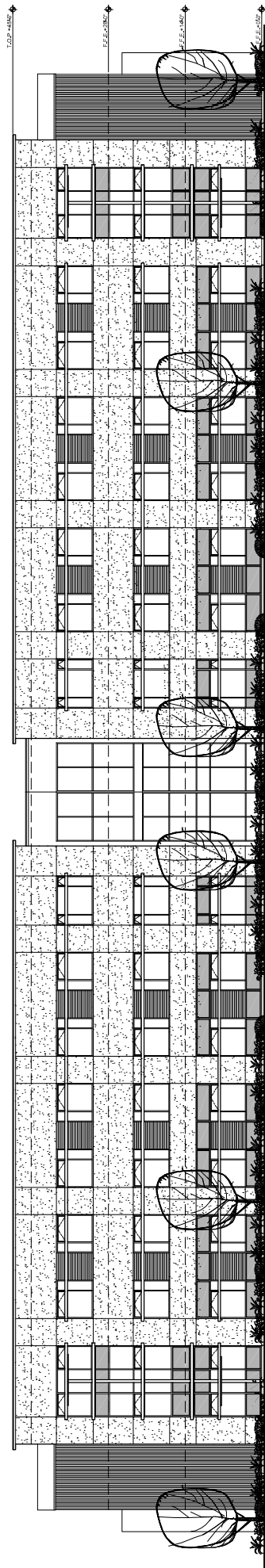
**Figure II-10**  
**Office Park Building A Elevations**



**NORTH/FRONT ELEVATION**



**EAST & WEST/RIGHT & LEFT SIDE ELEVATION**

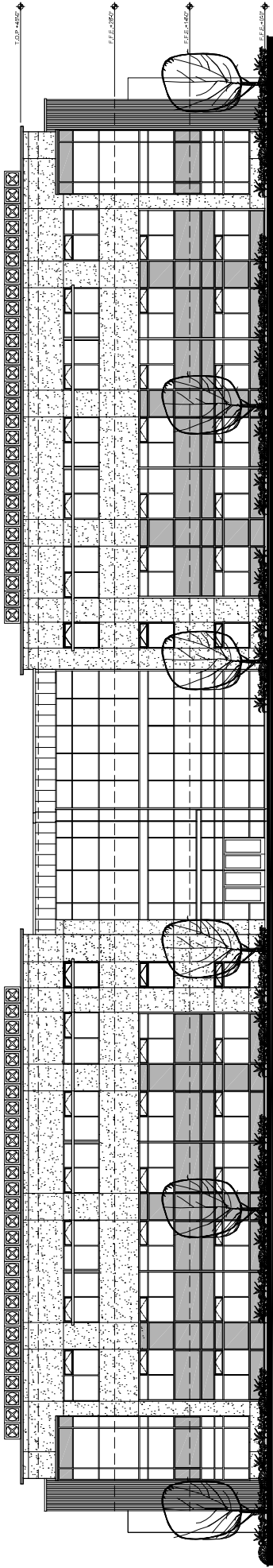


**SOUTH/REAR ELEVATION**

Source: Waid Ruhnke & Dost Architects LLP, July 2009.

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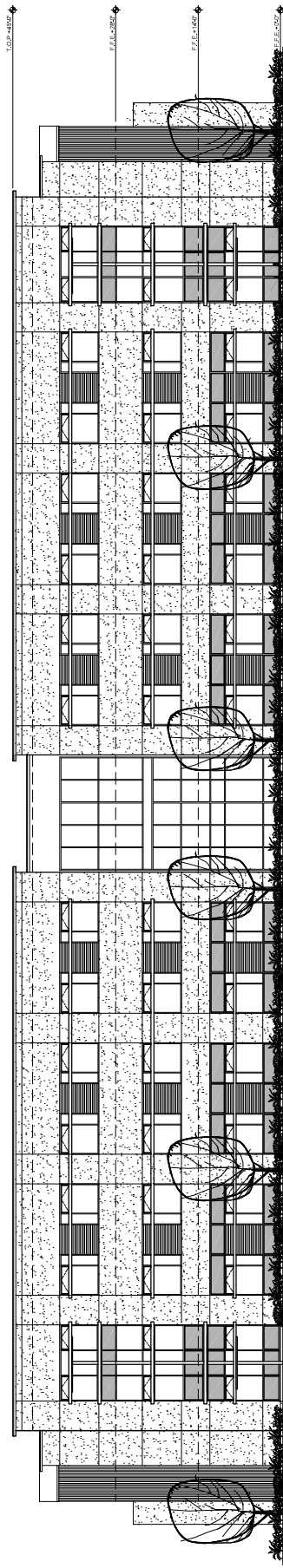
**Figure III-11**  
**Office Park Building B Elevations**



**NORTH/FRONT ELEVATION**



**EAST & WEST/RIGHT & LEFT SIDE ELEVATION**

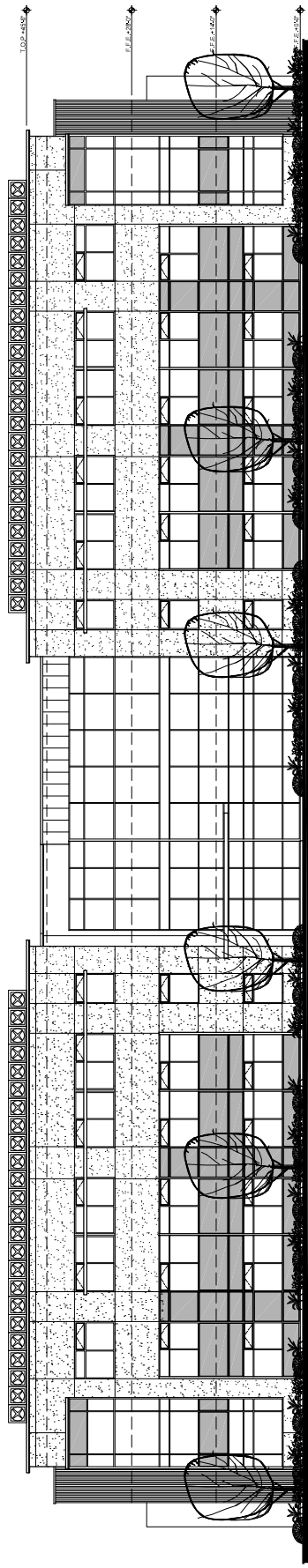


**SOUTH/REAR ELEVATION**

Source: Waid Ruhnke & Dost Architects LLP, July 2009.

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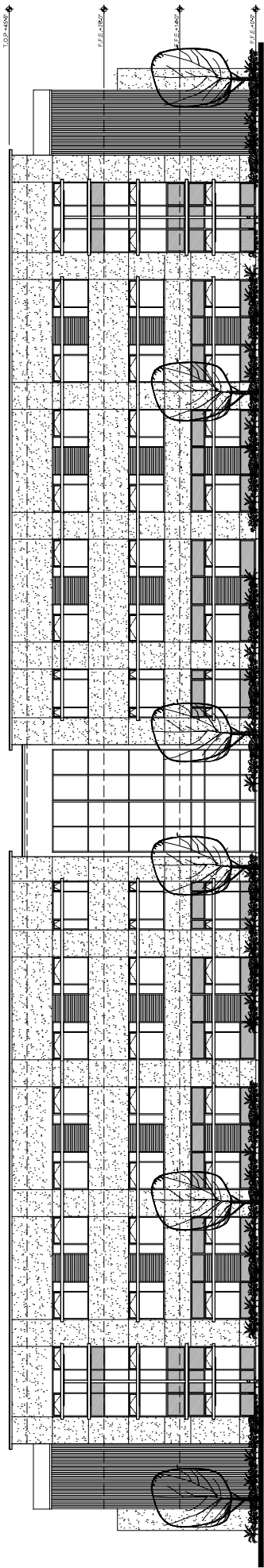
**Figure III-12**  
**Office Park Building C Elevations**



**NORTH/FRONT ELEVATION**



**EAST & WEST/RIGHT & LEFT SIDE ELEVATION**

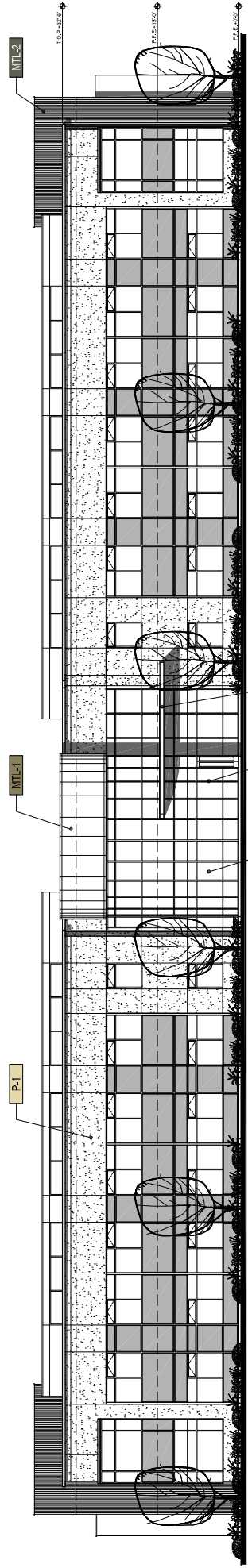


**SOUTH/REAR ELEVATION**

Source: Waid Ruhnke & Dost Architects LLP, July 2009.

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**Figure III-13**  
**Office Park Building D Elevations**



**BIG WAVE OFFICE PARK EXTERIOR ELEVATION**

**Legend**

**SCHEME 2 – BIG WAVE OFFICE PARK**

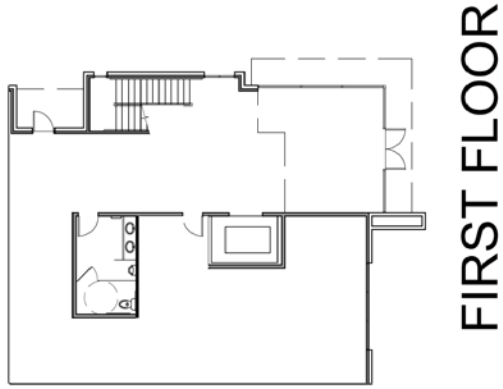
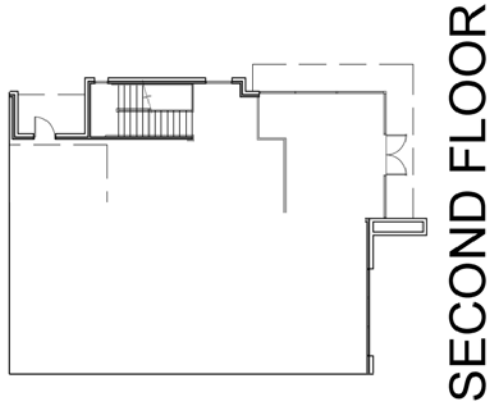
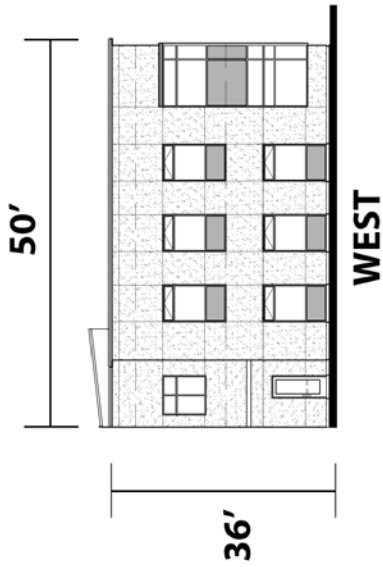
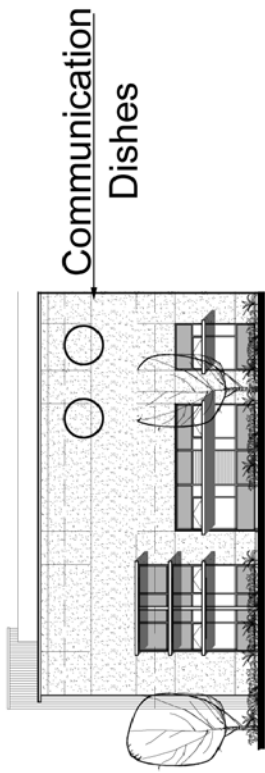
<p><b>P-1</b> P-1 PAINT SHERWIN WILLIAMS SW7723 COLONY BUFF</p> 	<p><b>MTL-1</b> MTL-1 PANEL FIRESTONE - UNACLAD SIERRA TAN</p> 	<p><b>MTL-2</b> MTL-2 CORRUGATED METAL WALSH - UNACLAD SLATE GRAY</p> 	<p><b>MTL-3</b> MTL-3 CANOPY FIRESTONE - UNACLAD COLONIAL RED</p> 	<p><b>ST-1</b> ST-1 GLASS KAWNEER CLEAR ANODIZED</p> 	<p><b>GL-1</b> GL-1 GLASS KAWNEER SOLARGRAY</p> 
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Source: Waid Ruhmke & Dost Architects LLP, July 2009.



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**Figure III-14**  
**Office Park Exterior Finishes Materials**



Source: MacLeod and Associates, July 28, 2008.

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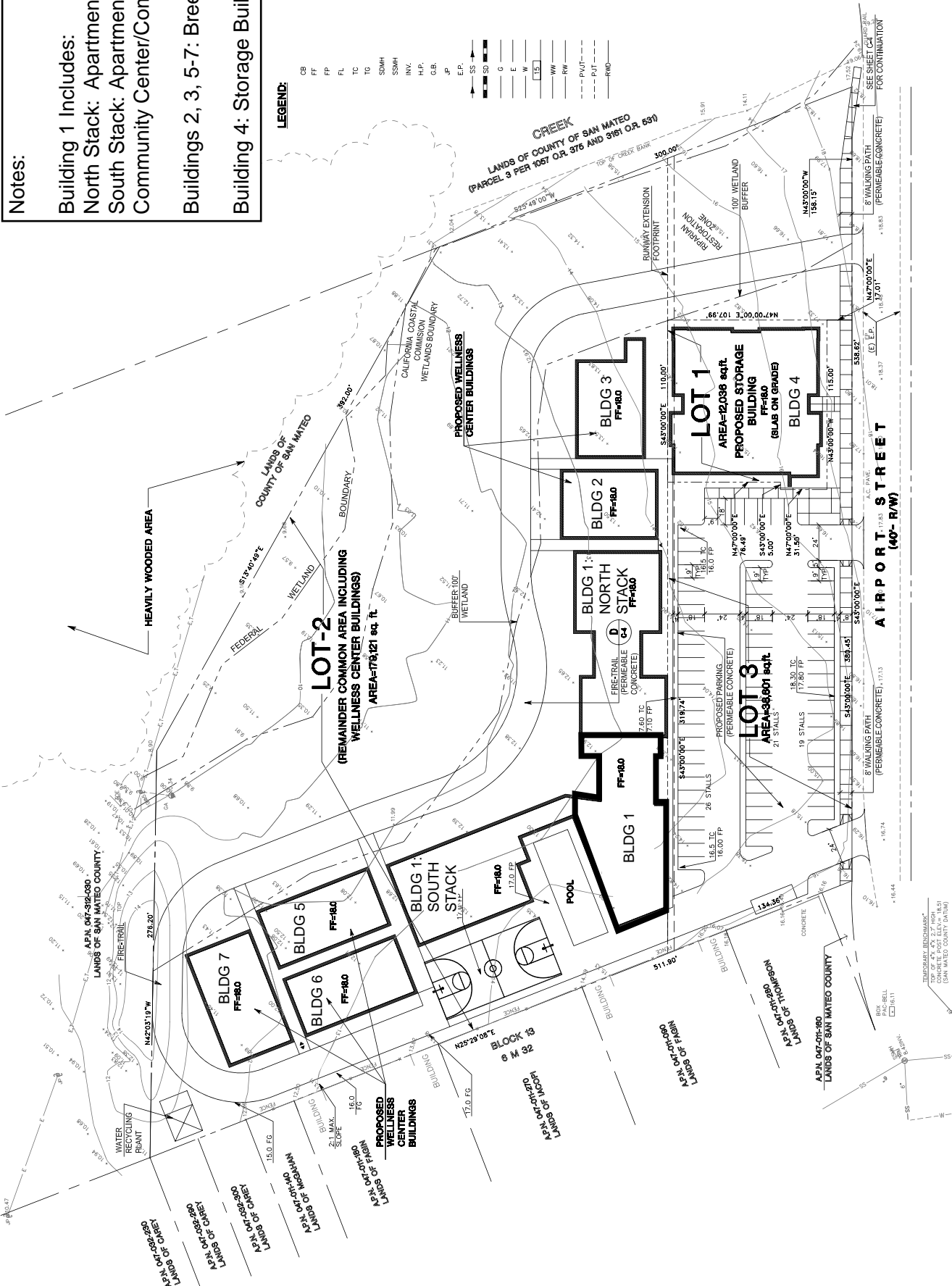
**Figure II-15**  
 Office Park Property Communications Building

**Notes:**

- Building 1 Includes:
  - North Stack: Apartment Units
  - South Stack: Apartment Units
  - Community Center/Common Area
- Buildings 2, 3, 5-7: Breezeway Units
- Building 4: Storage Building

**LEGEND:**

- CB CATCH BASIN
- FF FINISHED FLOOR ELEVATION
- FP FINISHED PAVEMENT
- FL FLOWLINE
- TC TOP OF CURB
- TG TOP OF GRATE
- SDMH STORM DRAIN MANHOLE
- SSMH SANITARY SEWER MANHOLE
- INV. INVERT
- H.P. HIGH POINT
- CB. GRADE BREAK
- JP. JOINT POLE
- EP. EDGE OF PAVEMENT
- NS SANITARY SEWER LINE
- NSD NEW STORM DRAIN LINE
- G GAS LINE
- E ELECTRIC LINE
- W WATER LINE
- NEW NEW CONTOUR LINE
- WELL WATER
- WW RECYCLED WATER
- PWT PRIVATE JOINT TRENCH
- PJT PUBLIC JOINT TRENCH
- RWD RAINWATER DRAIN FOR ROOF RUNOFF



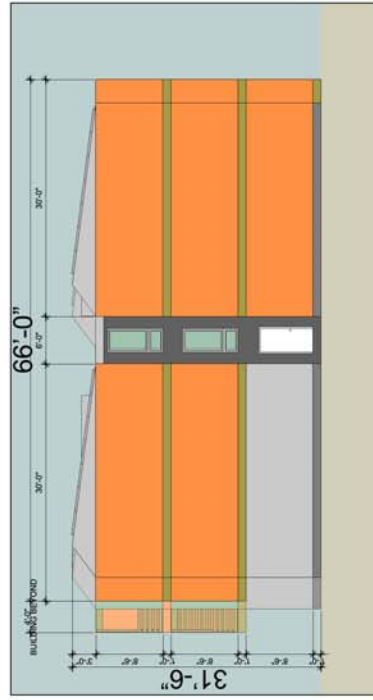
**Figure III-16**  
Wellness Center Property Site Plan

Source: Macleod and Associates, April 7, 2009.



NORTH STACK - SOUTHWEST ELEVATION

3



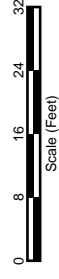
NORTH STACK - NORTHWEST ELEVATION

2



NORTH STACK - NORTHEAST ELEVATION

1



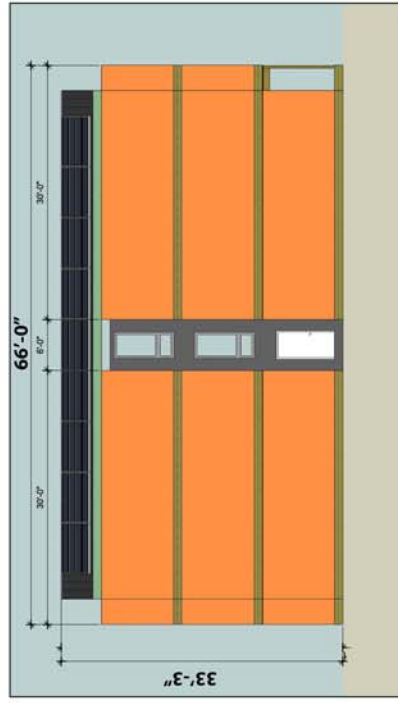
Source: Michelle Kaufman Designs, June 20, 2008.





SOUTH STACK - WEST ELEVATION

3



SOUTH STACK - SOUTH ELEVATION

2



SOUTH STACK - EAST ELEVATION

1



Source: Michelle Kaufman Designs, June 20, 2008.

CHRISTOPHER A. JOSEPH & ASSOCIATES  
Environmental Planning and Research

Figure III-18  
Wellness Center, Building 1 (South Stack) Elevations



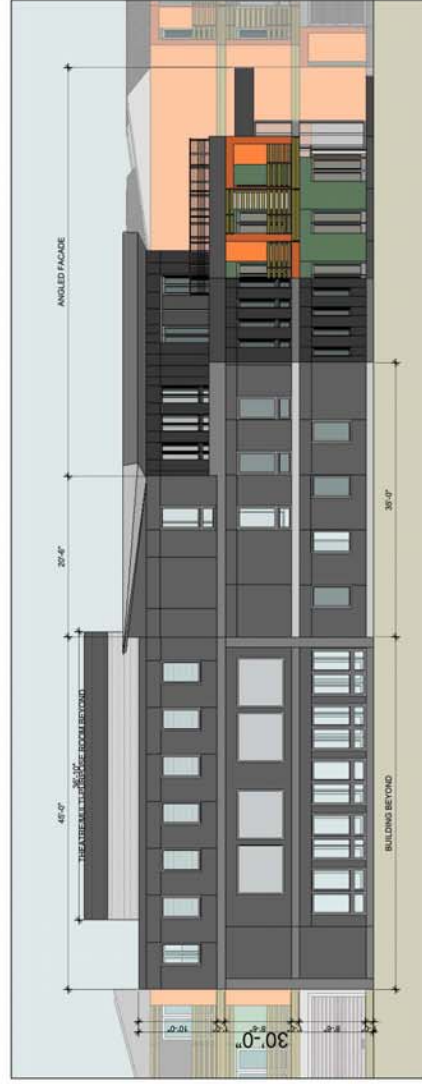
NORTHEAST ELEVATION

3



SOUTH ELEVATION

2



EAST ELEVATION

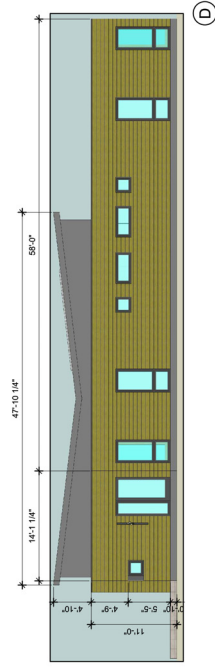
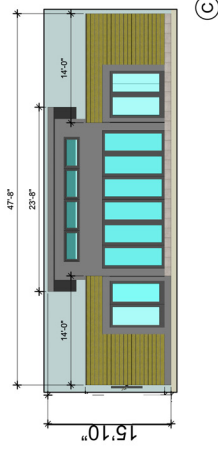
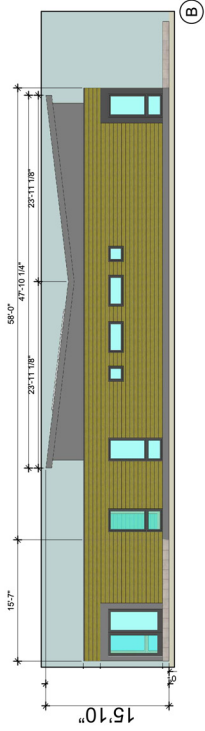
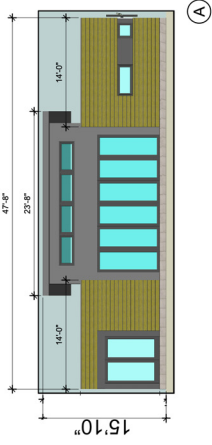
1



Source: Michelle Kaufman Designs, June 20, 2008.

CHRISTOPHER A. JOSEPH & ASSOCIATES  
Environmental Planning and Research

Figure III-19  
Wellness Center, Building 1  
(Community Center/Common Area) Elevations



TYPICAL BREEZEWAY UNIT ELEVATIONS

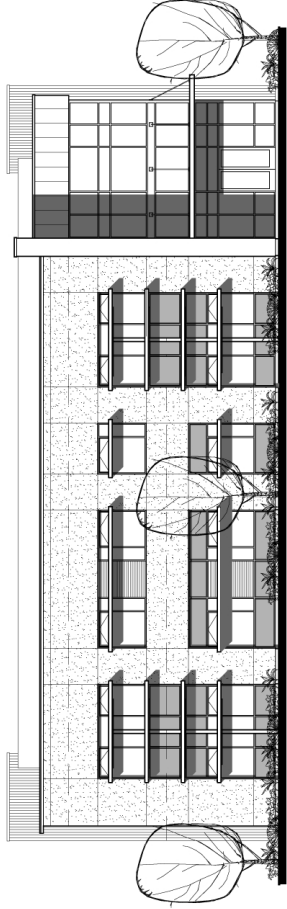
TYPICAL NARROW BREEZEWAY UNIT ELEVATIONS



Source: Michelle Kaufman Designs, June 20, 2008.

CHRISTOPHER A. JOSEPH & ASSOCIATES  
Environmental Planning and Research

Figure III-20  
Wellness Center, Breezeway Units Elevations

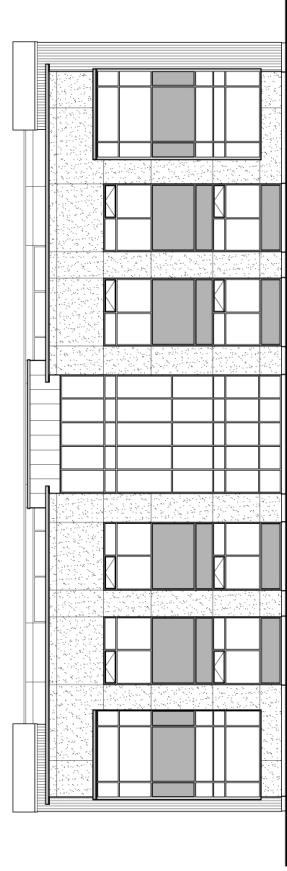


**PROPOSED STORAGE BUILDING - SOUTH**



MAXIMUM  
HEIGHT  
36'

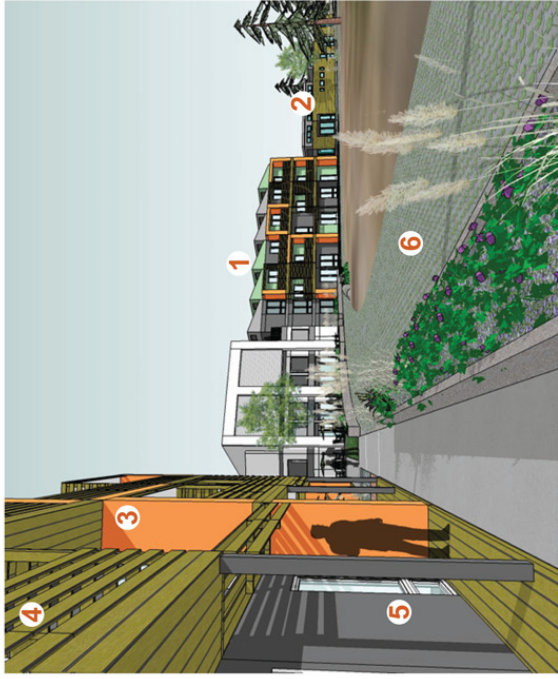
**PROPOSED STORAGE BUILDING - EAST**



**PROPOSED STORAGE BUILDING - NORTH**



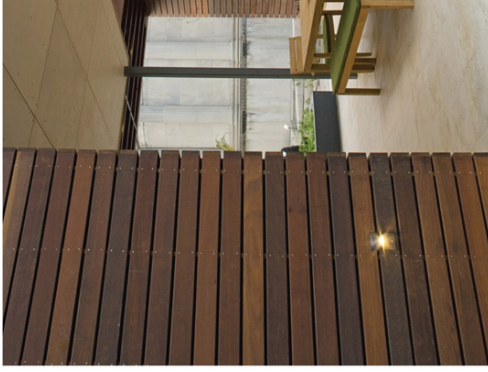
Source: Wald, Ruhnke, and Dost, May 8, 2008.



1. standing seam roofing



2. cedar siding



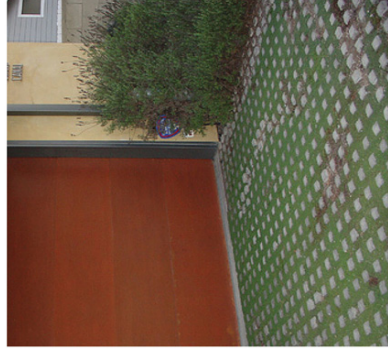
4. ipe



3. stucco



5. cement board



6. grasscrete



1. standing seam roofing

2. cedar siding

3. stucco

4. ipe

5. cement board

6. grasscrete

Source: Michelle Kaufman Designs, 2008.

### *Residential Component*

The proposed residential units within the Center would include a maximum of 70 apartment style and single-story style units (“breezeway units”)<sup>1</sup> for use by up to 50 DD residents and 20 staff members. Per the applicant, the definition of a residential unit is one that can be owned or rented by a DD resident or provided by Big Wave Group, Inc., for staff housing. It is the intent that the majority of the units would be owned by DD residents. At this time it has not been determined specifically where the staff aides would be located; however, this decision would be based on individual resident needs and would be determined once the facility accepted residents. The basic units available for both the apartments and the single-story style units would include approximately 400-sf single bedroom units with bathrooms. The proposed unit types are discussed in detail below while Table III-4 provides a breakdown of the total residential units and associated residents/staff. Public and residential access to the Wellness Center would be through the proposed reception/lobby areas located on the east side of the apartments near the parking lot (refer to Figure III-16).

#### Apartment Units (Building 1, north and south stack)

These structures would be approximately three stories high, housed within the proposed north and south stacks within Building 1, built around the proposed Wellness Center common areas. The apartment living units would contain housing for up to 50 residents/staff members. The units would be available in four types: (1) a single unit (one bedroom/bathroom module); (2) a double unit (one bedroom/bath module with separate living room and dining room/kitchen area); (3) a three unit (two - 1 bedroom/bath modules with separate living room/kitchen area); and (4) a four unit (two - 1 bedroom/bath modules, a separate living room (media/sitting area), and a separate kitchen/dining room). The proposed number of abovementioned units would include: 19 single units, 11 double units, 5 triple units, and 2 four units; for a total of 37 units. However, per the applicant, there is the potential to convert the 11 double units into 22 additional single units, and the 2 four units into 2 triple units and 2 single units. This conversion would yield an additional 13 units for a maximum total of 50 apartment units. Overall, these units would be suited for living with attendants or aides. Refer to Figures III-17 and III-18.

#### Single-Story Style Units (Breezeway Units; Buildings 2, 3, 5-7)

The breezeway units would be one-story in height. Residents would be able to purchase one, two, three or four bedroom/bathroom modules to make a living unit. Each one bedroom/bathroom module would be approximately 400 sf and would comprise the most basic building unit available for DD residents. Other options would include: adding a common area that could be opened to the outside (an interior courtyard or breezeway), which would function as a living room, recreation room, or dining room; and/or adding a kitchen module. The largest building unit available would include the four bedroom breezeway units (“fourplexes”; with four – 1 bedroom/bath modules and a shared common living area and kitchen), which

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<sup>1</sup> Per the applicant, for the breezeway units, DD residents would own their own air space (townhouse concept) and have shared common area.

would be approximately 2,500 sf each. Five breezeway units would be constructed from 20 bedroom modules and 4 kitchen modules. The breezeway units would house up to 20 residents/staff aides. The breezeway units would be a shared living space and would be more suited for independent living. Refer to Figure III-20.

**Table III-4  
Proposed Wellness Center Residential Component<sup>1</sup>**

Type of Unit	Number of Bedrooms (per unit type)	Total Number of Units <sup>2</sup>
<b>Scenario 1</b>		
<i>Apartment Units</i>		
Single Unit	1	19
Double Unit	1	11
Triple Unit	2	5
Four Unit	2	2
	<b>Subtotal</b>	<b>37</b>
<i>Breezeway Units</i>	4	20
	<b>Total</b>	<b>57 units</b>
<b>Scenario 2 (Potential Conversion of Double Units to Single Units and Four Units to Triples/Singles)</b>		
<i>Apartment Units</i>		
Single Unit	1	43
Triple Unit	2	7
	<b>Subtotal</b>	<b>50</b>
<i>Breezeway Units</i>	4	20
	<b>Total</b>	<b>70 units</b>
<i>Notes:</i> <sup>1</sup> The Apartment units will vary from 37 to 50 depending on the unit configurations (Breezeways remain the same). Therefore, the total proposed residential units (Apartment and Breezeway) will vary from 57 to a maximum of 70 that can be individually owned. Overall, to allow for this flexibility, the EIR impact analysis is based on the worst case scenario (i.e., maximum total 70 residential units with 70 residents/staff). <sup>2</sup> Proposed project includes one person per unit.		

*Associated Facilities*

Common Areas

The common areas would provide additional living amenities to the onsite residents/staff and would be located within the central portion of Building 1 (between the south and north stacks) and south of Building 1 (refer to Figure III-16). Those amenities associated with the common areas would include: a 12,601 sf outside basketball court and game space, administrative offices, commercial kitchen, dining facilities, living room/recreation room, and multipurpose auditorium. The basketball court would be constructed from the same porous concrete as the parking lot, would be striped like the parking lot, and would be a full size standard basketball court. All BW Group administrative offices would be located within the common areas of Building 1. The first floor of the common areas within Building 1 would feature a commercial kitchen, as well as dining facilities that surround the Pool Building area. The second floor would include additional offices for Wellness Center staff and volunteers, while the third

floor would consist of a living room/recreation room and a multipurpose auditorium for performing arts, large meetings and movies.

### Community Center

The approximately 5,326 sf “community center” facilities would be located within the central portion of Building 1 and south of Building 1 (refer to Figure III-16) and would include a pool (25 yard by 32 foot indoor pool, located in 3,464 sf Pool Building) and fitness center and locker rooms (located in Building 1 “south stack”). These community center associated amenities would be available to the Center residents, staff and Coastside public.

### Laundry, Maintenance/Janitorial

Maintenance storage and janitorial rooms would be located on the first floor within the north stack of Building 1 and would be utilized for storage of cleaning supplies, landscaping equipment and other uses. Commercial laundry service facilities (approximately 745 sf) would also be made available within the first floor of the north stack within Building 1. Laundry use would be for residents and provide a drop-off service for the Office Park workers as a source of revenue to the Wellness Center residents. The laundry facilities would be maintained by BW Maintenance.

### Storage Facilities

The proposed 20,000 sf storage facility associated with the Wellness Center would be located within the Half Moon Bay Airport Overlay (AO) setback but outside of the wetlands buffer zone (Lot 1 or Building 4; refer to Figures III-16 and III-21). The AO setback is the required distance setback from the airport runway approaches. Only parking, storage, commercial and industrial structures with occupancies of less than one person per 3,000 sf are allowed within the airport runway setback per County Zoning Regulations. The proposed storage building would also have a 20-foot front setback from the Airport Street Right-of-Way (ROW) line. The Big Wave Group may sell the storage building to a private firm to help fund the construction of the Wellness Center or the building would be retained by Big Wave Group and would be rented out to the local Coastside community to provide a necessary source of ongoing revenue for the Wellness Center.

### Fencing

Habitat, fire access and emergency access fencing and gates would be installed for the Wellness Center property and would run along a northern section of the AO setback (refer to Figure III-24). A six-foot tall willow wattle fence would surround the Wellness Center Facility. The willow wattle fence is a growing fence constructed of woven willow branches that limits human passage, but allows wildlife passage. It would be constructed of planted living willow branches that are 1 to 3 inches in diameter and 3 feet to 6 feet in length. Willow branches would be driven into the ground with a hammer woven into a wattle to form a living fence. A six-foot tall landscaped fence (planted with native vines and berries) would also run north and adjacent to the two northern breezeway units (Buildings 2 and 3). The



landscaped fence would be designed to discourage scaling and to provide security. Two 4 foot high habitat gates would be located along the landscaped fence between the two northern breezeway units and would be designed to be architecturally consistent with the Wellness Center, with fencing material including a wrought-iron and picket style. Further, the adjacent wetland habitat would be protected by permanent habitat fencing consisting of a 3 to 4 foot high concrete wall (constructed by linking the exposed foundation walls), a 4-foot high fabric existing chain link fence, and two 4 foot high habitat gates. Appropriate fabric installed in areas between the concrete barriers would separate walkways from the wetlands habitat. The gates would be designed to be opened for fire access, but when closed, the fabric would limit passage for frogs and reptiles. Further, two lock box access points would be available to allow fire trucks access to the proposed walking trail behind the Wellness Center (trails discussed in detail below under Open Space and Recreation), including: (1) a habitat gate between the common area within Building 1 and the southeast property line; and (2) a fire access gate along the northern entry point near the AO setback line.

### Dog Walking/Grooming

Wellness Center residents would potentially offer dog walking and grooming services to Office Park employees who bring their dogs to work, thus providing job opportunities for the Wellness Center residents. If implemented, one unit totaling approximately 372 sf facing east within the first floor of Building 1 would be made available for these services.

### *Organization, Programs, Employment Options*

The Wellness Center would offer its residents a variety of services, including job opportunities due to a number of business operations that would employ residents, and, in some cases, generate revenue to maintain the economic sustainability of the Wellness Center. This includes the proposed: BW Catering/Food Services; BW Energy; BW Farming; BW Water; BW Transportation; BW Recycling; BW Communications (Fiberlink); and BW Maintenance. The Wellness Center would also provide residential services (personal finance, meal services and aides).

### BW Catering/Food Services

BW Catering/Food Services would operate a commercial kitchen and lunch service deli within the common area of Building 1 to serve Office Park employees, residents and guests. They would sell BW's free-range chicken, eggs, yogurt and ice cream for use in local restaurants and stores. A weekly Farmer's Market in the Office Park parking lot may occur, as well as the opening of a local sales outlet with organic yogurt and ice cream available. If this is implemented, one of the offices within Building 1 next to the kitchen would be utilized for this sales outlet. Additionally, an on-site "BW Store" may be developed, which would serve the residents with basic grocery needs. The store would be located in one of the office spaces or storage spaces within the common area or north stack in Building 1. The Catering operation would require one full time dietician and 4 full time residents of the Wellness Center.

### BW Energy

BW Energy would include up to 600 kilowatts (kW) of solar voltaic, one to three million British thermal unit (BTU) per hour of solar heating, one million BTU per hour of geothermal/evaporative cooling, and up to 100 kW of wind power. They would also own and operate natural gas engine generator (up to a 600 kW) designed for peak shaving<sup>2</sup> and 5 kW of natural gas fuel cells for backup communications. Maintaining this system would generate four full time jobs for residents at the Wellness Center. Additional details are discussed further in the Utilities & Service Systems Section of the DEIR.

### BW Farming

BW Farming would operate and farm the following: (1) 12 acres of row crops (within an offsite location adjacent to the Half Moon Bay Airport, Airport Street and SR 1; (2) a 5-acre onsite native plant nursery; and (3) an existing 20-acre offsite farm (located on Lobitos Creek Road) which is also not a part of the project. The 12 acres of land proposed for use in row crops would be located immediately east of the Wellness Center property within an existing farm; would be leased by BW; and would produce conventional (organic) produce. The native plant nursery would include two onsite 8,000-sf potting yards where approximately 30,000 pots would be raised outdoors under irrigation (no associated structures); one located in the east corner of the Office Park property and one located in the north east corner of the Wellness Center property. This nursery would continue to supply about 15,000 to 30,000 native plants per year for restoration projects along the coast. The 20-acre farm is an existing farming and cattle operation that would be leased by BW and converted to a long-term, sustainable organic farm. This farm would include free-range poultry for organic eggs and fryers; free-range livestock for organic milk, yogurt and ice cream; and hay and vegetable crops. Dairy, poultry and farm produce would be processed in the commercial kitchen located within Building 1. This operation will be capable of generating up to 5,000 dozen eggs per year; 1,000 pounds of organic free-range chicken; 2,000 gallons of organic milk from free-range cows; 1,000 gallons of organic yogurt; 1,000 gallons of ice cream; and 5 tons of fresh produce. The BW Farming operations would provide potential employment opportunities for the DD residents (approximately 10 residents of the Wellness Center), one farm manager fulltime, as well as 10 percent of a farmer's time.

### Treatment and Recycling BW Water

BW Water would operate the potable water distribution, the water recycling system, and irrigation water supply for the Office Park and the Wellness Center properties. The private water distribution system would provide for fire suppression, potable water, recycled water, agricultural well water, wetlands restoration water, and irrigation water. The potable water would either be purchased from Coastside County Water District (CCWD) if available or reverse osmosis (RO) treated well water. The agricultural

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<sup>2</sup> Peak shaving is defined as the reduction of the amount of electricity drawn from a power utility during utility designated peak time periods. Peak shaving methods may include the installation of generators or energy saving devices, or may simply involve reducing usage during peak hours.  
<http://www.intota.com/experts.asp?strSearchType=all&strQuery=peak+shaving>

irrigation would include infiltrated rainwater, agricultural well water, and recycled gray and black water (tertiary treated wastewater). The water system would require a part time operator (800 hours per year) and 4 full time residents. Additional details are discussed further in the Utilities & Service Systems Section of the DEIR.

#### BW Transportation

BW Transportation would provide the following: collecting fees for potential event parking, parking at the Office Park; and bus services for the residents and Office Park commuters. They would also provide transportation to DD residents to offsite events and places of employment, as well as and transport of food and produce to market. BW Transportation may utilize DD residents as employees and its own equipment or use contractors. BW Transportation would require one full time bus driver and 3 full time employees.

#### BW Recycling

BW Recycling would promote the purchase of recyclable materials and supplies for the Wellness Center and Office Park. They would collect and sort all metal, plastic, glass, and paper recyclables, and compost food and landscape waste. Compost that meets organic standards would also be used in the proposed farming operations. Non-organic compost would be used in landscape operations. The recycling operation would employ a part time manager (300 hours per year) and 4 full time residents. There would be an indoor recycling room in each office building and a recycling facility at the Wellness Center. Composting would occur in the Communications Building for the Office Park.

#### BW Communications

BW Communications would provide Internet and telephone communications for the Wellness Center and Office Park through its employees and contractors. The Communications systems would employ a part time technician (200 hours per year) and 3 full time residents.

#### BW Maintenance

BW Maintenance would provide maintenance services for the Office Park and Wellness Center facilities and all onsite Office Park and Wellness Center business operations. They would also provide laundry services for the Office Park and Wellness Center. Maintenance services may be expanded into surrounding marine, residential and commercial facilities. One full time facilities manager would be required and 5 full time residents of the Wellness Center would be hired.

### **Open Space, Recreation, and Restoration**

The proposed open space, recreation, and restoration features within the Office Park and Wellness Center properties include the following: onsite walkways/trails, recreation/common area facilities, and restoration of surrounding wetlands utilizing native plants produced onsite via the 5-acre native plant nursery. Additional details for these amenities are discussed below:

**Onsite Walkways/Trails**

The total area of proposed onsite walkways/trails for the Office Park and Wellness Center properties is approximately 1.6 acres. Refer to discussion below, Table III-5, as well as Figures III-9 and III-16.

**Table III-5  
Office Park and Wellness Center Properties  
Proposed Walkways/Trails**

Type	Size (sf)
<b>Office Park Property</b>	
Multipurpose Walkway/Trail (Airport Street)	14,000
Wetlands Trail	24,000
North Trail leading to Headlands	15,000
<b>Subtotal</b>	<b>53,000</b>
<b>Wellness Center Property</b>	
Multipurpose Walkway/Trail (Airport Street, portion included above)	--
Wetlands Trail	18,000
<b>Subtotal</b>	<b>18,000</b>
<b>Total Walkways/Trails</b>	<b>71,000 (or 1.6 acres)</b>
<i>Notes: sf = square feet.</i>	
<i>Source: Big Wave, LLC, Facilities Plan: Draft #2, Big Wave Property, January 2009.</i>	

**Office Park Property**

As shown in Figure III-9, there are three walkways/trails proposed for development within the Office Park property, including: (1) a portion of the multipurpose bike/pedestrian trail proposed to run along Airport Street (extending from the Office Park property to the Wellness Center property); (2) a proposed wetlands trail for viewing restored wetland areas; and (3) a “North Trail” which would run along the northern portion of the property connecting to the wetlands trail. The proposed wetlands trails would be approximately 24,000 sf (1,200 feet long and 20 feet wide). The Airport Street multipurpose trail would be 14,000 sf (including the portion in front of the Wellness Center property) or 1,700 feet long and 8 feet wide. The North Trail would be 15,000 sf (including the roughly 50 sf area located to the west of the Mobile Home Park) or 750 feet long and 20 feet wide. All trails within the Office Park area would be designed to be Americans with Disabilities Act (ADA) compliant. The proposed trails within the Office Park property would be available to the public and would be paved with porous concrete.

**Wellness Center Property**

As shown in Figure III-16, there are two walkways/trails proposed for development within the Wellness Center property, including: (1) a portion of the multipurpose bike/pedestrian trail proposed to run along Airport Street (extending from the Office Park property to the Wellness Center property, mentioned

above); and (2) a trail along the edge of the Wellness Center allowing for access to the wetland restoration areas. These onsite walkways/trails would allow pedestrian and wheelchair access between the proposed Wellness Center and the Office Park properties. The wetlands trail would be designed to be ADA compliant and would be approximately 18,000 sf (900 feet long and 20 feet wide). The trail would be paved with porous concrete for wheel chair accessibility and would provide fire access to both sides of all proposed buildings on the site. The proposed wetlands trail within the Wellness Center Property would be private, while all other trails would be available to the public.

### ***Recreation***

As discussed above in the Wellness Center Facilities discussion, onsite recreational opportunities include a basketball court, movies, multipurpose rooms, indoor swimming pool and fitness center for use by the onsite residents, their guests, and staff. The Community Center facilities would include the pool, fitness center and locker rooms, which would be available to the public as well.






### ***Restoration***

The proposed project includes approximately 9 acres of wetlands restoration through the use of vegetation supplied by the proposed onsite native plant nursery. Nurseries are temporary because they will be relocated out of areas intended for wetland restoration and restoration will not occur until construction is complete. The first generation of plants from the two onsite 8,000-sf nursery sites would be used to restore the property. All planting within jurisdictional waters would be done by hand with no mechanical grading. Per the restoration plans, 47 percent of the total project site would be restored to native California wetlands. The proposed project would also establish a minimum of 100 feet of restored buffer from the boundary of delineated LCP Wetlands. The project design includes planting the abovementioned buffer as a riparian corridor and uplands coastal scrub/shrub. The total acreage of this planted buffer would be between 4 to 5 acres. No alteration or disturbance of stream beds or channel banks within the jurisdiction of the California Department of Fish and Game (CDFG) and the USACOE is proposed. The existing drainage swale, which separates the northern and southern parcels, would be maintained. A tabulation of areas proposed for restoration for both the Office Park and Wellness Center properties is included below (refer to Table III-6 and Figures III-23 and III-24, respectively).




**Table III-6  
Office Park and Wellness Center Properties  
Proposed Wetland Restoration Site Coverage**

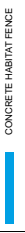
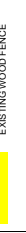
Type	Size (sf, %)
<b><i>Office Park Property</i></b>	
Restored Wetlands	226,038
Wetlands Access & North Trail	39,000
Native Plant Nursery (temporary)	8,000
<i>Total Wetlands Restoration (includes temporary)</i>	<i>273,038</i>
<i>Northern Parcel Area</i>	<i>620,841</i>
<i>Percent Wetlands Restoration</i>	<i>44%</i>
<b><i>Wellness Center Property</i></b>	
Restored Wetlands	96,749
Wetlands Access Trail	18,000
Native Plant Nursery (temporary)	8,000
<i>Total Wetlands Restoration (includes temporary)</i>	<i>122,749</i>
<i>Southern Parcel Area</i>	<i>229,779</i>
<i>Percent Wetlands Restoration</i>	<i>53%</i>
<b>Overall Total Wetlands Restoration (both parcels)</b>	<b>395,787</b>
<b>Total Parcel Area (both parcels)</b>	<b>850,620</b>
<b>Percent Wetlands Restoration (both parcels)</b>	<b>47%</b>
<i>Notes: sf = square feet.</i>	
<i>Source: Big Wave, LLC, Facilities Plan: Draft #2, Big Wave Property, January 2009.</i>	

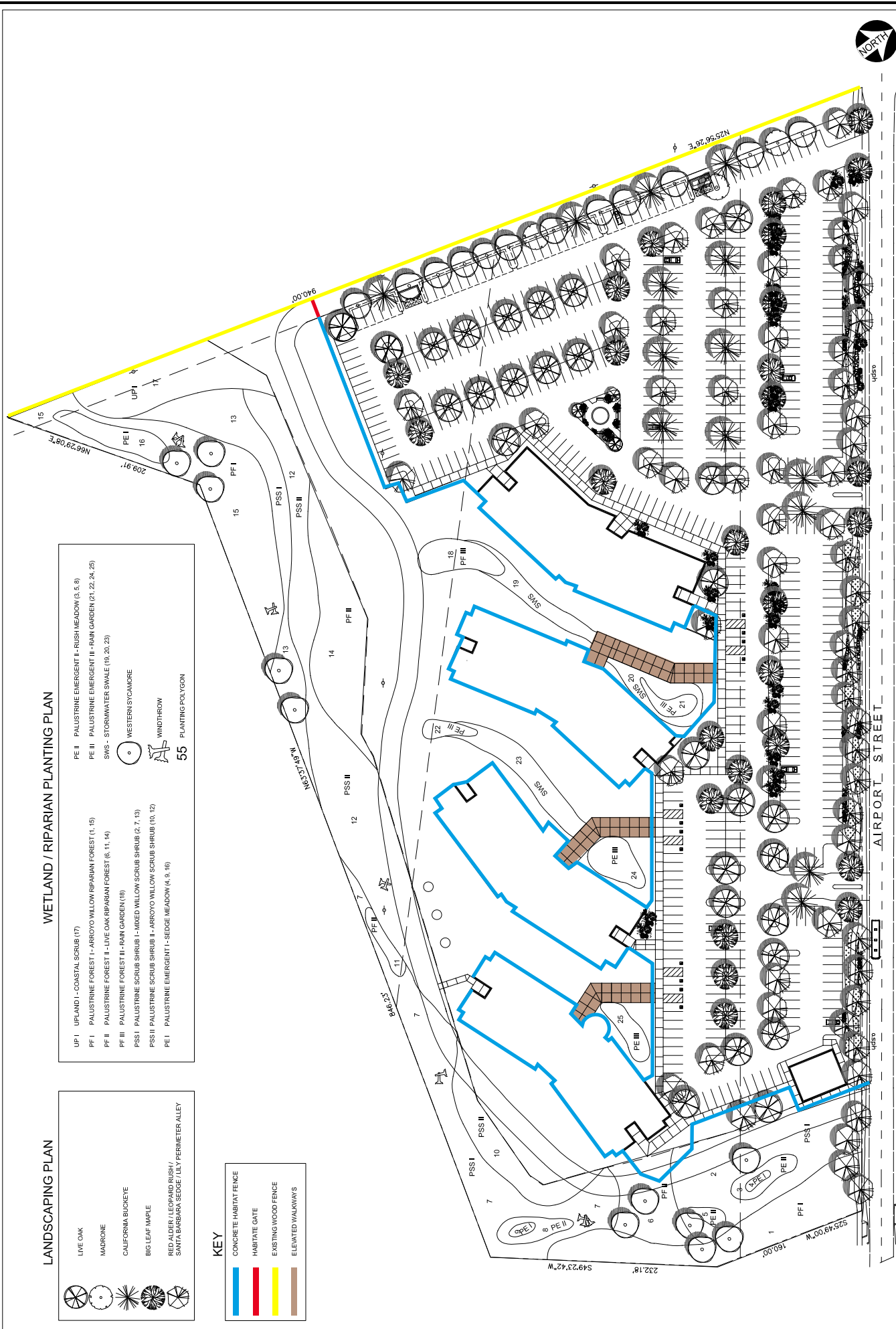
LANDSCAPING PLAN

-  LIVE OAK
-  MADRONE
-  CALIFORNIA BUCKEYE
-  BIG LEAF MAPLE
-  RED ALDER / LEOPARD BUSH / SANTA BARBARA SEDGE / LILY PERIMETER ALLEY

WETLAND / RIPARIAN PLANTING PLAN

- UP I - UPLAND I - COASTAL SCRUB (17)
- PF I - PALUSTRINE FOREST I - ARROYO WILLOW RIPARIAN FOREST (1, 15)
- PF II - PALUSTRINE FOREST II - LIVE OAK RIPARIAN FOREST (6, 11, 14)
- PF III - PALUSTRINE FOREST III - RAIN GARDEN (18)
- PSS I - PALUSTRINE SCRUB SHRUB I - MIXED WILLOW SCRUB SHRUB (2, 7, 13)
- PSS II - PALUSTRINE SCRUB SHRUB II - ARROYO WILLOW SCRUB SHRUB (10, 12)
- PE I - PALUSTRINE EMERGENT I - SEDGE MEADOW (4, 9, 16)
- PE II - PALUSTRINE EMERGENT II - RUSH MEADOW (3, 5, 8)
- PE III - PALUSTRINE EMERGENT III - RAIN GARDEN (21, 22, 24, 25)
- SWS - STORMWATER SWALE (19, 20, 23)
-  WESTERN STYCAMORE
-  WINDTHROW
-  55 PLANTING POLYGON

- KEY**
-  CONCRETE HABITAT FENCE
  -  HABITATE GATE
  -  EXISTING WOOD FENCE
  -  ELEVATED WALKWAYS



Source: Waid Ruhnke & Dost Architects LLP, July 2009.

**CHRISTOPHER A. JOSEPH & ASSOCIATES**  
Environmental Planning and Research

Figure III-23  
Office Park Property Planting Plan

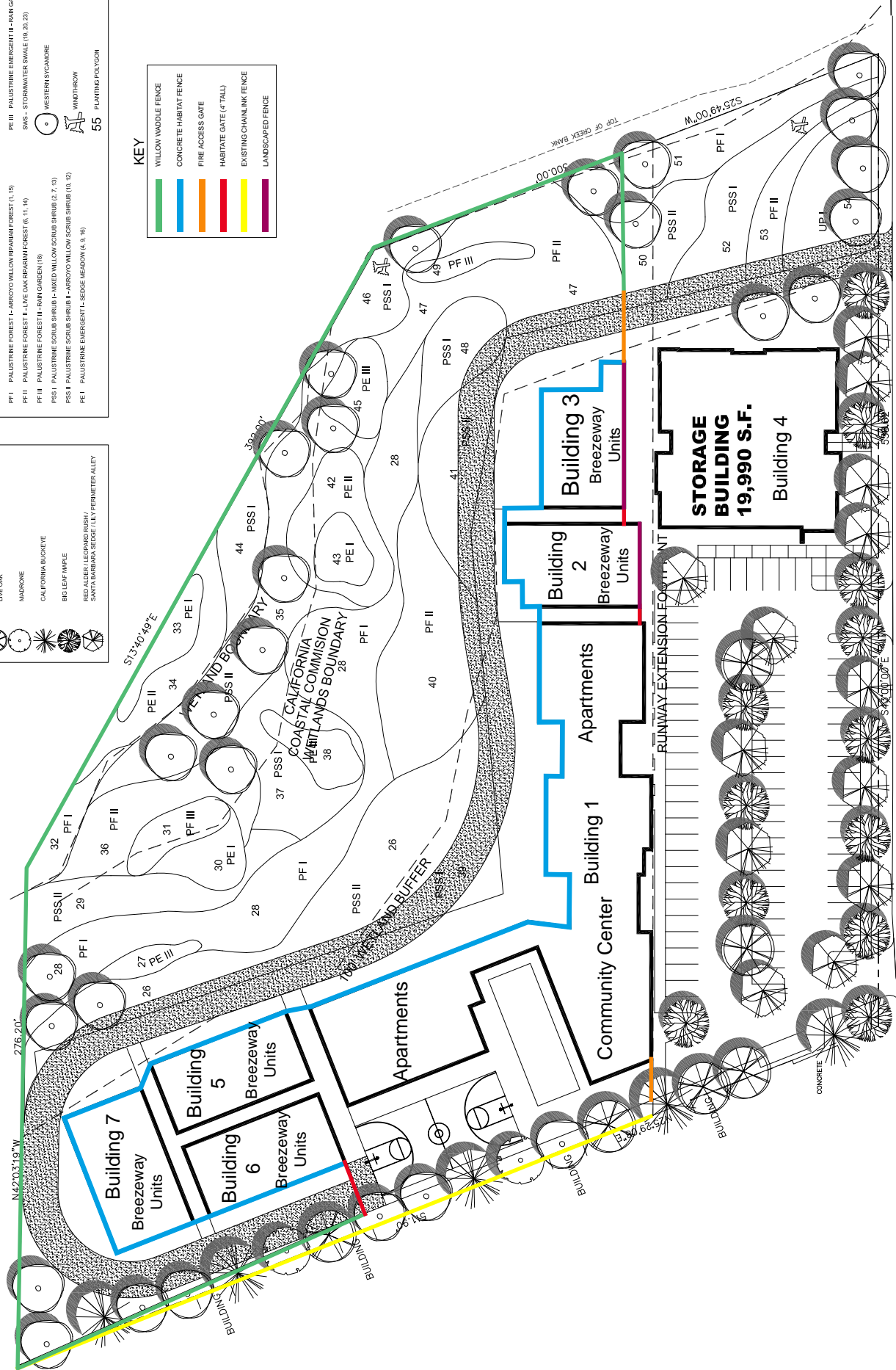
WETLAND / RIPARIAN PLANTING PLAN

- UPI I - UPLAND - COASTAL SCRUB (17)
- UPI I - PALAUSTRINE EMERGENT FL - RUSH MEADOW (3, 8, 9)
- PF I - PALAUSTRINE FOREST I - ARROYO WILLOW RIPARIAN FOREST (1, 19)
- PF II - PALAUSTRINE FOREST II - LIVE OAK RIPARIAN FOREST (8, 11, 14)
- PF III - PALAUSTRINE FOREST III - RAIN GARDEN (21, 22, 24, 29)
- PSS I - PALAUSTRINE SCRUB SHRUB I - NEED WILLOW SCRUB SHRUB (2, 7, 13)
- PSS II - PALAUSTRINE SCRUB SHRUB II - ARROYO WILLOW SCRUB SHRUB (10, 12)
- PSS III - PALAUSTRINE EMERGENT FL - SEDGE MEADOW (4, 9, 16)
- SWB - STORMWATER SWALE (19, 20, 23)
- WESTERN SYCAMORE
- WINDTHROW
- 55 PLANTING POLYGON

LANDSCAPING PLAN

- LIVE OAK
- MADROSE
- CALIFORNIA SIKKAKE
- BIG LEAF MAPLE
- RED ALDER / LEOPARD BUSH / SANTA BARBARA SEDGE / LILY PERMIER ALLEY

- KEY
- WILLOW WADDLE FENCE
  - CONCRETE HABITAT FENCE
  - FIRE ACCESS GATE
  - HABITATE GATE (4' TALL)
  - EXISTING CHAINLINK FENCE
  - LANDSCAPED FENCE



AIRPORT STREET (40'- RW)

Source: Waid Ruhnke & Dost Architects LLP, July 2009.



CHRISTOPHER A. JOSEPH & ASSOCIATES  
Environmental Planning and Research

Figure III-24  
Wellness Center Property Planting Plan



### *Office Park Property*

As shown in Table III-6, approximately 6.1 acres of permanent wetlands would be restored within the Office Park property, including the proposed wetlands trail and North Trail. With the addition of the temporary native plant nursery (8,000 sf), a total of 6.3 acres would be restored. Overall, for the 14.25-acre northern parcel, approximately 44 percent of the site would be restored and maintained as native wetlands under the proposed project (refer to Figure III-23).

### *Wellness Center Property*

The proposed wetland restoration plan for the Wellness Center property is provided on Figure III-24. The southern parcel is approximately 5.28 acres. Per Table III-6, approximately 2.6 acres of restored wetlands and wetland access trails (utilizing native plants and porous concrete) would be restored within this property, with up to 2.8 acres total with the incorporation of the onsite 8,000 sf native plant nursery. The total portion of the Wellness Center property that would be restored as wetlands under the proposed project would be approximately 53 percent. Figure III-24 also illustrates the proposed expansion of the wetlands and riparian zone of the Pillar Point Marsh into the abovementioned buffer zone and onto the Wellness Center property. The building foundations would also provide a 3-foot-tall hard edge to the wetlands restoration. The native riparian plants associated with wetland restoration would blend into the edge of the proposed buildings.

### Access and Fencing

Access to the restored wetlands would only be provided through the common area within Building 1.

As described previously under the Wellness Center fencing discussion, a willow wattle fence would be installed along the southern and western boundary of the Wellness Center property. This fence would form a living fence that would provide some security while allowing for biological permeation. A landscaped (planted with native vines and berries) fence would also run adjacent to the northern two breezeway units. The landscaped fence would be designed to discourage scaling and to provide security. Further, the adjacent habitat (i.e., wetlands) would be protected by permanent habitat fencing, which would separate walkways from the wetlands habitat. Habitat fencing during construction would be implemented to conform to Best Management Practices (BMPs) approved by the CDFG.

### **Landscaping**

Additional proposed ornamental landscaping for the Office Park and Wellness Center properties is shown on Figures III-23 and 24. All plantings would be climate and drought tolerant, native, biologically sensitive, and non-invasive. Landscaping would also be used to treat stormwater and would not require water or maintenance once mature. There would be no permanent landscape irrigation unless it would be with recycled water (see Utilities & Service Systems discussion below). All planting to the west of the Wellness Center and southwest of the Office Park and surrounding the buildings would be designed and installed in accordance with the restoration plan. All landscaping to the east of the buildings and along

Airport Street would include extensive planting of California Big Leaf Maple, Live Oak, Madrone, California Buckeye, and Red Alders, with an understory of native grass and a perennial wildflower mix.

### **Lighting**

A detailed lighting plan is not available at this time; however, it would be available at the Final Map stage and would comply with all County Ordinances, Plans, and LEED standards. At a minimum, lighting would include the parking lot areas, basketball court, security outdoor lighting, and indoor lighting. With the exception of the basketball court, all developed walkways would be illuminated with 3-foot-tall low luminosity lighting bollards that direct the lighting downward. Each bollard would have a maximum power consumption of 100 watts and a maximum coverage of a 30-foot diameter circle. The bollards would be spaced at 20 foot intervals along all paved walkways and parking islands.

### **Access, Circulation, & Parking**

#### ***Office Park Property***

##### *Site Access and Circulation*

Three ingress/egress access points would be developed along the northern boundary of the proposed Office Park parking lot, which would connect to the adjacent Airport Street. The proposed on-site walkways and trail system would provide circulation within the proposed Office Park property. Details regarding these systems are described above under the Open Space, Recreation and Restoration discussions. Additionally, approximately 18,065 sf of porous concrete sidewalks and islands would be developed within the site to accommodate pedestrian traffic.

##### *Parking*

The Office Park property would provide 640 parking spaces, 12 of which would be ADA handicap accessible, to be located within the main parking lot (refer to Figure III-9). An additional 20 spaces may be made available in the Wellness Center property for the Office Park if needed. As discussed further in Section IV.M (Transportation/Traffic), proposed parking required is based on a request for a parking exception from the County of San Mateo. In accordance with the existing ordinance of one space for every 200 sf, 737 parking spaces would be required. However, the applicant is requesting a parking exception from the County, so that only 635 spaces would be required.

**Table III-7  
Office Park Required Parking Spaces\***

<b>Proposed Use</b>	<b>Area (%)</b>	<b>Area (sf)</b>	<b>Equivalent Office Space (sf)<sup>1</sup></b>	<b>Parking Spaces Required<sup>2</sup> (200 sf/space)</b>	<b>Parking Exception<sup>3</sup> (250 sf/space)</b>
General Office	40%	90,000	90,000	450	360
Research and Development	25%	56,250	41,625	208	167
Storage	15%	33,750	11,138	0	45
Manufacturing	20%	45,000	15,750	79	63
<b>Total</b>	<b>100%</b>	<b>225,000</b>	<b>158,513</b>	<b>737</b>	<b>635</b>

Notes: sf = square feet.

\* Proposed Office Park would provide 640 parking spaces.

<sup>1</sup> As discussed in Section IV.M (Transportation/Traffic), the equivalent office space was calculated by first determining an Office Trip Equivalency Ratio (the ratio of vehicle trips for different commercial uses as compared to General Office). The proposed use area (sf) was then multiplied by the Office Trip Equivalency Ratio to quantify the equivalent office space that would generate the same number of trips.

<sup>2</sup> Current County Parking Ordinance is one space for every 200 sf of office space (or equivalent office space), 737 parking spaces are required.

<sup>3</sup> Parking exception of one space for every 250 sf of equivalent office space, 635 parking spaces are required.

Source: Big Wave, LLC, Facilities Plan: Draft #2, Big Wave Property, January 2009; Big Wave Office Park and Wellness Center Traffic Report, prepared by Hexagon Transportation Consultants, Inc., June 24, 2009.

### Parking Options

As described above, the applicant is requesting a parking exception from the County for the Office Park development. The County may agree to reduce the number of required parking spaces to one space for every 250 sf of office space equivalent. The applicant may implement the following parking options in order to reduce any impacts from the proposed parking exception (refer to Section IV.M, Transportation/Traffic for a detailed discussion).

- Implement parking procedures that result in office workers utilizing ride sharing, shuttle service to park and ride lots, and public transportation.
- Work with the County and Transit Authority to increase the San Mateo County Transit Authority Bus Service along Airport Street.
- Provide Shuttle Bus Service to the Office Park location from the Park and Ride located in Pacifica, Princeton and Half Moon Bay.
- Extend multi-purpose bike and walking trails connecting the project to parks and services. These trails may include the trail to the Post Ridge property and the multipurpose trail along Airport Street and Princeton.
- Approximately 40 percent of the available parking spaces within the parking lot would be reserved for energy efficient vehicles.

## ***Wellness Center Property***

### *Site Access and Circulation*

Two ingress/egress access points would be developed on the northeast and northwest sides of the proposed Wellness Center parking lot with access from the adjacent Airport Street. The proposed 20-foot wide wetlands trail would also provide fire access to both sides of all buildings on the site. The proposed onsite walkways and trail system would provide circulation within the proposed Wellness Center property. Details regarding these systems are described above under the Open Space, Recreation and Restoration discussions.

### *Parking*

Parking would be required for both the storage building (Lot 1) and the Wellness Center (Lot 2); therefore, the proposed parking lot (Lot 3) includes a parking and utility easement for both Lot 1 and Lot 2. This insures that both parcels even if they are separately owned would have legal access to the parking lot and utilities.

Table III-8 illustrates the parking spaces required by the County for the Wellness Center, which includes 73 parking spaces for guests, employees and services (i.e., pick-up/drop-off services) within the proposed main parking lot (refer to Figure III-16). The proposed parking assumes that all of the Wellness Center staff would live at the Center, and that the DD residents would not drive. Approximately 10 handicap, ADA-compliant parking spaces would be available within this parking lot. Given the use of the site, an additional 5 handicap spaces may be added. The parking lot would be constructed of porous concrete.

**Table III-8  
Wellness Center Property Proposed Parking Spaces**

<b>Site Area/Building</b>	<b>Spaces/Type</b>
Building 1 (Apartment Units, Common Areas, Community Center)	59 guests/employees/services
Building 2, 3, 5-7 (Breezeway Units)	4 employees
Building 4 (Storage Building)	10 services
<b>Total Parking Spaces</b>	<b>73</b>

**LEGEND:**

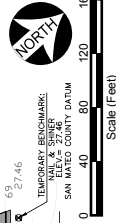
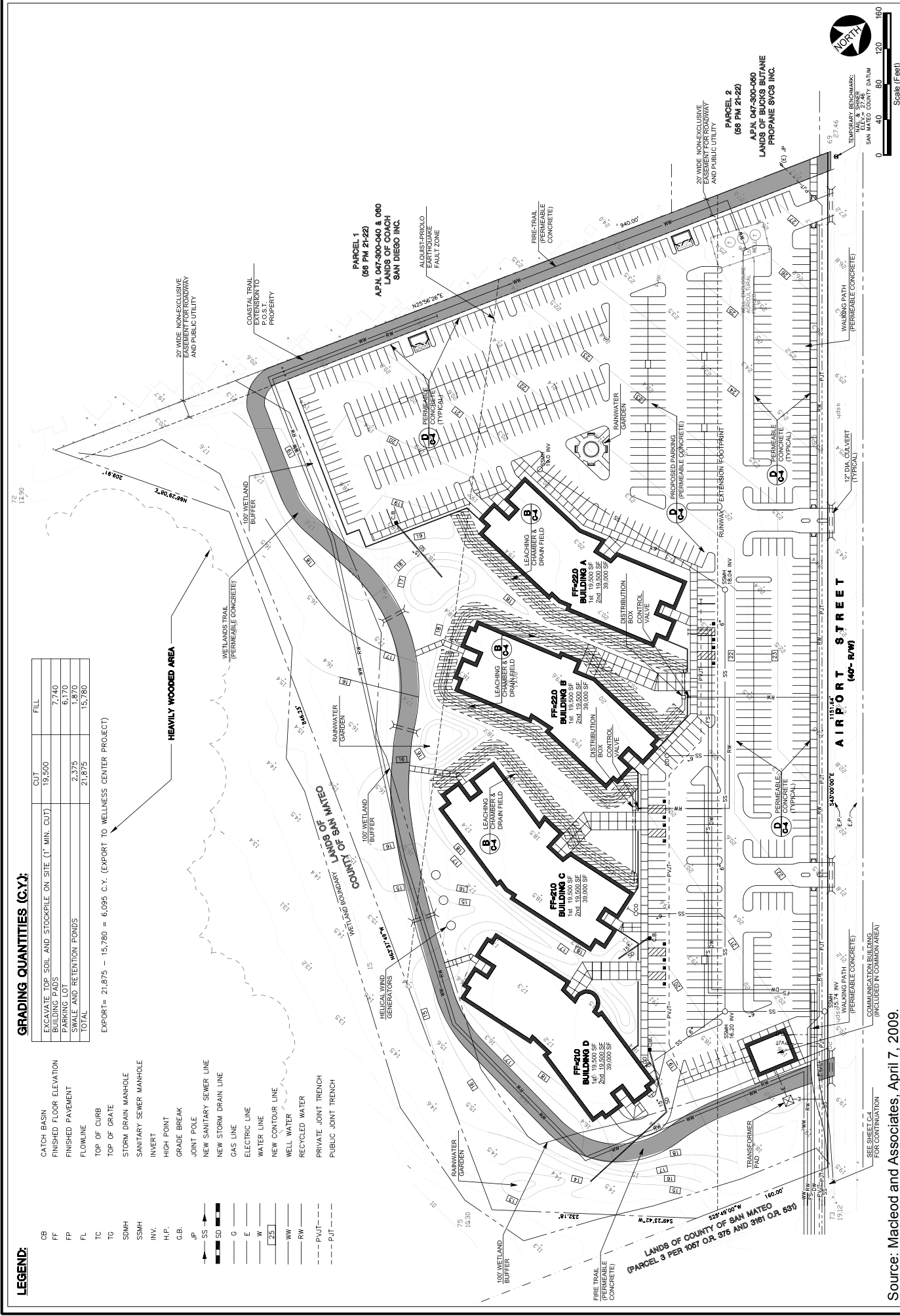
- CB CATCH BASIN
- FF FINISHED FLOOR ELEVATION
- FP FINISHED PAVEMENT
- FL FLOWLINE
- TC TOP OF CURB
- TG TOP OF GRADE
- SDMH STORM DRAIN MANHOLE
- SSMH SANITARY SEWER MANHOLE
- INV. INVERT
- H.P. HIGH POINT
- G.B. GRADE BREAK
- J.P. JOINT POLE
- SS NEW SANITARY SEWER LINE
- SD NEW STORM DRAIN LINE
- G GAS LINE
- E ELECTRIC LINE
- W WATER LINE
- ZS NEW CONTOUR LINE
- WW WELL WATER
- RW RECYCLED WATER
- PVJT PRIVATE JOINT TRENCH
- PJT PUBLIC JOINT TRENCH

**GRADING QUANTITIES (C.Y.):**

	CUT	FILL
EXCAVATE TOP SOIL AND STOCKPILE ON SITE (1' MIN. CUT)	19,500	7,740
BUILDING PADS		6,170
PARKING LOT		1,870
SWALE AND RETENTION PONDS	2,375	15,780
TOTAL	21,875	31,560

EXPORT = 21,875 - 15,780 = 6,095 C.Y. (EXPORT TO WELLNESS CENTER PROJECT)

**HEAVILY WOODED AREA**



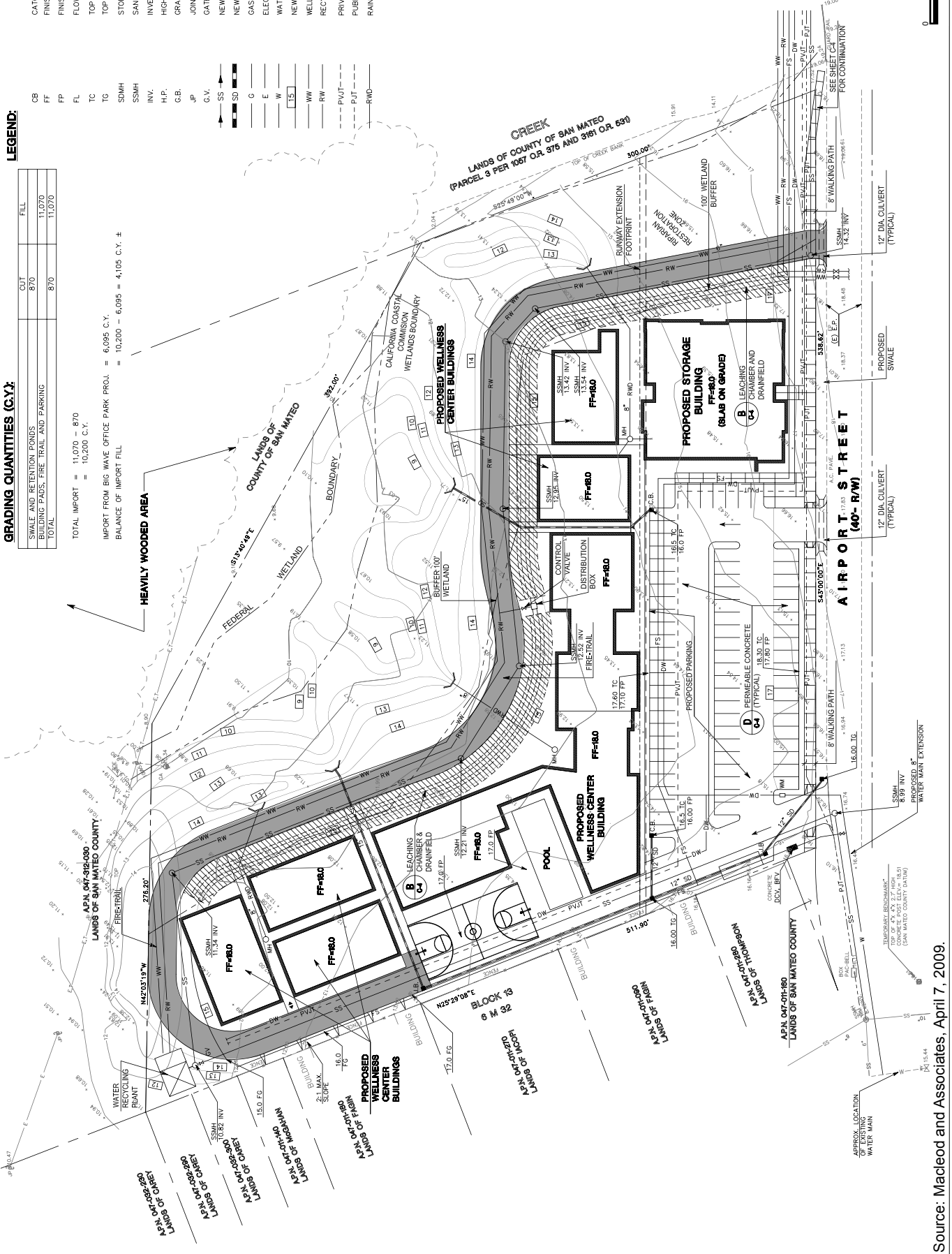
**GRADING QUANTITIES (C.Y.)**

SWALE AND RETENTION PONDS	CUT	FILL
BUILDING PADS, FIRE TRAIL AND PARKING	870	11,070
TOTAL	870	11,070

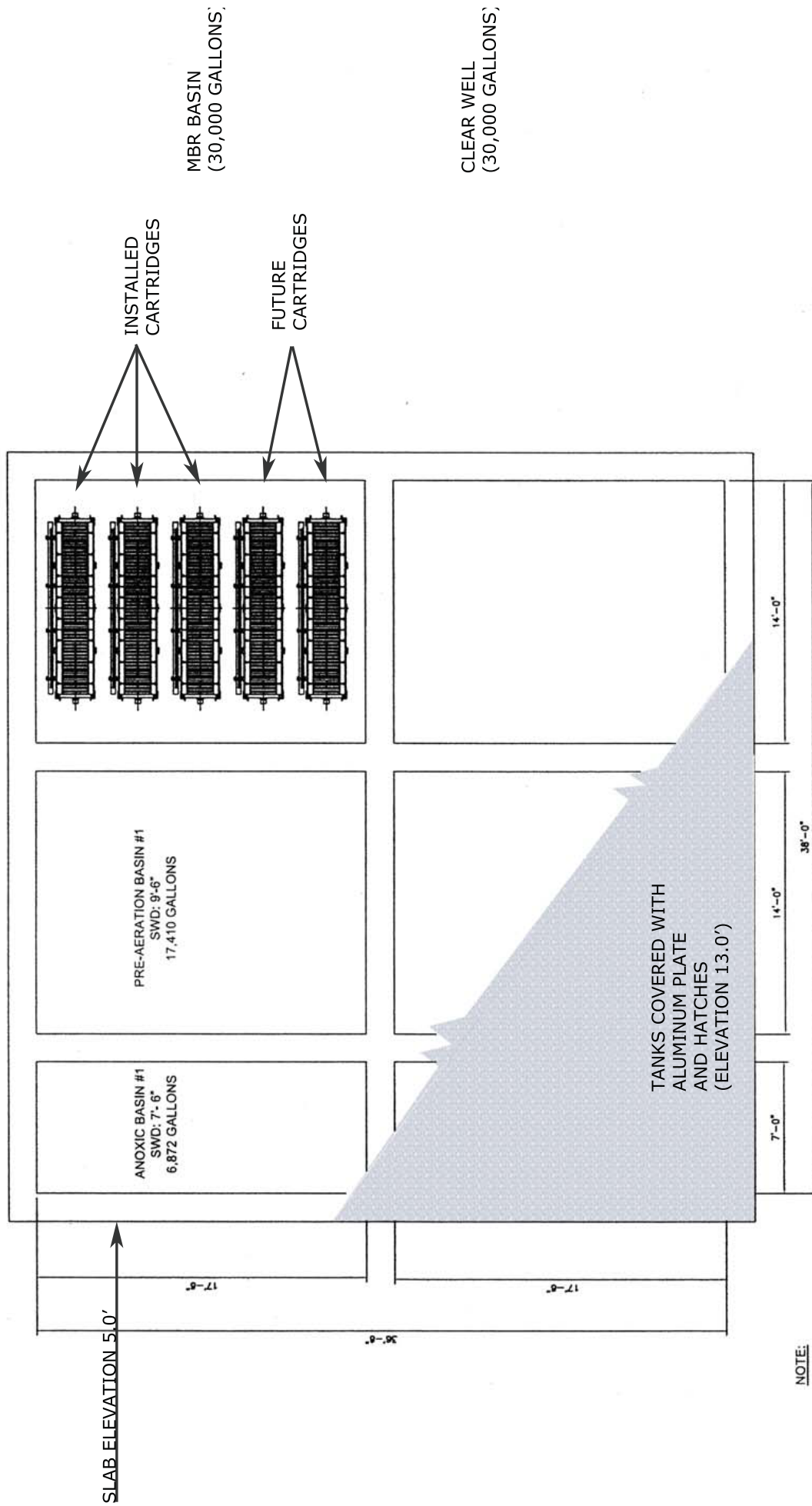
TOTAL IMPORT = 11,070 - 870  
 = 10,200 C.Y.  
 IMPORT FROM BIG WAVE OFFICE PARK PROJ. = 6,095 C.Y.  
 BALANCE OF IMPORT FILL = 10,200 - 6,095 = 4,105 C.Y. ±

**HEAVILY WOODED AREA**

- LEGEND:**
- CB CATCH BASIN
  - FF FINISHED FLOOR ELEVATION
  - FP FINISHED PAVEMENT
  - FL FLOWLINE
  - TC TOP OF CURB
  - TG TOP OF GRATE
  - SDWH STORM DRAIN MANHOLE
  - SSMH SANITARY SEWER MANHOLE
  - INV. INVERT
  - H.P. HIGH POINT
  - G.B. GRADE BREAK
  - J.P. JOINT POLE
  - C.V. GATE VALVE
  - SS NEW SANITARY SEWER LINE
  - SD NEW STORM DRAIN LINE
  - G GAS LINE
  - E ELECTRIC LINE
  - W WATER LINE
  - W NEW CONTOUR LINE
  - WW WELL WATER
  - RW RECYCLED WATER
  - PVT PRIVATE JOINT TRENCH
  - PJT PUBLIC JOINT TRENCH
  - RWD RAINWATER DRAIN FOR ROOF RUNOFF



Source: Macleod and Associates, April 7, 2009.



**NOTE:**

1. OPERATION TYPE: PUMP ASSISTED GRAVITY SYSTEM (PAG).
2. FIVE ES-200 SUBMERGED MEMBRANE UNITS PER MBR BASIN.
3. TANKAGE AND WALL THICKNESS BY OTHERS.

Source: Macleod and Associates, July 28, 2008.

## Utilities & Service Systems

The proposed utilities and service systems are discussed in detail below (refer to Figures III-25, III-26 and III-27 for more details regarding proposed site utility infrastructure):

### *Wastewater*

The proposed project would recycle all wastewater, through onsite treatment/water recycling and for use in toilet flushing and landscaping and agricultural irrigation. All excess wastewater not recycled for irrigation or toilet flushing would be infiltrated through three drain fields and discharged into the onsite wastewater infiltration system. During drought periods the project proposes to ration water by reducing agricultural irrigation and would send the majority of the recycled water to the infiltration drain fields for groundwater recharge. A wastewater system and treatment alternative include connection to Granada Sanitary District for the discharge and treatment of sewage and sludge through the Granada Sanitary District main located at the intersection of Airport Street and Stanford Avenue or a direct connection to the Princeton Pump Station located on West Point Avenue, north of Stanford Avenue.

### *Onsite Treatment/Water Recycling*

#### Wastewater Treatment Plant

The proposed project includes the development of an onsite Membrane Bioreactor (MBR) wastewater treatment plant (“MBR plant”) for treatment of wastewater (both black and grey) produced onsite. This system would be located at the southern corner of the Wellness Center site and would include a site-specific engineered plant, to be constructed onsite and designed for anticipated operating conditions. The proposed wastewater treatment system for the project would consist of four primary components (refer to Figures III-25 through 27):

- Sewage collection system consisting of pipes;
- Treatment system consisting of an MBR, ultraviolet (UV)-disinfected tertiary wastewater treatment plant and sludge treatment/handling facilities, designed to satisfy, at a minimum, state Title 22 standards for application of treated wastewater;
- Treated wastewater distribution system and a storage tank for operational and wet weather storage of treated wastewater; and
- Treated wastewater disposal through a combination of toilet flushing uses, via a subsurface drip emitter infiltration system for agricultural and landscaping irrigation uses, as well as through infiltration via three drain fields. Water Supply

Proposed domestic water supply for the project would be obtained through the generation of treated water onsite via existing groundwater wells, and through the CCWD as an emergency back-up. Water for fire flow would be obtained from CCWD and water generated onsite.



An onsite water distribution system would also be provided under the project (refer to Figures III-25 and III-26). The potable water supply would include a 6-inch waterline distribution system. This system would distribute water from the CCWD or distribute treated groundwater for potable use. Recycled water would be distributed in a 6-inch waterline for irrigation and/or toilet flushing. Reduced pressure back flow preventers would be provided for all potable and CCWD connections. The potable water system for each building in the Office Park (and the cluster of buildings in the Wellness Center) would be fed by 5/8-inch metered waterlines to 6 buried 10,000 gallon storage tanks with redundant booster pumps for each building complex. The storage tanks would minimize potable flow requirements to reduce the meter sizes or reduce the size of the water treatment facilities.

CCWD would provide fire service water, with the proposed indoor swimming pool storage serving as back-up fire service water. The fire water suppression system would be designed by a licensed Fire Suppression Engineer. The onsite fire distribution system would most likely be an 8- to 12-inch main at 150 pounds per square inch (psi), capable of delivering 2,000 gallons per minute (gpm; at a minimum pressure of 30 psi for 30 minutes). Booster pumps in a pump well located in the parking lot and directly powered from an emergency generator would be designed to provide supplemental fire flow. This system would provide either primary or secondary fire flow.

The abovementioned water supply system options are discussed in detail below:

#### *Municipal Services*

The project site is within the sphere of influence of the Coastside County Water District, contiguous to District boundaries and eligible for annexation. Annexation would require LAFCO approval of an annexation application and California Coastal Commission approval of an amendment to the CCWD Coastal Development Permit for the El Granada Pipeline, because the CDP included a condition that limits water service to areas in CCWD boundaries at the time of the CDP.

Alternatives for domestic water include water service by CCWD. At a minimum, the project proposes annexation to CCWD for water for emergency back up and fire flow and operation of a private water system or provision of domestic water by CCWD in lieu of a private system. CCWD is an independent special district. CCWD has four water supply sources. Pilarcitos Lake and Crystal Springs Reservoir are owned and operated by the San Francisco Public Utilities Commission. CCWD purchases wholesale water from the San Francisco Public Utilities Commission pursuant to a Master Water Supply Agreement. CCWD additional water supply comes from the CCWD Pilarcitos Well Field and the Denniston Project. The CCWD system consists of two water treatment plants, 17 miles of transmission pipeline, 83 miles of distribution pipeline, several water storage tanks, and other equipment.

#### *Well Water*

The project site currently operates a well for agricultural irrigation and would continue to do so under the proposed project, as well as to supply (as needed) water for the native plant nursery, the wetlands restoration, the startup ornamental landscaping, toilet flushing, cooling and domestic supply during

normal rainfall years. The well may also provide toilet flushing water prior to reclamation and agricultural reuse. Utilizing this well domestically would require a Coastal Development Permit and compliance with County and State Public Health Standards. All water pumped from the ground would be used, recycled (providing irrigation for food crops) and then returned into the ground.

Domestic well water would be treated with membrane micro filtration followed by UV light disinfection. For well water treatment, a two 10,000 gpd AMPAC RO system would be utilized followed by Trojan UV light disinfection. The reverse osmosis (RO) system would be located in one Storage Mechanical room on the first floor of the Wellness Center (Building 1) and in the Communications Building for the Office Park. For redundancy, the systems would be interconnected as outlined in Figures III-25 and 26. A storage tank designed to meet the peak demand would be installed downstream of the RO system. The RO system would be implemented in two stages. The RO water treatment systems would be fully automatic with continuous turbidity readings and alarmed shutdown.

### ***Solid Waste***

BW Recycling would provide onsite recycling education services and would develop a composting program for all food, shredded paper and yard waste. This compost would be applied as a soil amendment in the farming and landscaping operations. Both the Office Park and the Wellness Center would have recycling centers for plastic, paper, glass, cans and metal. Each building would have garbage storage and recycled storage (including food waste). The applicant proposes that BW Recycling would recycle a minimum of 50 percent of its solid waste, with a goal to eventually recycle 95 percent of its solid waste.

The site would be served by Seacoast Disposal and the Ox Mountain Landfill. Seacoast Disposal would provide solid waste collection and recycling. There would be two pickup points for Seacoast Disposal in the proposed Office Park parking lot and one pickup point for Seacoast Disposal in the proposed Wellness Center parking lot (refer to Figures III-9 and III-16, respectively).

The proposed MBR plant would generate approximately 10 pounds of dry sludge solids per day (50 pounds of wet solids, or about 450 gallons of liquid sludge, 12 percent solids). This would be hauled to Ox Mountain Landfill facilities for processing.

### ***Other Systems***

The proposed project would supply a majority of energy for heating, cooling and electrical demand with renewable energy, through a combination of offsite and onsite power generation. The potential onsite power systems include solar heat, photovoltaic panels, wind generation, back up and cogeneration with a natural gas generator for peak shaving and geothermal cooling. Passive heating and cooling would also be a focus of the proposed development architectural design. Additionally, the electrical equipment cooling process would be a source of building heating. Natural gas fuel cells would be utilized for the backup communications power.

Telephone cable and internet services would be provided via an underground system installed in Airport Street. These systems would connect to the Communications Building located on the southeast corner of the Office Park property.

#### *Electrical Power Distribution*

Electrical power to the site is currently provided by PG&E, where power is fed through a 12 kilovolts (kV) line that passes through the project site. The project proposes to relocate and underground the power lines to the east side of the site. The onsite power distribution grid is shown in Figures III-9 and III-16. There would be a joint trench owned by the public utilities and the private trench owned by BW Energy. The private trench would have a distribution conduit for BW power (common metered) and PG&E power (utility metered). Tenants would have the choice of power suppliers. Tenants could share the benefits of solar and wind power and back-up power could be provided with one generator.

#### *Photovoltaic Solar Electrical Power*

The proposed project would install the most cost effective method of photovoltaic power that is available within the next few years. Solar panels would be located on the roofs of the proposed buildings. There is approximately one acre of roof on the Wellness Center available for power generation, enough to generate peak power of approximately 50 kW to 150 kW and an average of approximately 50 kW over an 8 hour period. The system would require approximately 750 panels and occupy a roof area of approximately 9,000 sf. The Office Park has 3 acres of roof space. This roof space is capable of generating 450 kW of peak power and an average of 150 kW over an 8 hour period. The system would occupy about 30,000 sf of roof space.

#### *Solar Heating/Geothermal Cooling*

Buildings would be heated by either natural gas or solar power under the proposed project. The Wellness Center requires that approximately 70,000 sf be heated. The Office Park would require approximately 225,000 sf be heated. Heat requirements for the Wellness Center would be approximately 5 million BTU per day for a 15 degree temperature difference. A gas heater would require 100 therms per day to maintain the building heat. The Office Park would require 16 million BTU for heating, the equivalency of 320 therms of natural gas.

The solar heat collectors would be evacuated tube solar collectors located on the roofs with the photovoltaic panels. Collectors equaling 2 million BTU per hour would be located on the Wellness Center roofs, while collectors equaling 4 million BTU per hour would be located on the Office Park roofs. Solar heat storage tanks would be located in the Pool Equipment Room, the Water Heating Room on the first floor of the Wellness Center (Building 1) and in the Communications Building for the Office Park. The solar heat storage units would have natural gas backup.

Additionally, the proposed project would include the development of a geothermal cooling system. This system would circulate a cooling loop under the foundation slabs to transfer heat into the soil mass. If

additional cooling is required an evaporative system using irrigation and well water would be activated as back-up.

#### *Natural Gas Fuel Cells*

Natural gas fuel cells would provide backup direct current (DC) power for the proposed communication system. The project includes the installation of an emergency 5 kW molten carbonate fuel cell. For peak power shaving, the fuel cell would operate during peak power periods in the summer months.

#### *Natural Gas Backup Power and Cogeneration*

Emergency power would be provided by a 600 kW natural gas engine generator. If permitted by the Bay Area Air Quality Management District (BAAQMD), the engine would provide peak power shaving during times when utility power is scarce. The engine would also provide building heat. Refer to Figures III-9 and III-15. Heat exchanges would heat the hot water storage tanks for building heat when solar heat is insufficient.

#### *Wind Power*

Wind power turbines would be installed around the solar panel racks for both the Office Park and the Wellness Center (see Photovoltaic Solar Electrical Power discussion above). The turbines would be located primarily on the north and west faces of the roofs. The wind turbines would be the same height as the solar roof racks (i.e., approximately 4 feet). The turbines would be located in a screened in box that rotates to face the prevailing wind direction. The box and the screen would be designed to keep birds from being hit by the rotating blades. The turbines would be medium/low speed and generate minimal noise. Approximately 50 to 100 kW of wind turbines would be installed.

#### *Communications and Technology Network*

The Communications Building would be an unstaffed maintenance building that houses the main electrical distribution system, backup power, PacBell, AT&T and Comcast service connections. BW Communications would leverage a renewable-energy powered telecom link to provide significant Internet and data transmission capabilities to the Office Park and Wellness Center. This telecom link would connect to two 36-inch microwave dishes located on the east face of the Communications Building, which would be integrated into the wall and would not extend beyond 5 feet of the roofline (refer to Figure III-15). The dishes would face Montara Mountain. Since this link is a complete bypass of the local telecom systems, it would provide disaster recovery capabilities.

#### *Drainage*

The proposed groundwater recharge system would function as the storm water control system and would be designed to capture and treat 80 percent of the surface water runoff (refer to Figures III-25 and III-26). To maximize groundwater recharge, surface water runoff would be minimized. To minimize hard surface runoff, all roof water would be collected and treated in a "rainwater garden" infiltration system. These

systems would allow approximately 50 percent of the rainwater to infiltrate and 30 percent of the rainwater to dissipate through evapotranspiration. The proposed permeable concrete walkways and parking lots within the Office Park and Wellness Center properties would infiltrate 80 percent of the rainwater. Storm water exceeding this amount would be captured in catch basins and piped into constructed wetlands for biological treatment and sediment removal.

The proposed storm water system maintenance plan would include:

- Monthly inspection of all components,
- Annual weeding and trash/debris removal,
- Annual replanting of the rainwater gardens and restored wetlands,
- Bi-annual cleaning of storm drain catch basins,
- Bi-monthly vacuuming the parking lot, and
- Daily trash pickup in the parking lots.

The total project would have approximately 3 acres of impervious surface area and 9.5 acres of pervious parking lots and walkways that are designed for groundwater infiltration. The remaining 9 acres would be restored wetlands and native plant landscaped areas that is also considered pervious surface. Only 10 percent of the total site coverage is impervious surface.

### **Emergency Services**

The site would be served by the County of San Mateo Sheriff's Department and the Coastside Fire Protection District. Since the project site is within the Tsunami Evacuation Zone, the project would include the development of an evacuation plan that is subject to approval by the County OES and Fire District for fires, earthquake, and tsunami.

### **Construction Considerations**

#### ***Grading***

The total area to be graded for the Office Park property would be approximately 9 acres for buildings, walkways and the parking lots (refer to Figure III-25). The total project would be designed to import 4,100 cubic yards (cy) of gravel for the infiltration system. No soil would be imported or exported, with grading to be balanced onsite. The Office Park property cut would include 21,875 cy with fill of 15,780 cy, and export of 6,095 cy to the Wellness Center property. The Wellness Center property would include cut of 870 cy and an import of 6,095 cy from the Office Park property. The 4,105 cy balance would include imported gravel. The total area to be graded on the Wellness Center property is 2.6 acres for buildings, walkways and parking lots (refer to Figure III-26). The wetlands area (currently under farming

and not within jurisdictional waters) would be graded as part of the wetlands restoration plan. The project was specifically designed to avoid impacts to Federally Jurisdictional Wetlands with the exception of allowable hand planting and weeding in jurisdictional areas. Additionally, grading for development would avoid jurisdictional wetlands, and waters of the United States. Grading within the 100-foot buffer from the drainage swale (the boundary of delineated State Wetlands, which bisects the project site), would only be for wetlands restoration and in accordance with the restoration plan.

### ***Phasing & Schedule***

The project construction time schedule would be between approximately 30 and 36 months to fully complete the Wellness Center and Office Park property development. The construction of the Office Park buildings would be phased one building at a time. Preparation and building of the first office building would take approximately 18 months. The construction of the other buildings would begin (one building at a time) after the first building is completed and when buyers and/or renters have been established. Overall, the initial grading and sorting of materials would take approximately three weeks, utilities installation about one month, and foundation construction about two months. The placement of the prefabricated Wellness Center units and the erection of the structures for the Office Park would take approximately 18 months. It would take another 12 months for finish work, including the installation of the water recycling system and the solar system. The construction of the permeable parking lots and fire trails would take about three weeks to complete while the construction of the wetlands and landscaping would require about six months.

### **Development Standards**

#### ***Leadership in Energy and Environmental Design (LEED)***

The LEED Green Building Rating System is a third party certification program and the nationally accepted benchmark for the design, construction and operation of high performance green buildings. LEED certification provides verification that a building project is environmentally responsible, profitable and a healthy place to live and work.

The project aims to qualify for Core and Shell Platinum LEED Certification. To achieve environmental sustainability, the proposed project would pursue the development standards including but not limited to the following:

- Obtain Platinum LEED certification;
- Offset the conversion of farmland to development, with 12 acres of row crops within leased land in the airport zoned industrial for permanent high yield farming with recycled water;
- Construct bicycle storage and changing facilities;
- Provide priority parking for low-emitting, fuel-efficient vehicles;

- Over 47 percent of the entire project site would be restored as wetlands;
- Significantly reduce impermeable surface (proposed project has less than 25 percent permeable surfaces);
- Maximize storm water infiltration and native plant evapotranspiration;
- Utilize permeable pavement with high reflectivity and porous, open grid design;
- Install solar panels on all roofs.
- Install wind power system;
- Install minimal outdoor lighting and paths illuminated with three-foot-tall bollards;
- Provide tenant guidelines for energy efficiency and environmental protection;
- Landscape with native plants that do not require water or maintenance once mature. Use only recycled water to irrigate landscapes;
- Exceed the usage amount of implemented ground water recharge systems;
- Reduce water consumption by 30 percent from current standards with recycled water used for toilets. Certify energy systems through LEED.
- Cool building geothermally and without refrigerants;
- Recycle over 50 percent of the construction waste, with an ultimate goal of 75 percent;
- Use recycled materials to construct buildings: at least 1 percent with a goal of 20 percent. Crushed recycled concrete for base rock is approximately 20 percent;
- Use 20 percent locally processed and produced materials (possible with concrete tilt-up buildings);
- Incorporate a minimum of 2 percent glazing on windows and light buildings with 75 percent natural daylight;

## **E. PROJECT OBJECTIVES**

The objectives of the proposed project are as follows:

- To create an independent, inclusive DD community of people and businesses through a privately-funded Wellness Center and Office Park. In addition to providing recurring funding for the Wellness Center, the adjacent Office Park would provide meaningful and reliable full-time and

part-time employment to DD adults while providing living and employment opportunities for DD adults and benefiting the Coastside community;

- To build a profitable commercial development that is large enough to provide for the long-term sustainability of the proposed Wellness Center and Office Park by locating the Wellness Center within walking/wheelchair distance to the Office Park, and to give low-income DD residents the ability to provide services to the Office Park;
- To provide living, social, and employment services (including entrepreneurship/business-ownership) to DD adults through the development of residential, recreational, and commercial uses on donated land and via shared development costs;
- To adhere to existing zoning laws that allow for special needs residential and commercial use on the same site and allows for nearby employment opportunities and develop the project to be consistent with local General Plan goals;
- To provide for an enriched quality of life for DD residents via safe and secure homes, home ownership, healthy organic diets by building a commercial kitchen and dining room services, recreational and artistic opportunities within walking distance, continuing education, a strong sense of community pride and interaction, daily onsite assistance and commercial enterprises and job/career opportunities;
- To take advantage of existing public transportation routes to provide Wellness Center residents and non-residents access to and from the project site to reduce commute distances/times for Coastside residents by providing high-paying local jobs;
- To build aesthetically pleasing Class A office space to create local, high-paying jobs;
- To phase the construction of the four-buildings as demand and sound business practices dictate;
- To integrate environmental sustainability through a variety of specific environmental goals, including, but not limited to, a sophisticated, grid-connected solar renewable energy system to lower costs, wetlands restoration and enhanced-functioning biological habitats, alternative transportation, pollution reduction, and climate-friendly development to reduce adverse environmental impacts;
- To protect surface and ground water resources with water recycling and ground infiltration systems that minimize uncontrolled surface runoff;
- To ultimately reduce traffic congestion on SR 1 and SR 92 by offering local employment and reverse commute traffic flow;



- To provide office space and building energy-efficient solar-powered affordable housing at below market-rate and provide ownership opportunities to create local, clean, secure and monitored community-centric involvement;
- To provide leading-edge telecommunications systems for the residents of the Wellness Center and tenants of the Office Park, as well as the entire Coastside;
- To provide high-paying employment opportunities for other local Coastside residents who want to live and work in the community;
- To provide a source of financial upward mobility potential to all members of the DD community;
- To build a facility for meetings, educational/recreational opportunities working with numerous service providers and cultural longevity, emotional support, recreational opportunity and offices for housing professionals and support staff for the Coastside DD community;
- To provide space for gardens to grow organic food for consumption;
- To create covenants, deed restrictions and an independent Board of Directors to implement Big Wave's goals and objectives;
- To create a financially sustainable community that generates recurring, inflation-adjusted revenue to cover administration costs in perpetuity;
- To provide numerous meaningful job opportunities for the DD community that provide work for those that have limited skill potential, as well as those that have very high skill potential; and
- To build a community that provides meaningful volunteer activities to local high school students, college students and other interested groups.

## **F. DISCRETIONARY APPROVALS**

This DEIR serves as the environmental document for all discretionary actions associated with the development of the proposed project. This DEIR is intended to cover all federal, state, regional, and/or local government discretionary approvals that may be required to develop the proposed project, whether or not they are explicitly listed below. The federal, state, regional and local agencies that may have jurisdiction over the proposed project may require, but are not necessarily limited to the following:

### **County of San Mateo**

The applicant is requesting approval of a series of actions from the County of San Mateo in order to construct the proposed project including:

- Use Permit, per Section 6500(d)3 for the modern sanitarium component of the Wellness Center;

- Tentative Map for Major Subdivisions, per the County Subdivision Regulations, to subdivide the Office Park site into five lots (one common area and one for each building), and to create three lots for the Wellness Center;
- Other discretionary approvals and requirements, including compliance with applicable ordinances and policies (e.g., Subdivision Ordinance, Green Building Ordinance, and General Plan) and various permits (e.g., use permits, off-street parking exception, building permits, grading permit,);
- The project would be subject to County design review prior to approval;
- Coastal Development Permit, per County Zoning Regulations Section 6328.4; through San Mateo County Local Coastal Program; and
- This project would be subject to San Mateo County Environmental Health reviews and approvals for water treatment systems and onsite wastewater treatment systems, water and wastewater distribution systems.

#### **San Mateo Local Agency Formation Commission (LAFCO)**

As discussed previously, the project applicant proposes to connect to the CCWD. This proposed annexation to CCWD would require review and approval by LAFCO and Coastal Commission approval of amendments to the Coastal Development Permits for the El Granada Pipeline replacement project. Any temporary or permanent extension of water services outside of the service boundary as defined on January 1, 2003 would require amendments to Coastal Development Permits A-1-HMB-99-20 and A-2-SMC-99-63 as well as amendment(s) to the County of San Mateo and Half Moon Bay Local Coastal Plans. LAFCO annexation would require:

- Application by property owner to the San Mateo LAFCO, including a map and legal description and LAFCO and State Board of Equalization Fees;
- Adoption of a property tax exchange resolution by the Board regarding amount of property tax to be transferred between the County General Property Tax and County governed districts;
- Approval by LAFCO and recordation of certificate of completion; and
- Approval of community onsite water by the California Department of Public Health (CDPH) and wastewater systems by the Regional Water Quality Control Board (RWQCB).

#### **California State Water Resources Control Board (State Board) and San Francisco Bay Area RWQCB**

- Modifications to potential jurisdictional wetlands and waters would require Section 401 water quality certification from the RWQCB.

- The creation of an onsite wastewater treatment plant (subsurface discharge included) will require approval from RWQCB, additionally, a Sewer System Management Plan and waste discharge reports will be required. Currently, the proposed Wetland Restoration Plan does not include any activities in waters or wetlands that would require a 404 permit from the Army Corps or subsequent 401 Water Quality Certification from RWQCB.
- The RWQCB will require compliance with a National Pollutant Discharge Elimination System (NPDES) Permit and the provision of a Stormwater Pollution Prevention Plan (SWPPP) for stormwater and construction runoff.
- Compliance with NPDES Provision C.3 for stormwater treatment.

#### **Bay Area Air Quality Management District (BAAQMD)**

- BAAQMD permits that would be required for the MBR plant could include a Permit to Operate, as well as potentially required permits for internal combustion engines and other portable equipment that have air emissions.

#### **California Department of Fish and Game (CDFG)**

- In order to avoid potential impacts to special-status or endangered species and their habitats, the applicant shall provide BMP's to avoid incidental take of species and/or habitat disturbance or degradation. The applicant will coordinate with CDFG for approval of all mitigation measures (e.g. exclusionary fencing, biological monitoring, etc.).

#### **California Department of Public Health (CDPH)**

- The use of an onsite treated water supply would require approval from CDPH Division of Drinking Water and Environmental Management. Also, the use of disinfected tertiary treated wastewater for subsurface irrigation would require approval from CDPH under CCR, Title 22, Division 4, Chapter 3, Article 3, §60304.

#### **United States Army Corps of Engineers (USACOE)**

- Current project design, including the Wetland Restoration Plan, avoids impacts to all jurisdictional wetlands and waters with the exception of hand planting and weeding in wetland areas adjacent to restoration and enhancement activities. None of the actions proposed by the project require a permit from the USACOE.

#### **United States Fish and Wildlife Services (USFWS)**

- Current project design, including the Wetland Restoration Plan, does not require a permit from the Army Corps of Engineers. Project BMP's are designed to avoid incidental take of special

status or endangered species as well as their habitats located in adjacent Pillar Point Marsh. Therefore, the project design to date does not require consultation with USFWS.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### A. AESTHETICS

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#### INTRODUCTION

This section addresses the subject of aesthetics with respect to the project and includes a description of the existing visual character of the project site. This section also addresses visibility of the project site from offsite viewpoints as well as an evaluation of potential aesthetic impacts associated with implementing the project, including impacts to scenic resources, views, visual character, and light and glare. Aesthetics refers to visual resources and the quality of what can be seen or overall visual perception of the environment, and may include such characteristics as building height and mass, development density, design character, and landscaping. View analysis evaluates visual access and obstruction of prominent visual features, including both specific visual landmarks and panoramic vistas.

The visual character of a project site is typically evaluated with respect to its physical components and within the context of its neighborhood through an analysis of its compatibility with the land uses of the immediately surrounding areas. The inherent subjectivity of issues and values relative to visual character often makes it difficult to form a conclusive determination of what constitutes a "significant impact" under CEQA. Visual impacts are also analyzed through an examination of views and/or viewsheds. Viewsheds refer to the visual qualities of a geographical area that are defined by the horizon, topography, and other natural features that give an area its visual boundary and context, or by development that has become a prominent visual component of the area. Public views are those which can be seen from vantage points that are publicly accessible, such as streets, freeways, parks, and vista points. These views are generally available to a greater number of persons than are private views. Private views are those which can be seen from vantage points located on private property. Private views are not considered to be impacted when interrupted by land uses on adjacent blocks, particularly if the project complies with the zoning and design guidelines applicable to the site. Viewshed impacts are typically characterized by the loss and/or obstruction of existing scenic vistas or other major views in the area of the site which are available to the general public.

Light and glare impacts are analyzed by considering the qualitative aesthetic characteristics of the existing nighttime lighting and daytime glare environments on the site and the modifications the proposed project would make to those environments.

The photos presented throughout this discussion include views from vantage points at the project site and from areas surrounding the project site from which the site is visible. These photos are not meant as an exhaustive collection of the views from all vantage points that include the project site, but instead are intended as representative views from within the project site as well as views of the site from the surrounding areas.

## **METHODOLOGY**

The relative views of the project site were assessed by conducting field reconnaissance of the project site and surrounding areas on February 26, 2006, March 4 and 5, 2006, February 1, 2007, and February 22, 2007 by Christopher A. Joseph & Associates (CAJA). Numerous site photos from within the project site and from locations in the project area were taken in order to analyze the representative views and the potential aesthetic impacts associated with the proposed project. Furthermore, computer-generated visual simulations illustrating “before” and conceptual “after” visual conditions at the project site as seen from five representative, public vantage points are presented as part of the analysis. Digitized photographs, computer modeling, and rendering techniques were used to prepare the simulation images. Various view protection and conservation guidelines, policies and regulations, as established by San Mateo County’s General Plan, zoning regulations and Local Coastal Program were also reviewed and considered in the project impact analysis.

## **ENVIRONMENTAL SETTING**

### **Regional Visual Character**

The general topography of the San Mateo County area is characterized by sub-parallel, northwest trending mountain ranges and intervening valleys. The relatively flat-lying, alluviated San Francisco Bay plain is situated to the east, and the uplifted Santa Cruz Mountains are located to the west. Seventy-four percent of County land, primarily in the area west of Interstate (I-280), is in agricultural, watershed, open space, wetlands or parks use. Mild climate, abundant natural resources, rolling green foothills, stands of old redwoods, and creeks characterize western San Mateo County, providing many areas with high visual quality.

Western San Mateo County is primarily accessed by State Route-1 (Highway 1), which follows the Pacific coast from Leggett in Mendocino County (where it joins US Highway 101) to Dana Point in Los Angeles County (where it joins Interstate I-5). Along the San Mateo County coastline, Highway 1 (Cabrillo Highway) is a well-known, highly recognized county designated scenic road.

### **Local Visual Character**

The area in which the project site is located is a relatively flat coastal area with marshes and rocky cliffs and is characterized by low-density development, agricultural uses, commercial uses, airport uses, and open space. According to the San Mateo County General Plan, the project site is located in the Montara-Moss Beach El Granada community plan area (CPA). The CPA extends along the Pacific Coast from Martini Creek, at the base of Montara Mountain, to the northern city limits of Half Moon Bay. The CPA is characterized by a series of streams and arroyos, the Pacific Ocean, eucalyptus and cypress trees, as well as the Montara Mountains. The CPA includes the communities of Montara, Moss Beach, El Granada, and Princeton by the Sea. Princeton by the Sea is a small, commercial and recreational harbor community located between Moss Beach and Half Moon Bay, and directly south of the project site. Princeton by the Sea and the project site are located between Highway 1 (Cabrillo Highway) and the

Pacific Ocean. See Figure III-4 (Aerial of the Site and Surrounding Area). From the north, Highway 1 passes by the Half Moon Bay Airport (to the east of the project site) and is used to access Princeton by the Sea via Capistrano Road, as well as the communities of Moss Beach and Montara, further to the north. Access to the project site from Capistrano Road is provided via local streets.

Princeton by the Sea is characterized by the Pillar Point Harbor, one- and two-story mixed retail/service (e.g., gas station, café), industrial, and residential uses (refer to Figure III-8, Views of the Surrounding Uses, Views 4 and 6).

### **Offsite Visual Character**

The Half Moon Bay Airport to the east of the project consists of runways and hangars (refer to Figure III-7, Views of the Surrounding Uses, View 2). Additionally, there are several ridgelines east of the site that make up the Rancho Corral de Tierra, which is within the County Coastal Zone Scenic Corridor and is designated by the 1986 General Plan as Open Space. To the west, Pillar Point Marsh, Pillar Point, the Fitzgerald Marine Reserve, the Air Force Radome, and forested hills, are located between the project site and the Pacific Ocean (refer to Figures III-8, Views of the Surrounding Uses, View 6 and III-7, Views of the Surrounding Uses, View 3). A manufactured home park is located to the north of the project site (refer to Figure III-7, Views of the Surrounding Uses, View 1). Views to the north are partially obstructed by a chain-link and wooden-slat fence of approximately six feet. The land to the north of the manufactured home park is currently undeveloped and in agricultural production.

### **Onsite Visual Character**

The project is comprised of two parcels, a northern and a southern parcel totaling approximately 19.4 acres, separated by a natural drainage swale and riparian corridor. The parcels are undeveloped and have been utilized primarily for agricultural crop production. The parcels are level and are disked regularly, and therefore do not include visual features. The swale drains to the Pillar Point Marsh and the riparian vegetation extends along the western property boundaries as wetland. The mostly flat site slopes gradually from north to south, with the elevation ranging from approximately 17 feet above mean sea level (msl) at the north end of the project site to approximately 10 feet above msl at the southern end of the project site. This trend in elevation continues, reaching sea level at Pillar Point Harbor to the south. The topography rises to the west to Pillar Point (elevation approximately 54 feet above msl), and gradually to the east to approximately 100 feet above msl (70 feet above msl at the northern end of the airport) before rising sharply to the ridgelines that are visible from the site (approximately 350 feet above msl).

### ***Views of the Project Site***

The San Mateo County General Plan defines public views as: “a range of vision from a public road or other public facility.” In the vicinity of the site examples of these would include, but are not limited to, public views from Airport Street, Airport Street/Stanford Avenue, West Point Avenue, the North Trail, and Highway 1. The following discussion is based on an assessment of site visibility. The photographs

presented in this discussion include views from vantage points in areas surrounding the project site from where the site is visible. In no way is this grouping of photographs meant as an exhaustive collection of all the views that include the project site from all vantage points, but is meant to show representative views of the site from the surrounding areas.

The visibility of the project site from offsite locations is dependent on the surrounding topography, weather conditions, and the observation point in relation to the site. The representative views of the project site from five offsite locations are discussed below. The five vantage points are shown on Figure IV.A-1 and are consistent with the location of the visual simulation viewpoints, discussed later in this section.

#### *Airport Street*

The view from Airport Street looking south on to the project site is of currently fallow fields in the foreground. Refer to Figure IV.A-2, View 1. Pillar Point Marsh, Pillar Point, and forested hills are visible in the background. These offsite features are designated as Open Space by the 1986 General Plan. This view is representative of motorists traveling southbound on Airport Street. The El Granada Mobile Home Park located north of the project is located just outside of the frame of this photo. The project site is visible from the El Granada Mobile Home Park.

#### *Airport Street/Stanford Avenue*

The view from the intersection of Airport Street and Stanford Avenue looking north is of fallow fields on the project site in the foreground and Pillar Point Marsh and forested hills in the background. Refer to Figure IV.A-2, View 2. These offsite features are designated as Open Space within the 1986 General Plan. This view is representative of motorists traveling northbound on Airport Street.

#### *West Point Avenue*

The view from West Point Avenue at the Mavericks parking lot looking northeast is of the Pillar Point Marsh in the foreground and the Montara Mountains in the distance. Refer to Figure IV.A-2, View 3. The project site is visible in the background but is partially obscured by the development to the south of the project site as well as by existing vegetation. This view is representative of motorists traveling northbound on West Point Avenue. The project site is also generally visible from the Fitzgerald Marine Reserve and Pillar Point Marsh (County-designated Open Space), which runs along the coastal bluffs and beaches directly to the west.

#### *North Trail*

The view from the North Trail looking south is of the El Granada Mobile Home Park in the foreground and Pillar Point Harbor in the background. Refer to Figure IV.A-3, View 4. The project site is visible in the middle of the view. Additionally, the Half Moon Bay Airport is visible to the east. This view is representative of pedestrians utilizing the trail.



### *Highway 1*

The view from Highway 1 (Cabrillo Highway), which is a County-designated scenic road, looking southwest is of the Half Moon Bay Airport in the foreground and the project site and forested hills in the background. Refer to Figure IV.A-3, View 5. The land from this vantage point is located within the Airport's southern approach zone. Therefore, this view to the site is not expected to be obstructed by vegetation or development. This view is representative of motorists traveling north and southbound on Highway 1.

### *Scenic Vistas*

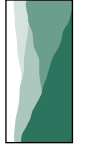
The San Mateo County General Plan and the County LCP do not define or include a description of scenic vistas. In general, a "scenic vista" is typically considered an aesthetically-pleasing view, as seen through an opening or passageway. The General Plan does not include a description or list of vantage points within the County from which vistas are considered "scenic." Given the many steep-trending hillsides, hilltops, knolls, and ridgelines in the County, a multitude of potential "scenic vistas" are available throughout the region. However, at several vantage points in the project vicinity, various surrounding topographic characteristics partially obstruct these vistas. The project is located in a generally flat area that provides vistas to the Montara Mountains, Pillar Point, and forested hills and ridgelines. Additionally, views from the ridgeline to the west of the project site provide a vista of Pillar Point Harbor and Half Moon Bay.

### *Scenic Resource*

In general, per the CEQA Guidelines for Aesthetics, scenic resources are thought of as objects, natural or manmade, that are aesthetically pleasing to view (i.e., trees, rock outcroppings, and historic buildings within a State Scenic Highway). There are no rock outcroppings or historical structures located within the project site. Per the San Mateo County General Plan, visual resources are defined as: "those attractive visible elements of the natural and developed landscape, such as landforms, vegetative forms, water bodies, structures, and communities." Additionally, scenic corridors are defined as: "land adjacent to a scenic road right-of-way which, when seen from the road, provides outstanding views of natural landscapes and attractive man-made development." As further defined by the General Plan, a scenic roadway is: "a designated travel route providing outstanding views of natural landscapes and attractive man-made development." The General Plan has designated several "scenic" roadways within the County. The project site is visible from County-designated scenic Highway 1 (from Junipero Serra Freeway to the northern limits of the City of Half Moon Bay) and is located with the County Coastal Zone Scenic Corridor. The portion of Highway 1 from Half Moon Bay to the Santa Cruz County line is State-designated scenic roadway.



Source: Google Earth, Christopher A. Joseph & Associates, 2008.



**CHRISTOPHER A. JOSEPH & ASSOCIATES**  
Environmental Planning and Research

Figure IV.A-1  
Photo-location Map for  
Simulations



**View 1:** Looking south across the project site from Airport Street.

**View 2:** Looking west across the project site from the intersection of Airport Street and Cornell Avenue.



**View 3:** Looking northeast towards the project site from Mavericks Parking Lot.

Source: Christopher A. Joseph & Associates, 2009.





**View 4:** Looking southeast across the project site from North Trail.



**View 5.:** Looking southwest across the airport towards the project site from Highway 1.

Source: Christopher A. Joseph & Associates, 2009.



CHRISTOPHER A. JOSEPH & ASSOCIATES  
Environmental Planning and Research

Figure IV.A-3  
Views of the Project Site  
Views 4-5

### ***Open Space***

Open space, as defined by Government Code Section 65560, is any parcel or area of land or water that is essentially unimproved and devoted to an open-space usage and that is designated in a local, regional or state open-space plan for preservation of natural resources, managed production of resources, outdoor recreation, or public health and safety.

The County-designated open space areas are overseen by the County Parks and Recreation Department in cooperation with the Mid-Peninsula Regional Open Space District. An open space land use designation is widely used by local agencies to preserve natural resources and protect important features, such as ridgelines. Lands to the west of the project site are designated for open space use. The General Plan establishes the uses that may be allowed on land with a General Open Space designation. Uses are limited to resource management and production, recreation and limited residential or service.

### ***Ridgelines and Skylines***

The General Plan defines ridgelines as: “the tops of hills or hillocks normally viewed against a background of other hills.” Meanwhile, skylines are defined as: “the line where sky and land masses meet.” The views to the east and west from the project site include both ridgelines and skylines. Views to the north and south predominately include residential and commercial uses, respectively.

### ***Light and Glare Environment***

“Light spill” is typically defined as the presence of unwanted and/or misdirected light on properties adjacent to the property being illuminated. Light spill can emanate from the interior of structures through windows or from exterior sources, such as street lighting, security lighting, and landscape lighting. Perceived glare is the unwanted and potentially objectionable sensation as observed by a person when looking directly into the light source of a luminaire fixture. Glare also results from sunlight reflection off of flat building surfaces, with glass typically having the highest degree of reflectivity.

There are currently no sources of light and glare on the proposed project site as the site is entirely undeveloped. Existing development is located to the north, south, and east of the project site, which does produce some light at night, especially the residential development to the north of the Office Park portion of the project site. Additionally, airport runways west of the project site are lit during the evening, but for the most part lighting is low-level, and not readily visible, particularly from the Wellness Center portion of the project site. Other sources of light or glare within the vicinity of the project site are from the headlights or windshields of vehicles on adjacent roads.

## REGULATORY SETTING

The following describes the adopted regulations and planning policies that would apply to the proposed project upon approval.

### Local

#### *County of San Mateo General Plan*

The Visual Quality chapter of the San Mateo County General Plan contains the following relevant goals and policies. The proposed project's consistency with each of these policies is analyzed in Section IV.I, Land Use, of this DEIR:

#### *Visual Quality*

##### 4.1 Protection of Visual Quality

- Encourage positive visual quality for all development and minimize adverse visual impacts.

##### 4.4 Appearance of Rural and Urban Development

- Promote aesthetically pleasing development in rural and urban areas.

##### 4.14 Appearance of New Development

- A. Regulate development to promote and enhance good design, site relationships and other aesthetic considerations.
- B. Regulate land divisions to promote visually attractive development.

##### 4.16 Protection of Coastal Features

- Regulate coastal development to protect and enhance natural landscape features and visual quality through measures that ensure the basic integrity of sand dunes, cliffs, bluffs and wetlands.

##### 4.20 Utility Structures

- Minimize the adverse visual quality of utility structures, including roads, roadway and building signs, overhead wires, utility poles, T.V. antennae, windmills and satellite dishes.

##### 4.21 Scenic Corridors

- Protect and enhance the visual quality of scenic corridors by managing the location and appearance of structural development.

##### 4.35 Urban Area Design Concept

- A. Maintain and, where possible, improve upon the appearance and visual character of development in urban areas.

- B. Ensure that new development in urban areas is designed and constructed to contribute to the orderly harmonious development of the locality.

4.39 Scenic Roads

- Give special recognition and protection to travel routes in rural and unincorporated urban areas which provide outstanding views of scenic vistas, natural landscape features, historical sites and attractive urban development.

*Urban Land Use*

8.1 Urban Land Use Planning

- Plan for a compatible and harmonious arrangement of land uses in urban areas by providing a type and mix of functionally well-integrated land uses which meet general social and economics.

8.14 Residential Land Use Compatibility

- A. Protect and enhance the character of existing single-family areas.
- B. Protect existing single-family areas from adjacent incompatible land use designations which would degrade the environmental quality and economic stability of the area.

8.15 Commercial Land Use Compatibility

- Ensure that commercial development is compatible with adjacent land uses.

8.17 Buffers

- Buffer commercial land uses when needed to protect contiguous residential uses.

8.27 Parcel Consolidation

- Where necessary to achieve quality site planning and greater design flexibility, encourage the consolidation of smaller parcels which are designed for intense land uses, including, but not limited to, Industrial, Medium High and High Density Residential.

***San Mateo County Local Coastal Program***

The San Mateo County Local Coastal Program contains the following goals and policies relevant to the proposed project. The proposed project's consistency with each of these policies is analyzed in Section IV.I, Land Use, of this DEIR:

*Natural Features – Landforms*

8.5 Location of Development

- A. Require that new development be located on a portion of a parcel where the development (1) is least visible from State and County Scenic Roads, (2) is least likely to significantly impact

views from public viewpoints, and (3) is consistent with all other LCP requirements, best preserves the visual and open space qualities of the parcel overall. Where conflicts in complying with this requirement occur, resolve them in a manner which on balance most protects significant coastal resources on the parcel, consistent with Coastal Act Section 30007.5.

Public viewpoints include, but are not limited to, coastal roads, roadside rests and vista points, recreation areas, trails, coastal accessways, and beaches.

This provision does not apply to enlargement of existing structures, provided that the size of the structure after enlargement does not exceed 150% of the pre-existing floor area, or 2,000 sq. ft., whichever is greater.

This provision does not apply to agricultural development to the extent that application of the provision would impair any agricultural use or operation on the parcel. In such cases, agricultural development shall use appropriate building materials, colors, landscaping and screening to eliminate or minimize the visual impact of the development.

- B. Require, including by clustering if necessary, that new parcels have building sites that are not visible from State and County Scenic Roads and will not significantly impact views from other public viewpoints. If the entire property being subdivided is visible from State and County Scenic Roads or other public viewpoints, then require that new parcels have building sites that minimize visibility from those roads and other public viewpoints.

#### 8.6 Streams, Wetlands, and Estuaries

- A. Set back development from the edge of streams and other natural waterways a sufficient distance to preserve the visual character of the waterway.
- B. Prohibit structural development which will adversely affect the visual quality of perennial streams and associated riparian habitat, except for those permitted by Sensitive Habitats Component Policies.
- C. Retain the open natural visual appearance of estuaries and their surrounding beaches.
- D. Retain wetlands intact except for public accessways designed to respect the visual and ecological fragility of the area and adjacent land.

#### *Natural Features – Vegetative Forms*

#### 8.9 Vegetative Cover

- Replace vegetation removed during construction with plant materials (trees, shrubs, ground cover) which are compatible with surrounding vegetation and is suitable to the climate, soil, and ecological characteristics of the area.



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*Structural and Community Features – Urban Areas and Rural Service Centers*8.12 General Regulations

- A. Apply the Design Review (DR) Zoning District to urbanized areas of the Coastal Zone.
- B. Employ the design criteria set forth in the Community Design Manual for all new development in urban areas.
- C. Locate and design new development and landscaping so that ocean views are not blocked from public viewing points such as public roads and publicly-owned lands.

8.13 Special Design Guidelines for Coastal Communities

The following special design guidelines supplement the design criteria in the Community Design Manual:

## A. Montara-Moss Beach-El Granada area:

- 1. Design structures which fit the topography of the site and do not require extensive cutting, grading, or filling for construction.
- 2. Employ the use of natural materials and colors which blend with the vegetative cover of the site.
- 3. Use pitched, rather than flat, roofs which are surfaced with non-reflective materials except for the employment of solar energy devices.
- 4. Design structures which are in scale with the character of their setting and blend rather than dominate or distract from the overall view of the urban scape.
- 5. To the extent feasible, design development to minimize the blocking of views to or along the ocean shoreline from Highway 1 and other public viewpoints between Highway 1 and the sea. Public viewpoints include coastal roads, roadside rests and vista points, recreation areas, trails, coastal accessways, and beaches. This provision shall not apply in areas west of Denniston Creek zoned either Coastside Commercial Recreation or Waterfront.

## B. Princeton by the Sea

1. Commercial Development

Design buildings which reflect the nautical character of the harbor setting, are of wood or shingle siding, employ natural or sea colors, and use pitched roofs.

2. Industrial Development

Employ architectural detailing, subdued colors, textured building materials, and landscaping to add visual interest and soften the harsh lines of standard or stock building forms normally used in industrial districts.

*Structural and Community Features – Rural*

8.15 Coastal Views

- Prevent development (including buildings, structures, fences, unnatural obstructions, signs, and landscaping) from substantially blocking views to or along the shoreline from coastal roads, roadside rests and vista points, recreation areas, trails, coastal accessways, and beaches.

8.16 Landscaping

- A. Use plant materials to integrate the man-made and natural environments and to soften the visual impact of new development.
- B. Protect existing desirable vegetation. Encourage, where feasible, that new planting be common to the area.

8.19 Colors and Materials

- A. Employ colors and materials in new development which blend, rather than contrast, with the surrounding physical conditions of the site.
- B. Prohibit highly reflective surfaces and colors except those of solar energy devices.

8.20 Scale

- Relate structures in size and scale to adjacent buildings and landforms.

8.21 Commercial Signs

- A. Prohibit off-premise commercial signs except for seasonal temporary agricultural signs.
- B. Design on-premise commercial signs as an integral part of structure they identify and which do not extend above the roof line.
- C. Prohibit brightly illuminated colored, rotating, reflective, blinking, flashing or moving signs, pennants, or streamers.
- D. Design and minimize information and direction signs to be simple, easy-to-read, and harmonize with surrounding elements.

*Special Features*

8.27 Natural Features

- Prohibit the destruction or significant alteration of special natural features through implementation of Landform Policies and Vegetative Form Policies of the LCP.

### ***Community Design Manual***

The San Mateo County Community Design Manual contains the following relevant goals and policies. The proposed project's consistency with each of these policies is analyzed in Section IV.I, Land Use, of this DEIR:

#### Site Design

- Structures and accessory structures should be located, designed, and constructed to retain and blend with the natural vegetation and natural land forms of the site (i.e., topography, rock outcroppings, ridgelines, tree masses, etc.), and should be complementary to adjacent neighborhood structures;

#### Grading

- To ensure minimal impact on the physical setting of the site and adjacent properties, site preparation, grading and structure location should be carefully controlled to reduce erosion, soil exposure, impacts on natural drainage systems, and to maintain surface runoff at or near existing levels. Grading or removal of vegetation which could contribute to the instability of the site or adjacent property should not be permitted;

#### Vegetation Preservation

- Structures should blend with the natural vegetative cover of the site and only that vegetation should be removed which is necessary for the construction of the structure;
- Structures should be designed around major trees or tree stands;

#### Landscaping

- Landscaping material should have an informal character and should provide a smooth transition between the development and adjacent open space areas;
- Only tree and plant materials native to the area should be used to assure against non-native plant intrusion to reduce irrigation and maintenance requirements, and to minimize visual impact;

#### Water

- With the exception of trails and paths, and related appurtenances, structural development should be set back from and not permitted to be constructed where such development will adversely affect a stream, drainage area, or body of water;

#### View Preservation

- Views should be preserved by limiting structure height. Introduced vegetation should be located so as to not block views from uphill structures or views from scenic corridors and vista points;
- Public views within and from scenic corridors should be protected and enhanced, and development should not be allowed to significantly obscure, detract from, or negatively affect the quality of these views. Visual screening or increased setbacks may be used to mitigate such

impacts;

- Structures should be located to retain views of prominent scenic features, i.e., bodies of water, mountains, valleys, etc;

#### Open Space Preservation

- Structures should be sited to retain maximum open space and to reduce the visual impact in scenic open space areas;
- Where possible, structures should be clustered near existing natural and man-made vertical features such as tree masses, hills, and existing structures;

#### Cliffs and Bluffs

- Structures should be set back from bluffs and cliffs so as to not destroy natural land forms;
- Intrusion of structures into views from scenic areas should be minimized;

#### Accessory Structures

- Fences should be built to fit the natural contours of the land. Use of living (vegetative) fences in conjunction with earth berms, and fences made of natural materials are encouraged;

#### Paved Areas

- Paved areas such as parking lots, driveways, sidewalks, etc., should be well integrated into the site, relate to existing and proposed structures and landscaped to reduce visual impact;
- Small separate paved parking lots are preferred to large single paved lots;
- Parking areas should be screened from residential areas and from scenic roadways;
- Driveways should be shared when feasible to reduce curb cuts, especially along major arterials and scenic roads;
- Paving materials used for pathways, sidewalks, driveways, and parking areas should be varied, textured, colored or patterned to add visual interest, especially where visible from above; and,

#### Scale

- Structures should relate in size and scale to adjacent buildings and to the neighborhood in which they are located.

### ***Montara-Moss Beach-El Granada Community Plan***

The Montara-Moss Beach-El Granada Community Plan contains the following relevant goals and policies. The proposed project's consistency with each of these policies is analyzed in Section IV.I, Land Use, of this Draft EIR:

#### 1.2 Design Characteristics

- Encourage good design in new construction which reflects the character, and is compatible with the scale of the neighborhood in which it is located.

#### 2.7 Commercial Development Buffers

- Buffer commercial areas from surrounding residential development with landscaping, fencing, and/or buildings designed for compatibility between these land uses.

#### 2.9 Appearance of Commercial Development

- A. Employ the design guidelines of the Community Design Manual in all new commercial development.

#### 3.1 Circulation System

- Develop a circulation system, and road standards for residential streets, which complement the small-town character of the community.

#### 4.1 Housing Design

- Build housing which relates to its physical setting, does not destroy the natural features of the land, and is compatible with the neighborhood scale and coastal character of the community.

#### 7.1 Preserving Visual Quality

- Preserve and enhance the visual qualities of the coastal community which give it a unique character and distinguish it from other places.

#### 7.2 Preserving Community Character

- A. Maintain community character and ensure that new developments are compatible with existing homes in scale, size, and design.
- B. Maintain the small-town character of the area by preventing construction of massive structures out of scale with the community.

### 7.3 Preserving Natural Amenities

- Preserve the natural amenities of the community through appropriate location of new structures designed to harmonize with their surroundings.

### 7.6 Protection of Scenic Vistas

- Preserve and protect scenic vistas of ocean, beaches, and mountains for residents of the community.

### 7.7 Tree Planting

- Encourage the planting of trees along streets and walkways.

### 7.8 Preservation of Landforms and Vegetation

- Preserve the existing landforms and vegetation.

### 7.11 Design Review

- Apply the Design Review Overlay Zoning District in the urbanized areas of the community to regulate siting of structures, to protect natural features, and to provide for design compatibility with surrounding development.

## **San Mateo County Zoning Regulations**

The San Mateo County Zoning Regulations contains specific provisions pertaining to lighting, signage, building height, setbacks, and other design elements specific to the zoning designations of the project site. In the County, development and building improvements requiring a building permit are subject to review according to their adherence with County standards, regulations, and policies. Compliance is ensured by conditions of approval attached to discretionary development permits.

## **ENVIRONMENTAL IMPACTS**

### **Thresholds of Significance**

In accordance with guidance provided in Appendix G of the State *CEQA Guidelines*, the proposed project could have a potentially significant impact if it were to result in one or more of the following:

- a) Have a substantial adverse effect on a scenic vista;
- b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- c) Substantially degrade the existing visual character or quality of the site and its surroundings; or

- d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

### **Proposed Project**

As described in detail in Section III (Project Description) of this DEIR, the project consists of an office park and residential health center to be developed on two adjacent parcels (approximately 20 acres) that are separated by a natural drainage swale. The Office Park would be developed on the northern parcel and would consist of four three-story buildings totaling 225,000 square feet plus associated common areas, a communications building, and a 640-space parking lot. Building heights would not exceed 45 feet 6 inches, with the four building footprints totaling 78,000 square feet. Setbacks are proposed at 153 feet from the eastern project site boundary and 40 feet from the western project site boundary. The proposed Communications Building would be two-stories in height (maximum height of 32 feet) and have a footprint of 2,000 square feet, bringing the total building footprint for the northern parcel to 80,000 square feet. The Communications Building would be located on the southeast corner of the proposed parking lot. Two 36-inch microwave dishes would be mounted on the east face of this building.

The Wellness Center would be developed on the southern parcel, and would include a maximum of 70 apartment style and single-story style residential units for use by up to 50 DD residents and 20 staff members. The Wellness Center includes a 73-space parking lot. A 100-foot setback is proposed from the sensitive habitats associated with the drainage swale and marsh. The proposed 20,000 square foot storage facility associated with the Wellness Center would be located within the Half Moon Bay Airport Overlay (AO) along the north side of the property.

A six-foot willow wattle fence would be installed around the site to protect the adjacent habitat from the development activities and provide security for the community residents. The proposed 1.6 acres of walkways/trails include: (1) a multipurpose bike/pedestrian trail proposed to run along Airport Street; (2) a proposed wetlands trail for viewing restored wetland areas; and (3) a "North Trail" which would run along the northern portion of the property connecting to the wetlands trail. All trails would be designed to be Americans with Disabilities Act (ADA) compliant and would be available to the public.

The project also proposes an onsite wastewater treatment plant that would include storage tanks and three drain fields. Additionally, solar panels and wind turbines would be installed on building roofs in both the northern and southern parcels. Both the wind turbines and the solar panels are anticipated to extend an additional four feet above the top of buildings. The project would also relocate and underground the power lines to the east side of the site.

The project proposes a five-acre native plant nursery onsite. Additional agricultural activities would take place on existing offsite farms.

## Project Impacts and Mitigation Measures

### *Impact AES-1 Substantial Adverse Effect on Public Views and Scenic Vistas*

The proposed project would result in a significant aesthetics impact if it would have a substantial adverse impact on a scenic vista or public views. The County General Plan and Local Coastal Program do not specifically identify scenic vistas within the County. In general, a “scenic vista” is typically considered an aesthetically-pleasing view, as seen through a narrow passage. In absence of a specific “scenic vista” designation, this analysis will focus on the definitions and designations that are included in the 1986 General Plan and Local Coastal Program.

The views to the east and west from the project site include both ridges and skylines, which are identified by the General Plan as important aesthetic features. Visual simulations of the proposed project were prepared that illustrate the project site immediately following construction with all landscaping planted as well as the project site fifteen years following construction with full tree growth (refer to Figures IV.A-4 through IV.A-8). The visual simulations for the five viewpoints described previously are discussed below.

#### *Airport Street*

As shown in Figure IV.A-4 (View 1.A), immediately following construction, views to the south of the Pillar Point Marsh would be fully obstructed for pedestrians and motorists traveling south along Airport Street. While the landscaping would not be mature several years after construction, views to the west would be partially obstructed but Pillar Point and the forested hills would still be visible. Partial views would still be available through the new landscaping at several vantage points and full views of the drainage swale would be available. Therefore, even though the landscaping would not be fully mature for several years after project construction, this impact would be *less than significant*.

As shown in View 1.B, in fifteen years, views to the west of Pillar Point and the forested hills would be fully obstructed by landscaping. However, as partial views would be available through the landscaping at some vantage points and full views of the drainage swale would be available, this impact fifteen years following construction with full tree growth would be *less than significant*. Additionally, although views from the El Granada Mobile Home Park are private, it should be noted that it is not anticipated that all views from the El Granada Mobile Home Park to Pillar Point and the forested hills would be impacted by the proposed project’s four-story buildings and landscaping, as the project would primarily block views to the south from the mobile home park and these features are located to the west of the mobile home park and the project.

#### *Airport Street/Stanford Avenue*

As shown in Figure IV.A-5 (View 2.A), immediately following construction, views of the forested hills would be largely obstructed for pedestrians and motorists traveling north on Airport Street, at Stanford Avenue. Although the landscaping would not be mature immediately following construction and for



several years thereafter, partial views would be available through the landscaping at some vantage points and full views would be available at the drainage swale. Therefore, this impact a few years after construction would be *less than significant*.

In fifteen years (View 4.B), these views would be more obstructed by landscaping but the forested hills would remain partially visible. However, as partial views would be available through the landscaping at some vantage points and full views would be available at the drainage swale, this impact fifteen years following construction with full landscaping growth would be *less than significant*.

#### *West Point Avenue*

As shown in Figure IV.A-6 (View 3.A), immediately following construction the views of the Pillar Point Marsh and the Montara Mountains would not be obstructed for motorists traveling northbound on West Point Avenue. However, existing views would change from seeing a small cluster of development in the background to seeing a largely developed area in the background. In fifteen years (View 4.B), views would remain substantially unchanged due to the elevation at this location. Views of the project site from this roadway segment constitutes a small portion of the field of view, and while development on the project would be noticeable, the project would not significantly affect the overall value of the views from this roadway. Implementation of the project would not obstruct views of the Pillar Point Marsh and the Montara Mountains from this vantage, and therefore impacts fifteen years following construction with full tree growth would be *less than significant*.

#### *North Trail*

As shown in Figure IV.A-7 (View 4.A), immediately following construction views to the south of Princeton by the Sea would be partially obstructed but views of Half Moon Bay would be unobstructed. Existing views showing a large area of intervening development (Mobile Home Park) would show a larger area of development, remaining substantially unchanged. In fifteen years (View 4.B), views would remain substantially unchanged due to the elevation at this location. Therefore, the project would not block views of pedestrians using the North Trail and impacts fifteen years following construction with full tree growth would be *less than significant*.

#### *Highway 1*

As shown in Figure IV.A-8 (View 5.A), immediately following construction the views of the Pillar Point, the forested hills, and the skyline would not be obstructed for motorist traveling north and southbound on Highway 1. However, existing views of spare development in the background would be replaced with views of an intervening right-of-way of buildings in the background. In fifteen years (View 5.B), views would remain substantially unchanged due to the elevation and distance from the project site at this location. Views of the project site from this roadway segment constitutes a small portion of the field of view, and while development on the project would be noticeable, the project would not affect the overall value of the views from this roadway. Implementation of the project would not obstruct views of Pillar Point and the skyline, and therefore impacts would be *less than significant*.



**View 1.A:** Looking south across the project site from Airport St with immature landscaping.



**View 1.B:** Looking south across the project site from Airport St with mature landscaping.

Source: Christopher A. Joseph & Associates, 2009.





**View 2.A:** Looking northwest across the project site from Airport St with immature landscaping.



**View 2.B:** Looking northwest across the project site from Airport St with mature landscaping.

Source: Christopher A. Joseph & Associates, 2009.





**View 3.A:** Looking northeast towards the project site from Mavericks Parking Lot with immature landscaping.



**View 3.B:** Looking northeast towards the project site from Mavericks Parking Lot with mature landscaping.

Source: Christopher A. Joseph & Associates, 2009.





**View 4.A:** Looking east towards the project site from North Trail with immature landscaping.



**View 4.B:** Looking east towards the project site from North Trail with mature landscaping.

Source: Christopher A. Joseph & Associates, 2009.





**View 5.A:** Looking southwest across the airport towards the project site from Highway 1 with immature landscaping.



**View 5.B:** Looking southwest across the airport towards the project site from Highway 1 with mature landscaping.

Source: Christopher A. Joseph & Associates, 2009.



***Impact AES-2 Substantially Damage Scenic Resources, including, but not Limited to Trees, Rock Outcroppings, or Historic Buildings within a State Scenic Highway***

The proposed project would result in a significant aesthetic impact if it would damage scenic resources, including open space, trees, rock outcroppings, or historic buildings within a State-designated scenic highway. As noted, the project is located within the Highway 1 (Cabrillo Highway) County-designated scenic corridor, while Highway 1 is State-designated to the south of the site (from Half Moon Bay to the Santa Cruz County line). The project is proposed on land that has been utilized for agricultural (crop) production, and does not include scenic resources. There are no trees, rock outcroppings or historical structures located within the project site. Therefore, as noted in the discussion for Impact AES-1, the impact on the view from Highway 1 would be *less than significant*.

*Open Space*

An open space land use designation is widely used by local agencies to preserve natural resources and protect important features, such as ridgelines. The 1986 General Plan establishes the uses that may be allowed on land with a General Open Space designation. Uses would be limited to resource management and production, recreation and limited residential or service. The entire Pillar Point Marsh and the drainage swale that separates the project sites are County designated Open Space, as are the hills that rise sharply to the east. The project is designed to avoid the Pillar Point Marsh, and establishes a 100-foot setback from the marsh and the swale. The open space to the east is far enough in the distance, and the elevation of the ridgelines are high enough, that the views of the open space would not be affected by the project. Therefore, the impact to open space would be *less than significant*.

***Impact AES-3 Significantly Degrade the Existing Visual Character or Quality of the Site and its Surroundings***

The proposed project would result in a significant aesthetic impact if it would significantly degrade the existing visual character or the quality of the site and its surroundings. Development of the project as proposed would result in changes to the existing character of the site. Implementation of the project would result in development including four office buildings to a height of 45 feet 6 inches, up to 70 residential units, a limited community center with outdoor recreation, storage facilities and parking lots. Incorporating buildings, plantings, paving for pedestrians, and other pedestrian treatments, would visually connect the proposed Office Park and Wellness Center facilities. Landscaped areas and restored wetlands areas would provide a buffer between the proposed project and the existing residential uses to the north.

The Wellness Center would generally be physically and functionally compatible with existing uses to the southwest, recognizing building heights, landscaping, artificial lighting, and other design elements similar to compatible commercial and industrial development. Maximum building heights on the project site would be 45 feet six inches (three stories). While the proposed building heights of the Office Park would be taller than the building heights at the El Granada Mobile Home Park, the use of setbacks, landscaped buffers, and building placement would allow for the development of the Office Park site with taller structures without resulting in a significantly incompatible aesthetic relationship with surrounding uses.

Although the existing character of the site would be altered by implementation of the project, the change would not be a substantial degradation. Development onsite would be subject to the policies of the San Mateo County 1986 General Plan, the San Mateo County Local Coastal Program and the San Mateo County Community Design Manual, and Section 6565.1 of the San Mateo County Zoning Regulations (Design Review District). The project would be required to comply with all applicable County visual quality policies, which would, "...promote and enhance good design, site relationships, and other aesthetic considerations," and would, "...promote visually attractive development." Therefore, the project would not result in a substantial degradation to the visual character of the project area and impacts would be *less than significant*.

***Impact AES-4 Create a New Source of Substantial Light or Glare which would Adversely Affect Day or Nighttime Views in the Area***

A significant impact may occur if a project introduces new sources of light or glare on the project site that would be incompatible with the areas surrounding the project site or which pose a safety hazard, such as to motorists utilizing adjacent streets. As previously discussed, there are currently no sources of light and glare on the project site as the project site is undeveloped.

The proposed project would introduce additional sources of lighting and reflective surfaces to the project site, as compared to the site's existing conditions. New lighting sources would include outdoor street lighting and security lighting, indoor lighting, and light generated by vehicle headlights. Lighting would be used as a design tool to highlight architectural elements and landscaping. Lighting would also provide security and safety in parking areas, service passages, and common areas of the project. As noted in Section III, Project Description, a detailed lighting plan is not available at this time. The applicant has indicated that all outdoor lighting will be low-level to illuminate walkways and provide safe access to parking. While it appears the project would not introduce new sources of light or glare on the project site that would be incompatible with the areas surrounding the project site or which pose a safety hazard, until a detailed lighting plan is prepared, impacts would be *significant*.

The following mitigation measure is recommended to reduce the impact to a less-than-significant level:

***Mitigation Measure AES-4 Create a New Source of Substantial Light or Glare which would Adversely Affect Day or Nighttime Views in the Area***

- Prior to the approval of final project plans, a detailed lighting plan shall be submitted to San Mateo County for review and approval, consistent with their requirements. The lighting plan shall prohibit light spillover across property lines and limit lighting to the minimum necessary for security and exterior lighting purposes, as determined by the Community Development Director. All lighting shall be designed to be compatible with surrounding development. The project shall not propose light sources that are atypical of the surrounding environment.
- Reflective glass or other glaring building materials shall be discouraged. The exterior of the proposed building shall be constructed of non-reflective materials such as, but not limited to:



high-performance tinted non-reflective glass, metal panel, and pre-cast concrete or cast in-place or fabricated wall surfaces. The proposed materials shall be reviewed and approved by the Community Development Director prior to approval of the Final Map.

#### ***Impact AES-5 Temporary Construction/Grading Impacts***

During project construction, dump trucks and other trucks would access the site via local roadways, including Airport Street. The delivery and removal of equipment, other machinery, and the delivery of materials would involve trucking activities. As with onsite activities, the visual aspect of trucks loaded with debris and/or soils may be interesting to some viewers and unsightly to others. Daily construction times would be restricted to between the hours of 7:00 AM to 6:00 PM (Monday –Friday) and 9:00 AM to 5:00 PM (Saturday).

Development would be coordinated with surrounding land uses, vehicular circulation, emergency access routes, and pedestrian systems, so that visitors are clearly guided and that there are logical transitions within the circulation network. Flagmen would be used, as necessary, to control traffic during the arrival and departure of trucks and equipment. Further, during the construction period, there would be temporary construction fencing installed onsite to screen most activities from adjacent, surrounding uses. All construction staging would occur within the project site boundaries, including the requirement that all associated construction workers would park onsite.

Thus, construction-related visual impacts would be ***less than significant*** and no mitigation measures are required.

### **CUMULATIVE IMPACTS**

The related projects listed in Section III, Project Description, are primarily residential projects, with some commercial and industrial park developments. As shown in Table III-1, none of the related projects are in immediate proximity to the project site, with the exception of related project #3, Ruben Building, the proposed industrial development at 151 Vassar Avenue, which is located approximately 0.13 miles (685 feet) southeast of the project site in the developed Princeton area. Numerous intervening structures are located between these two sites therefore, although this related project is close enough to be seen within the same viewshed as the proposed project, the Ruben Building will be located within an already developed area while the project site is located outside of the developed area of Princeton. Therefore, the cumulative impact of these two projects is not anticipated to combine. Project impacts related to scenic vistas or other scenic resources, visual character, and light and glare would be limited to the project site and areas immediately surrounding the site. As the building sites for all related projects are outside of the proposed project vicinity or located within the developed Princeton area to the south of the project site, the aesthetics of the related projects would not contribute to the aesthetic impacts of the project site. Additionally, each related project would be required to be consistent with the San Mateo County 1986 General Plan, the San Mateo County Local Coastal Program and the San Mateo County Community Design Manual, and Section 6565.1 of the San Mateo County Zoning Regulations (Design Review District). The additional changes brought about by the related projects in conjunction with the proposed

project would yield less-than-significant cumulative impacts. Overall, cumulative impacts to aesthetics would be *less than significant* and no mitigation measures are required.

#### **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

With implementation of the development standards included as part of the proposed project as well as the proposed Mitigation Measures, project impacts on visual character, light and glare, and scenic resources would be *less than significant*.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### B. AGRICULTURE RESOURCES

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#### INTRODUCTION

This section of the Draft Environmental Impact Report (DEIR) addresses the subject of agricultural resources with respect to the proposed Big Wave Wellness Center and Office Park Project (“proposed project”), including: the potential of the proposed project to conflict with zoning for agricultural use or with a Williamson Act contract and the degree to which the project could result in the conversion of Farmland to non-agricultural use. In addition, the potential cumulative agricultural resource impacts of the project in combination with all known related projects are evaluated in this section.

#### METHODOLOGY

The environmental setting was compiled from information taken from sources including the San Mateo County Planning and Building Department, San Mateo County General Plan, California Department of Conservation (DOC), and the Natural Resources Conservation Service (NRCS). The impacts analysis was derived by taking into consideration the development proposed by the project, applicable planning policies, existing onsite and nearby agricultural resources, and the cumulative geographic context. Agricultural and soils data are available on a project, city, county, and state level. This DEIR uses data collected and provided at the project and county level wherever feasible in an effort to provide comprehensive analysis.

#### ENVIRONMENTAL SETTING

##### Countywide Agricultural Resources

Agriculture plays an important role in San Mateo County. As of 2008, approximately 19 percent of the County’s land was agricultural.<sup>1</sup> Total agricultural production has remained relatively stable over the last three years.<sup>2</sup> San Mateo County’s agricultural products include floral and nursery crops grown both indoors and outdoors, vegetable crops, fruits and nuts, field crops, livestock, apiary, and forest products. In 2007, San Mateo County was one of the leading counties for production of potted plants, nursery stock, cut flowers, mushrooms, and brussels sprouts.<sup>3</sup>

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<sup>1</sup> *Indicators for a Sustainable San Mateo County, 2008*, website: <http://www.sustainablesanmateo.org/indicators-report/reports/2008-indicators-report/>, accessed on February 24, 2009 (citing San Mateo County Department of Agriculture and Weights & Measures.)

<sup>2</sup> *Indicators for a Sustainable San Mateo County, 2009*, website: <http://www.sustainablesanmateo.org/indicators-report/reports/2009-indicators-report/>, accessed on May 5, 2009.

<sup>3</sup> *California Department of Food and Agriculture, Agricultural Statistical Review, 2007 Overview, page 29*, website: [http://www.cdfa.ca.gov/statistics/files/CDFa\\_Sec2.pdf](http://www.cdfa.ca.gov/statistics/files/CDFa_Sec2.pdf), accessed on April 29, 2009.

The Coastside where the project site is located is predominantly rural and devoted to agricultural, recreational, or open space uses.<sup>4</sup> Various row crops are grown on broad coastal terraces and in narrow alluvial stream valleys, while cattle grazing and dry farming occur on the surrounding coastal foothills. The prime agricultural soils in the mid- and southcoast, together with climate conditions, provide an ideal environment for growing certain specialty crops.<sup>5</sup> These crops include artichokes, brussel sprouts, and cut flowers. Thus, these soils are in particular need of protection to provide the maximum opportunity for agricultural production.

## Climate

Climate factors are important considerations for the evaluation of agricultural resources with respect to land use. The climate of San Mateo County is of the semi-arid Mediterranean type, characterized by dry, mild summers and moderately moist, cool winters.<sup>6</sup> Factors associated with the Mediterranean climate in this area contribute to successful agricultural production for many crops, such as brussel sprouts and artichokes. Most of the rainfall that replenishes water resources occurs between November and April. Average annual rainfall varies between 15 to 25 inches on the Bayside, 20 to 30 inches on the Coastside, and 45 to 50 inches in the Santa Cruz Mountains. The Santa Cruz Mountain Range causes this variation and serves as a barrier to storm fronts and coastal fog approaching from the west. Thus, areas east of the Santa Cruz Mountains are in a rain shadow and the majority of rainfall occurs on the Coastside and in the Santa Cruz Mountains.

## Project Site Agricultural Resources

The site has been in and out of agricultural production since the 1930s. Up until recently, Swiss chard, cauliflower, and broccoli were being grown at the site. In September 2009, beans, peas, pumpkins and native nursery plants were grown at the site. The current property owner started farming the site in 2003. The site comprises approximately 19.4 acres of relatively flat undeveloped land and is currently irrigated during certain periods of the growing season to cultivate vegetable row crops.

As outlined in Section IV.G (Hazards & Hazardous Materials), per a Phase I Environmental Site Assessment conducted by Treadwell & Rollo (March 26, 2007) for the project site, pesticides may have been applied to soil at the site during agricultural use.

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<sup>4</sup> *San Mateo County General Plan, General Land Use, page 7.1, 7.7, website: [http://www.sforoundtable.org/P&B/gp/GP%20Ch%2007\\_General\\_LU.pdf](http://www.sforoundtable.org/P&B/gp/GP%20Ch%2007_General_LU.pdf), accessed on February 27, 2009.*

<sup>5</sup> *County of San Mateo, General Plan, Land Use Chapter, page 7.18, website: [http://www.sforoundtable.org/P&B/gp/GP%20Ch%2007\\_General\\_LU.pdf](http://www.sforoundtable.org/P&B/gp/GP%20Ch%2007_General_LU.pdf), accessed on February 24, 2009.*

<sup>6</sup> *County of San Mateo, General Plan, Vegetative, Water, Fish and Wildlife Resources Chapter, pages 1.8-10, website: [http://www.sforoundtable.org/P&B/gp/GP%20Ch%2001\\_VWF%26W.pdf](http://www.sforoundtable.org/P&B/gp/GP%20Ch%2001_VWF%26W.pdf), accessed on May 5, 2009.*

## Classification Systems

The U.S. Department of Agriculture's (USDA) NRCS created various classification systems for agricultural land uses and measures of the suitability of soil for agricultural use. Described below are the Farmland Monitoring and Mapping Program (FMMP), the Land Capability Classification (LCC), and the Storie Index, as well as the application of these systems to the project site area.

### *Farmland Mapping and Monitoring Program*

The DOC FMMP was established in 1982 as an informational service to continue the important farmland mapping efforts begun in 1975 by the NRCS.<sup>7</sup> The FMMP does not constitute state regulation of local land use decisions. The intent of the NRCS was to produce agricultural resource maps based on soil quality and land use across the nation. As part of this nationwide mapping effort, NRCS developed a series of definitions known as the Land Inventory and Monitoring (LIM) criteria. The LIM criteria classifies land suitability for agricultural production, which includes analyzing the physical and chemical characteristics of soils including moisture capacity, soil temperature, pH balance, salinity, rooting depth, and flooding and erosion issues, as well as examining whether the land was used for agricultural production during the last four years. Important Farmland Maps are derived from NRCS soil survey maps using LIM criteria. The minimum mapping unit is generally 10 acres. The program maintains an inventory of state agricultural land and updates its "Important Farmland Series Map" every two years. The FMMP map identifies eight classifications of land capability, which are described below.<sup>8</sup>

#### *Prime Farmland*

Prime Farmland is land which has the best combination of physical and chemical characteristics for the production of crops. It has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops when treated and managed according to current farming methods that include water management. Prime Farmland must have been used for the production of irrigated crops at some time during the two update cycles prior to the mapping date. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use.

#### *Farmland of Statewide Importance*

Farmland of Statewide Importance is land other than Prime Farmland which has a good combination of physical and chemical characteristics for the production of crops. It must have been used for the

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<sup>7</sup> California Department of Conservation, Division of Land Resource Protection, *A Guide to the Farmland Mapping and Monitoring Program*, 2004 edition, page 5, website: [http://www.conservation.ca.gov/dlrp/fmmp/pubs/Documents/fmmp\\_guide\\_2004.pdf](http://www.conservation.ca.gov/dlrp/fmmp/pubs/Documents/fmmp_guide_2004.pdf), accessed on February 24, 2009.

<sup>8</sup> California Department of Conservation, Division of Land Resource Protection, *Important Farmland Mapping Categories and Soil Taxonomy Terms*, website: [http://www.consrv.ca.gov/dlrp/fmmp/pubs/Documents/soil\\_criteria.pdf](http://www.consrv.ca.gov/dlrp/fmmp/pubs/Documents/soil_criteria.pdf), accessed on February 25, 2009.

production of irrigated crops at some time during the two update cycles prior to the mapping date. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use.

#### *Unique Farmland*

Unique Farmland is land which does not meet the criteria for Prime Farmland or Farmland of Statewide Importance but has been used for the production of specific high economic value crops at some time during the two update cycles prior to the mapping date. It has the special combination of soil quality, location, growing season, and moisture supply needed to produce sustained high quality and/or high yields of a specific crop when treated and managed according to current farming methods. Examples of such crops may include oranges, olives, avocados, rice, grapes, and cut flowers. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use.

#### *Farmland of Local Importance*

Farmland of Local Importance is either currently producing crops, has the capability of production, or is used for the production of confined livestock. Farmland of Local Importance is land other than Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. This land may be important to the local economy due to its productivity or value. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use.

#### *Grazing Land*

Grazing Land is defined in Government Code §65570(b)(3) as: "...land on which the existing vegetation, whether grown naturally or through management, is suitable for grazing or browsing of livestock." The minimum mapping unit for Grazing Land is 40 acres. Grazing Land does not include land previously designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, or heavily brushed, timbered, excessively steep, or rocky lands which restrict the access and movement of livestock.

#### *Urban and Built-up Land*

Urban and Built-up Land is used for residential, industrial, commercial, construction, institutional, public administrative purposes, railroad yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment plants, water control structures, and other development purposes. Highways, railroads, and other transportation facilities are mapped as a part of Urban and Built-up Land if they are a part of the surrounding urban areas.

Units of land smaller than ten acres will be incorporated into the surrounding map classifications. The building density for residential use must be at least one structure per 1.5 acres (or approximately 6 structures per 10 acres). Urban and Built-up Land must contain man-made structures or buildings under construction, and the infrastructure required for development (e.g., paved roads, sewers, water, electricity, drainage, or flood control facilities) that are specifically designed to serve that land. Parking lots, storage and distribution facilities, and industrial uses such as large packing operations for agricultural produce

will generally be mapped as Urban and Built-up Land even though they may be associated with agriculture.

Urban and Built-up Land does not include strip mines, borrow pits, gravel pits, farmsteads, ranch headquarters, commercial feedlots, greenhouses, poultry facilities, or road systems for freeway interchanges outside of areas classified as Urban and Built-up Land areas. Within areas classified as Urban and Built-up Land, vacant and nonagricultural land which is surrounded on all sides by urban development and is less than 40 acres in size will be mapped as Urban and Built-up. Vacant and nonagricultural land larger than 40 acres in size will be mapped as Other Land.

#### *Other Land*

Other Land is that which is not included in any of the other mapping categories. The following types of land are generally included:

- a. rural development which has a building density of less than one structure per 1.5 acres, but with at least one structure per ten acres;
- b. brush, timber, wetlands, and other lands not suitable for livestock grazing;
- c. government lands not available for agricultural use;
- d. road systems for freeway interchanges outside of Urban and Built-up Land areas;
- e. vacant and nonagricultural land larger than 40 acres in size and surrounded on all sides by urban development;
- f. confined livestock, poultry, or aquaculture facilities, unless accounted for by the county's Farmland of Local Importance definition;
- g. strip mines, borrow pits, gravel pits, and ranch headquarters, or water bodies smaller than 40 acres; and
- h. a variety of other rural land uses.

#### *Land Committed to Nonagricultural Use*

Land Committed to Nonagricultural Use is land that is permanently committed by local elected officials to nonagricultural development by virtue of decisions which cannot be reversed simply by a majority vote of a city council or county board of supervisors.

#### *Land Capability Classification*

Existing soil quality and water availability are some of the predominant factors that determine where agricultural resources will occur and what type of crops will be grown. Soil units are classified according to their characteristics with an emphasis on those features that influence their suitability for the growing of crop plants, grasses and trees. Soil units often form a mixed pattern so that they are grouped based on similar characteristics and are represented as an association. An association is made up of two or more

soil units that are represented as one unit on NRCS maps. Within these soil types, minor soil differences, such as the variations in effective rooting depth, slope, erosion, drainage and salt content or alkali content may be important factors for agricultural production.

The LCC system indicates suitability for most kinds of crops. Groupings are made according to the limitations of the soils when used to grow crops and the risk of damage to soils when they are used in agriculture.<sup>9</sup> As shown in Table IV.B-1, soils are rated from Class I to Class VIII, with soils having the fewest limitations receive the highest rating (Class I). Subclasses (e, w, s, and c) are also utilized to further characterize soils.

**Table IV.B-1**  
**Land Capability Classification System**

<b>Class</b>	<b>Definition</b>
I	Soils have slight limitations that restrict their use.
II	Soils have moderate limitations that reduce the choice of plants or require moderate conservation practices.
III	Soils have severe limitations that reduce the choice of plants or require special conservation practices, or both.
IV	Soils have very severe limitations that restrict the choice of plants or require very careful management, or both.
V	Soils have little or no hazard of erosion but have other limitations, impractical to remove, that limit their use mainly to pasture, range, forestland, or wildlife food and cover.
VI	Soils have severe limitations that make them generally unsuited to cultivation and that limit their use mainly to pasture, range, forestland, or wildlife food and cover.
VII	Soils have very severe limitations that make them unsuited to cultivation and that restrict their use mainly to grazing, forestland, or wildlife.
VIII	Soils and miscellaneous areas have limitations that preclude their use for commercial plant production and limit their use to recreation, wildlife, water supply or aesthetic purposes.
<b>Subclass</b>	<b>Definition</b>
e	Made up of soils for which the susceptibility to erosion is the dominant problem or hazard affecting their use. Erosion susceptibility and past erosion damage are the major soil factors that affect soils in this subclass.
w	Made up of soils for which excess water is the dominant hazard or limitation affecting their use. Poor soil drainage, wetness, a high water table, and overflow are the factors that affect soils in this subclass.
s	Made up of soils that have soil limitations within the rooting zone, such as shallowness of the rooting zone, stones, low moisture-holding capacity, low fertility that is difficult to correct, and salinity issues.
c	Made up of soils for which the climate (e.g., temperature or lack of

<sup>9</sup> California Department of Conservation, *California Agricultural Land Evaluation and Site Assessment Model Instruction Manual*, 1997, page 7, website: <http://www.consrv.ca.gov/dlrp/LESA/lesamodl.pdf>, accessed on February 26, 2009.



**Table IV.B-1  
Land Capability Classification System**

Class	Definition
	moisture) is the major hazard or limitation affecting their use.
<i>Source: United States Department of Agriculture, Natural Resource Conservation Service, National Soil Survey Handbook, Part 622, <a href="http://soils.usda.gov/technical/handbook/contents/part622.html#02">http://soils.usda.gov/technical/handbook/contents/part622.html#02</a>, accessed on February 25, 2009.</i>	

### ***Storie Index***

As shown in Table IV.B-2, the Storie Index provides a numeric rating based on a 100 point scale of the relative degree of suitability or value of a given soil for intensive agriculture. The rating is based on soil characteristics only. Factors that represent the inherent characteristics and qualities of the soil are considered in the index rating. The factors include profile characteristics, texture of the surface layer, slope, and other aspects such as drainage and salinity.<sup>10</sup>

**Table IV.B-2  
Storie Index Rating**

Grade	Index Rating	Description
1	80-100	Few limitations that restrict their use for crops.
2	60-80	Suitable for most crops, but have minor limitations that narrow the choice of crops and have a few special management needs.
3	40-60	Suited to a few crops or to special crops and require special management.
4	20-40	If used for crops, are severely limited and require special management.
5	10-20	Not suited for cultivated crops, but can be used for pasture and range.
6	Less than 10	Soil and land types generally not suited to farming.
<i>Source: University of California-Berkeley, Storie, R. Earl and Walter W. Weir, Manual for Identifying and Classifying California Soil Series, 1948 with 1958 Supplement, revised 1978, <a href="http://anrcatalog.ucdavis.edu/pdf/3203.pdf">http://anrcatalog.ucdavis.edu/pdf/3203.pdf</a>, accessed on February 25, 2009.</i>		

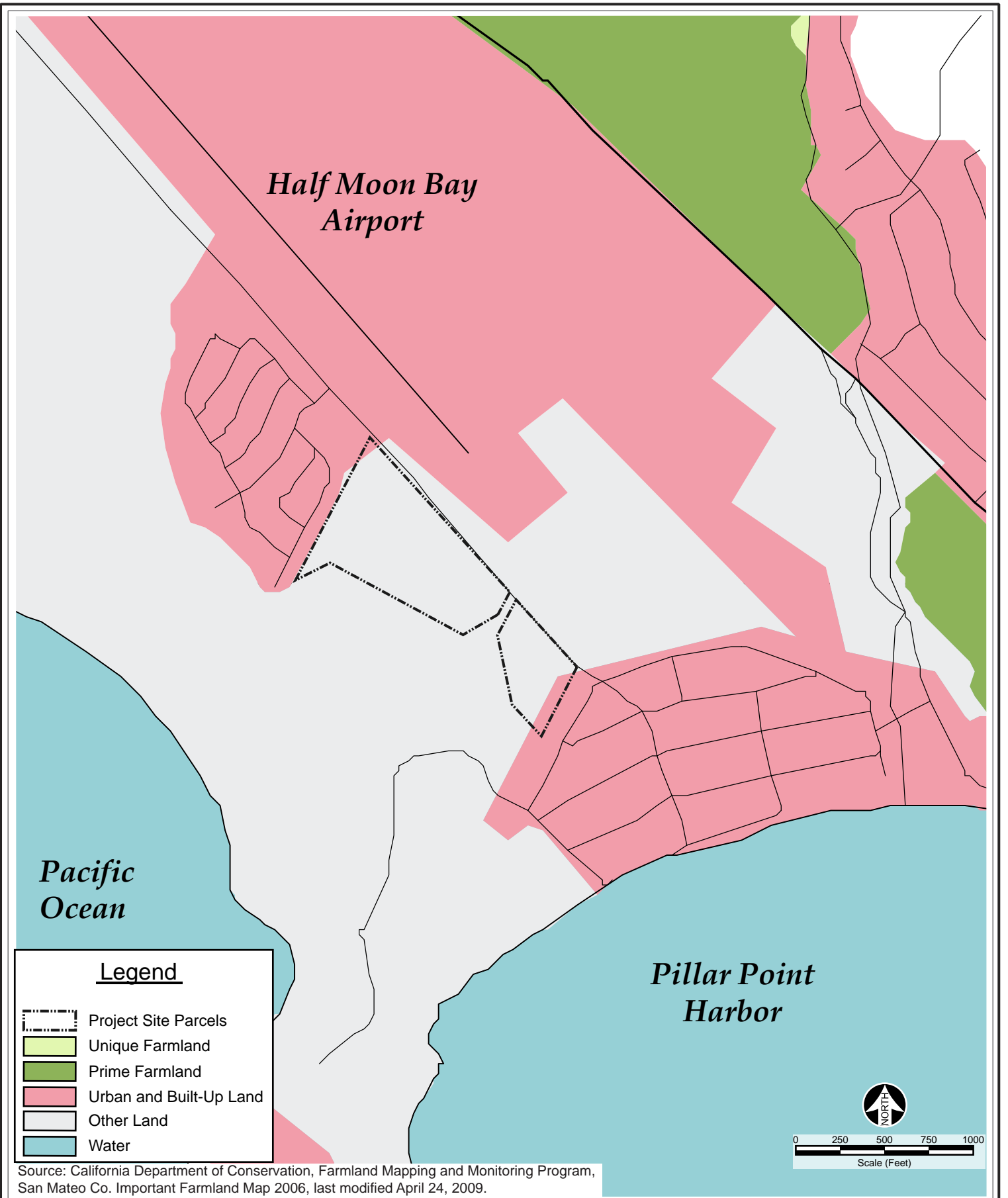
### ***Onsite and Surrounding Classifications***

#### ***Farmland Mapping***

According to the FMMP information as displayed in Figure IV.B-1, the land on the project site is primarily classified as Other Land with minor portions on the outskirts being classified as Urban and Built-up Land.<sup>11</sup> Although the project site has historically been used for agricultural purposes, the site is completely surrounded by and located in an area that is mostly classified as Urban and Built-up Land, as

<sup>10</sup> *Ibid.*

<sup>11</sup> *California Department of Conservation, Farmland Mapping and Monitoring Program, San Mateo County Important Farmland Map 2006, website: <ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2006/smt06.pdf>, accessed on February 26, 2009.*



well as Other Land. Land directly to the north and to the southeast of the project site, including the Half Moon Bay Airport property, is classified as Urban and Built-up Land. Land directly to the southwest of the project site is classified as Other Land. The area located east and northeast of the project site, beyond the Airport, is classified as Prime Farmland with some Unique Farmland. These important farmlands are located approximately 1/3 mile from the project site and are surrounded by Urban and Built-up Land, as well as Other Land.

#### *Land Capability Classification and Storie Index Rating*

The NRCS has identified and mapped soils for the project site and surrounding areas, as shown in Figure IV.B-2. The project site consists of two soil types that are presented with their respective LCCs and Storie Index Ratings in Table IV.B-3. Soil at the site consists of “Denison clay loam, nearly level” and “Denison clay loam, nearly level, imperfectly drained”. The Denison clay loam, nearly level, is categorized as Class IIs and the Denison clay loam, nearly level, imperfectly drained, is classified as Class IIw. Hence, the soils within the project site have moderate limitations relating to excessive water issues and soil limitations within the rooting zone. The NRCS Storie Index rates the project site’s soil types as 72 and 65, respectively. As such the soils qualify as Grade 2 soils, which are suitable for most crops, but have minor limitations that narrow the choice of crops and which have a few special management needs.

**Table IV.B-3  
Project Site Soil Types, Land Capability Classifications, and Storie Index Ratings**

Soil Map Unit	Acres	Proportion of Project Area (%)	Soil Classification	Storie Index Rating
Denison clay loam, nearly level	15	0.75	IIs	72
Denison clay loam, nearly level, imperfectly drained	5	0.25	IIw	65
<b>Total</b>	<b>20</b>	<b>100%</b>		

*Source: U.S. Department of Agriculture, Natural Resources Conservation Service, Soil Data Mart information retrieval for County of San Mateo, 2006; and Christopher A. Joseph & Associates, 2006.*

#### **Conversion of Farmlands in San Mateo County**

The FMMP identifies agricultural land that is lost as well as gained during two year periods. The FMMP data is used to determine the amount of farmland that is being converted to nonagricultural uses in California and in each county. According to the DOC, between the years 2006 and 2008, San Mateo County lost a net total of 2,943 acres of important farmland (i.e., Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance) and gained a net total of 2,665 acres of grazing land, resulting in a net loss of 278 acres of total agricultural land.<sup>12</sup> Of the agricultural land lost

<sup>12</sup> California Department of Conservation, *Farmland Mapping and Monitoring Program, San Mateo County 2006-2008 Land Use Conversion*, website: [http://redirect.conservation.ca.gov/dlrp/fmmp/county\\_info\\_results.asp](http://redirect.conservation.ca.gov/dlrp/fmmp/county_info_results.asp), accessed on June 16, 2009.

during that period, approximately 29 acres were converted to Urban and Built-up Land. Approximately 17 of those acres were from important farmland. During that same time period 1 acre of Urban and Built-up Land was converted to agricultural land (specifically, important farmland). Therefore, the County experienced a net loss of approximately 28 acres of agricultural land from urban land between the years of 2006 and 2008, and in addition approximately 353 additional acres of agricultural land were converted to Other Land uses, through the acquisition of land by governmental agencies which may, in some cases, lease the land back to agricultural users.

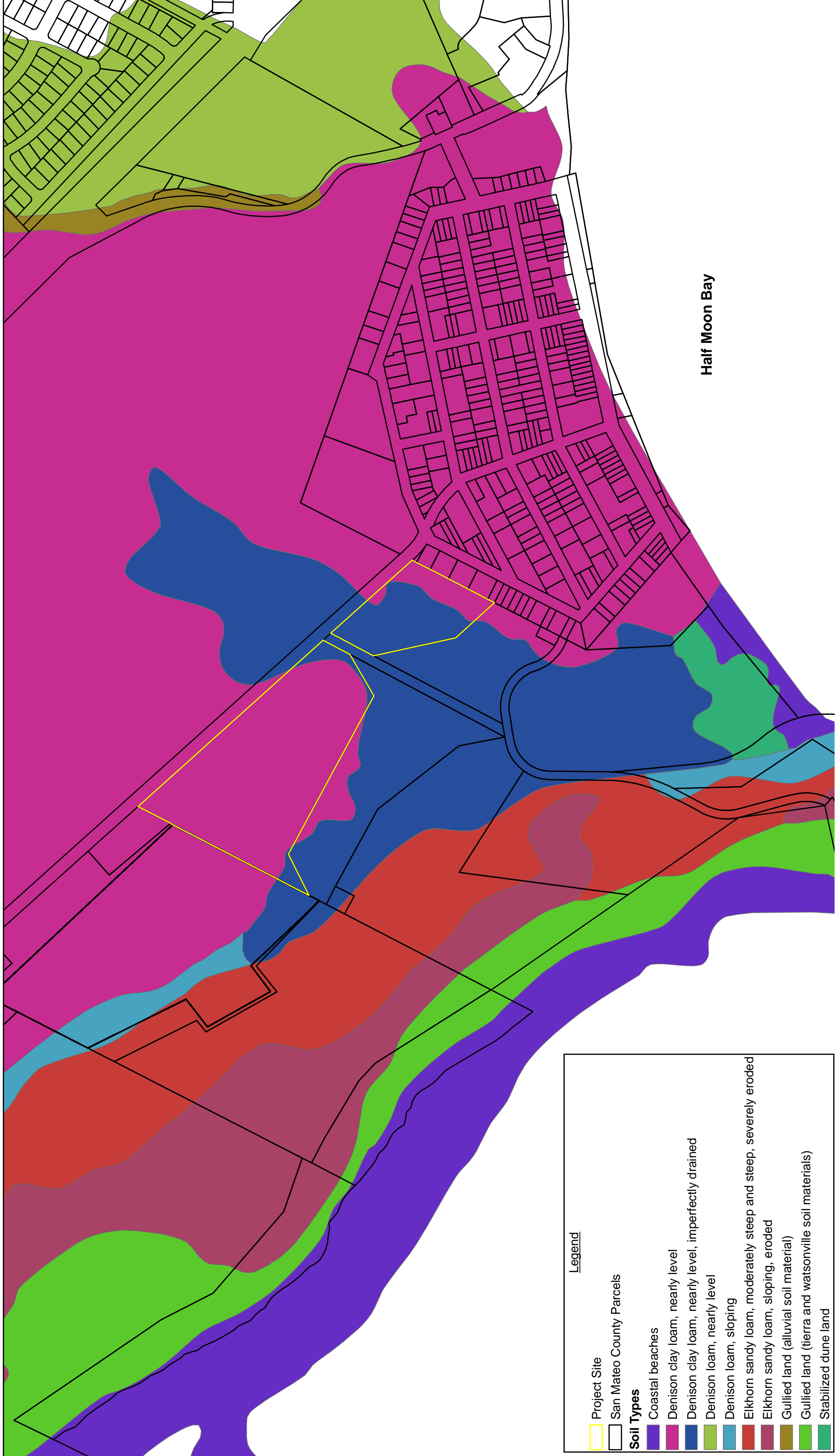
However, as shown in Table IV.B-4, trends in the loss of farmland may fluctuate depending upon the two-year period considered. In comparison to the period of 2006 to 2008, 17 acres of agricultural land (of which seven acres were important farmland) were converted to Urban and Built-up Land between the years 2004 and 2006, and 36 acres of Urban and Built-up Land were converted to agricultural land (of which 10 acres were converted to important farmland).<sup>13</sup> Therefore, the County experienced a 19 acre gain of agricultural land from urban land during the period. In addition, in the period between 2002 and 2004, 3 acres of agricultural land (all important farmland) were converted to Urban and Built-up Land, and 19 acres of Urban and Built-up Land were converted to agricultural land (all important farmland).<sup>14</sup> Therefore, the County experienced a 16 acre gain of agricultural land (all important farmland) during that period.

**Table IV.B-4**  
**County of San Mateo**  
**Agricultural-Urban Land Conversions by Acreage (2002-2008)**

<b>Land Conversion</b>	<b>2002-2004</b>	<b>2004-2006</b>	<b>2006-2008</b>
Important Farmland → Urban	3	7	17
<b>Agricultural → Urban</b>	3	17	29
Urban → Important Farmland	19	10	1
<b>Urban → Agricultural</b>	19	36	1
Net Important Farmland Gain (Loss)	16	3	(16)
<b>Net Agricultural Gain (Loss)</b>	16	19	(28)
<i>Source: California Department of Conservation, Farmland Mapping and Monitoring Program, <a href="http://www.conservation.ca.gov/dlrp/fmmp/Pages/Index.aspx">http://www.conservation.ca.gov/dlrp/fmmp/Pages/Index.aspx</a>, accessed on June 16, 2009.</i>			

<sup>13</sup> California Department of Conservation, Farmland Mapping and Monitoring Program, San Mateo County 2002-2004 Land Use Conversion, website: [http://redirect.conservation.ca.gov/dlrp/fmmp/pubs/2002-2004/conversion\\_tables/smtcon04.xls](http://redirect.conservation.ca.gov/dlrp/fmmp/pubs/2002-2004/conversion_tables/smtcon04.xls), accessed on February 25, 2009.

<sup>14</sup> California Department of Conservation, Farmland Mapping and Monitoring Program, San Mateo County 2000-2002 Land Use Conversion, website: [http://redirect.conservation.ca.gov/dlrp/fmmp/pubs/2000-2002/conversion\\_tables/smtcon02.xls](http://redirect.conservation.ca.gov/dlrp/fmmp/pubs/2000-2002/conversion_tables/smtcon02.xls), accessed on February 25, 2009.



Half Moon Bay

**Legend**

- Project Site
- San Mateo County Parcels

**Soil Types**

- Coastal beaches
- Denison clay loam, nearly level
- Denison clay loam, nearly level, imperfectly drained
- Denison loam, nearly level
- Denison loam, sloping
- Elkhorn sandy loam, moderately steep and steep, severely eroded
- Elkhorn sandy loam, sloping, eroded
- Gullied land (alluvial soil material)
- Gullied land (tierra and watsonville soil materials)
- Stabilized dune land

Source: County of San Mateo, U.S. Department of Agriculture Natural Resources Conservation Service Soil Data, and Christopher A. Joseph & Associates, 2006.



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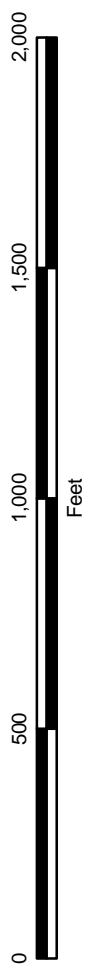


Figure IV.B-2  
Local Soil Types



## REGULATORY SETTING

### Federal

No federal plans, policies, regulations or laws related to agricultural resources are applicable to the proposed project.

### State

#### *Land Conservation Act of 1965 (Williamson Act)*

The project sites are not under a Williamson Act Contract.

The California Land Conservation Act of 1965 (California Government Code Section 51200) also known as the Williamson Act recognizes the importance of agricultural land as an economic resource that is vital to the general welfare of society. The enacting legislation declares that the preservation of a maximum amount of the limited supply of agricultural land is necessary to the conservation of the state's economic resources, and is necessary not only to the maintenance of the agricultural economy of the state, but also for the assurance of adequate, healthful, and nutritious food for future residents of the state and of the nation.<sup>15</sup> Intended to assist the long-term preservation of prime agricultural land in the state, the Act creates an arrangement whereby private landowners contract with counties and cities to voluntarily restrict land to agricultural and open-space uses.<sup>16</sup> The vehicle for these agreements is a rolling term 10 year contract (i.e., unless either party files a "notice of nonrenewal" the contract is automatically renewed annually for an additional year). When under contract, the landowner no longer pays property tax for an assessed valuation based upon the property's urban development potential. Therefore, restricted parcels are assessed for property tax purposes at a rate consistent with their actual use, rather than potential market value. The Williamson Act is estimated to save agricultural landowners from 20 percent to 75 percent in property tax liability each year.<sup>17</sup> To be eligible for Williamson Act designation, land must be used to produce an agricultural commodity that is plant or animal and is produced in California for commercial purposes.

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<sup>15</sup> California Government Code §51220(a).

<sup>16</sup> California Department of Conservation, Division of Land Resource Protection, *Williamson Act Questions and Answers, page 1*, website: <http://www.conservation.ca.gov/dlrp/lca/Documents/WA%20fact%20sheet%2006.pdf>, accessed on February 27, 2009.

<sup>17</sup> *Ibid.*

## Regional and Local

### *San Mateo County General Plan*

The General Plan does not designate the land as Agricultural. It has a land use designation of General Industrial. Policies related to the protection of agricultural resources are provided below:

#### *Soil Resources*

##### 2.17 Regulate Development to Minimize Soil Erosion and Sedimentation

- To regulate development to minimize soil erosion and sedimentation; including, but not limited to, measures which consider the effects of slope, minimize removal of vegetative cover, ensure stabilization of disturbed areas and protect and enhance natural plant communities and nesting and feeding areas of fish and wildlife.

##### 2.18 Encouragement of Soil Protective Uses

- To encourage the continuance and expansion of soil protective uses in rural areas, specifically agriculture and forestry, for their ability to protect soil as an available resource, as well as produce beneficial food, fiber, and decorative crops.

##### 2.19 Preferred Uses in Areas With Productive Soil Resources

- To give preference to soil protective land uses in areas with productive soil resources. Allow other land uses which are compatible with soil protective uses and which minimally impact the continued availability and productivity of productive soil resources.

##### 2.20 Regulate Location and Design of Development in Areas With Productive

- To regulate location and design of development in a manner which is most protective of productive soil resources, including, but not limited to, measures which require clustering of structures; and the continued availability and productivity of productive soil resources.

##### 2.21 Protect Productive Soil Resources Against Soil Conversion

- Regulate land use and subdivision of productive soil resources and encourage appropriate management practices to protect against soil conversion. Regulations should place priorities according to the relative productive characteristics of the resource.

##### 2.28 Regulate Agricultural Activities Against Soil Depletion in Agricultural Areas

- Regulate agricultural activities to minimize against soil depletion.



*Park and Recreation Facilities*

## 6.12 Minimize Agricultural Land Use Conflicts

Preserve the best agricultural land for agricultural uses. On other lands capable of supporting agriculture, permit the location of park and recreation facilities when efforts are made to lease land not needed for recreational purposes to farm operations, and clearly defined buffer areas such as strips of land are established between these two uses to minimize land use conflicts.

*Rural Land Use*9.28 Encourage Existing and Potential Agricultural Activities

- To (a) encourage the continuance of existing agricultural and agriculturally- related activities; (b) encourage agricultural activities on soils with agricultural capability that are currently not in production; (c) consider agricultural land use designations for parcels which have existing agricultural activities or which contain soils with agricultural capability that are presently designated General Open Space; and (d) consider open space designations for agricultural parcels that are no longer capable of agricultural activities during future reviews of area plans.

9.30 Development Standards to Minimize Land Use Conflicts with Agriculture

- To (a) avoid to the greatest extent possible locating non-agricultural activities on soils with agricultural capability or lands in agricultural production; (b) locate non-agricultural activities in areas of agricultural parcels which cause the least disturbance to feasible agricultural activities; (c) buffer any non-agricultural activities from agricultural activities by means of distance, physical barriers or other non-disruptive methods; (d) ensure that any extension of public services and facilities to serve non-agricultural activities will not impair feasible agricultural activities.

*Agricultural Water Supplies*10.21 Agricultural Surface Water Uses

Protect downstream agricultural surface water sources by discouraging: (1) the creation of new non-agricultural parcels which would use nearby streams as a source for water supplies; and (2) the transfer of riparian rights to the new parcels.

***San Mateo County Local Coastal Program***

The San Mateo County Local Coastal Program (LCP) does not designate the project site as Agricultural parcels. Both project site parcels are designated as General Industrial; permitting light industrial, manufacturing, and research and development uses on the most northerly parcel, and permitting waterfront/marine industrial and light industrial on the most southerly parcel, with a small portion of the

site as Open Space (drainage swale).<sup>18</sup> Under LCP 5.1a, the parcels could potentially qualify as Prime Agricultural Lands due to having Class II rating under the Land Use Capability classification system. However, LCP 5.2 does not call for parcels containing prime soils to be designated as Agriculture if the parcel is located in an urban area.

#### 5.1 Definition of Prime Agricultural Lands

Define prime agricultural lands as:

- a. All land which qualifies for rating as Class I or Class II in the U.S. Department of Agriculture Soil Conservation Service Land Use Capability Classification, as well as all Class III lands capable of growing artichokes or Brussels sprouts.
- b. All land which qualifies for rating 80-100 in the Storie Index Rating.
- c. Land which supports livestock for the production of food and fiber and which has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the U.S. Department of Agriculture.
- d. Land planted with fruit or nut bearing trees, vines, bushes, or crops which have a non-bearing period of less than five years and which normally return during the commercial bearing period, on an annual basis, from the production of unprocessed agricultural plant production not less than \$200 per acre.
- e. Land which has returned from the production of an unprocessed agricultural plant product an annual value that is not less than \$200 per acre within three of the five previous years. The \$200 per acre amount in subsections d. and e. shall be adjusted regularly for inflation, using 1965 as the base year, according to a recognized consumer price index.

#### 5.2 Designation of Prime Agricultural Lands

Designate any parcel which contains prime agricultural lands as Agriculture on the Local Coastal Program Land Use Plan Map, subject to the following exceptions: State Park lands existing as of the date of Local Coastal Program certification, urban areas, rural service centers, and solid waste disposal sites necessary for the health, safety, and welfare of the County.

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<sup>18</sup> *Midcoast LCP Update Project Map, San Mateo County Planning & Building Division, May 30, 2002, website: [http://www.co.sanmateo.ca.us/planning/pdf/midcoast\\_lcp\\_update.pdf](http://www.co.sanmateo.ca.us/planning/pdf/midcoast_lcp_update.pdf), accessed on May 20, 2009.*

### ***Montara-Moss Beach-El Granada Community Plan***

The Montara-Moss Beach-El Granada community extends along the Pacific Coast from Martini Creek, at the base of Montara Mountain, to the northerly city limits of Half Moon Bay. With respect to agricultural resources, the community plan contains the following policies:

- 5.1 Protect and enhance prime agricultural and open space lands within the community and maintain the existing balance between urban and open lands;
- 5.2 Maintain agricultural production in all viable areas and encourage the placement of prime agricultural soils in agricultural preserves (Williamson Act);
- 5.3 Restrict residential development in areas of prime agricultural soils to development related to agricultural production;
- 5.4 Retain prime agricultural land in A-1 (Agriculture) or RM (Resource Management) zoning for protection against urban development;
- 5.5 Sublease areas of prime soils within publicly owned parks and the Half Moon Bay Airport for agricultural production.

### ***San Mateo County Zoning Regulations***

Neither of the parcels is zoned for agricultural use, and instead contains the following zoning:

Northern Parcel:	Light Industrial/Design Review/Coastal Development District (M-1/DR/CD)
	Light Industrial/Airport Overlay/Design Review/Coastal Development District (M-11/AO/DR/CD)
Southern Parcel:	Waterfront/Design Review/Coastal Development District (W/DR/CD)
	Waterfront/Airport Overlay/Design Review/Coastal Development District (W/AO/DR/CD)

### ***Coastal Development (CD) District Ordinance***

The CD District covers the entire Coastal Zone within unincorporated San Mateo County. Development in this District requires a Coastal Development Permit, applications for which are evaluated against the applicable policies of the LCP. Development review criteria relevant to soil resources are included in the Agriculture, Hazards, Sensitive Habitats and other components of the LCP.

For a more detailed analysis of the land uses associated with the proposed project, refer to Section IV.I (Land Use and Planning) of this DEIR.

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## ENVIRONMENTAL IMPACTS

### Thresholds of Significance

Based on Appendix G of the CEQA Guidelines, the proposed project could have a significant environmental impact on agriculture resources if it would:

- (a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- (b) Conflict with existing zoning for agricultural use or a Williamson Act contract; or
- (c) Involve other changes in the existing environment which, due to their location or nature, could result in the conversion of Farmland to non-agricultural use.

As discussed in Section V.C (Impacts Found to Be Less Than Significant) of this DEIR, impacts associated with State CEQA Guidelines Threshold (b) provided above was determined to be less than significant. Therefore, only Thresholds (a) and (c) listed above are addressed in the following discussion.

### Project Impacts and Mitigation Measures

#### ***Impact AG-1 Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Important Farmland) to Non-Agricultural Use***

The project site is depicted as Urban and Built-up Land and Other Land on the Important Farmland Map for San Mateo County. Therefore, the project site has not been designated as important farmland and development of the site would not involve conversion of important farmland.

As discussed previously, the soils at the project site are classified as Class II soils under the LCC system and classified as Grade 2 soils using the Storie Index rating. These classifications generally indicate that the soils are suitable for most crops with moderate limitations. The site has been in an out of agricultural production since the 1930s and was recently being used to grow Swiss chard, cauliflower, and broccoli. However, the site is not designated as an Agricultural land use per the San Mateo County General Plan and the LCP. Both parcels are currently designated as General Industrial.

As discussed above, the proposed development within both parcels would not completely preclude crop production in the future since a component of the proposed project includes Big Wave (BW) Farming. This would include: (1) farming up to 12 acres of row crops on an existing farm (located immediately east of the Wellness Center property) to be leased by the project; and (2) operating a 5-acre onsite native plant nursery.

Therefore, the proposed project would not involve the conversion of important farmland. Impacts related to the conversion of important farmland would be *less than significant* and no mitigation measures are required.

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***Impact AG-2 Changes in the Existing Environment which could Result in the Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Important Farmland) to Non-Agricultural Use***

As described previously, there is no important farmland adjacent to the project site. The nearest important farmlands are located 1/3 mile from the project site, on the other side of the Airport, and are surrounded by lands classified as Urban and Built-up Land, as well as Other Land. No offsite roadway improvements are included as part of the proposed project, as well as all proposed infrastructure for project-related utilities and service systems would be developed onsite or immediately adjacent to the site (e.g., offsite wastewater infrastructure hook-ups for use of tertiary treated water on the adjacent, offsite proposed 12-acre row crop agricultural uses). Therefore, no proposed infrastructure improvements would interfere with existing offsite agricultural uses.

The proposed project includes onsite and offsite agricultural uses, such as: (1) farming up to 12 acres of row crops on an offsite adjacent parcel currently utilized for farming; and (2) operating a 5-acre onsite native plant nursery.

Overall, the proposed project would not involve changes to the existing environment, which could result in the conversion of important farmland. Therefore, impacts would be ***less than significant*** and no mitigation measures are required.

### **CUMULATIVE IMPACTS**

The proposed project does not involve the loss of important farmland or Williamson Act contract land onsite or nearby, and therefore does not contribute to a cumulative loss of agricultural land. Although the agricultural use at the project site would be largely replaced by non-agricultural uses, farming operations would still be maintained on- and off-site as part of the new development and therefore the development would not impact agricultural uses on properties categorized as important farmland or Williamson Act contract land.

Therefore, the proposed project's contribution to significant cumulative impacts would be ***less than significant*** and no mitigation measures are required.

### **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

Project specific impacts related to agriculture resources would be ***less than significant***.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### C. AIR QUALITY

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#### INTRODUCTION

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential air quality impacts associated with the implementation of the proposed Big Wave Wellness Center and Office Park project (“proposed project”). This air quality assessment has been prepared using analytical methodologies and evaluation criteria outlined by the California Environmental Quality Act (CEQA) Guidelines (Appendix G), the Bay Area Air Quality Management District (BAAQMD) in the document entitled, “*BAAQMD CEQA Guidelines: Assessing the Air Quality Impacts of Projects and Plans*,” published in December of 1999, and the County of San Mateo General Plan. As recommended, all three main categories of air pollutants are assessed; criteria air pollutants, toxic air contaminants (TACs), and greenhouse gases.

#### METHODOLOGY

The potential air quality impacts are evaluated by qualitatively and quantitatively assessing the air pollutant emissions resulting from the construction and operation of the proposed project. Construction related emissions would include construction equipment exhaust and fugitive dust associated with grading activities. Project operational emissions evaluated in this DEIR include the air emissions from the potential increase in traffic as well as area source emissions (e.g., natural gas usage in the residences and offices).

The net increase in air pollutant emissions generated by the implementation of the project has been quantitatively estimated using the URBEMIS 2007 computer model distributed for use by the California Air Resources Board (CARB) and recommended for use by the BAAQMD. These estimated air emissions were then compared to the thresholds of significance contained in the *BAAQMD CEQA Guidelines* (discussed below). In addition, the project’s consistency with all applicable State, regional, and local rules and regulations was assessed using the State CEQA Guidelines, the *BAAQMD CEQA Guidelines*, and the County of San Mateo General Plan as guidance.

#### ENVIRONMENTAL SETTING

##### Project Location

The 19.4-acre project site is located on Airport Street, northwest of the Princeton/Pillar Point Harbor area in unincorporated County of San Mateo. The County of San Mateo, which is located on the San Francisco Peninsula, is part of the nine-county San Francisco Bay Area Air Basin (“the Basin”). The Basin encompasses seven counties (Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara and Napa) and portions of two others (southwestern Solano and southern Sonoma). The air quality within the Basin is influenced by a wide range of emissions sources, such as dense population centers, heavy vehicular traffic, and industry.

## Climate and Topography

Per the *BAAQMD CEQA Guidelines*, the project site is located along the western coast within the peninsula subregion of the Basin.<sup>1</sup> The Santa Cruz Mountains run up the center of the peninsula subregion, with elevations exceeding 2000 feet at the southern end, decreasing to 500 feet in South San Francisco. As a result, coastal towns experience a high incidence of cool, foggy weather in the summer. Cities in the southeastern peninsula experience warmer temperatures and fewer foggy days because the marine layer is blocked by the ridgeline to the west. The blocking effect of the Santa Cruz Mountains results in variations in summertime maximum temperatures in different parts of the peninsula.

For example, at Half Moon Bay and San Francisco, the maximum daily temperatures in June through August are 62 to 64 degrees F, while on the eastern side at Redwood City, the maximum temperatures are in the low 80s for the same period. Daily maximum temperatures throughout the peninsula during the winter months are in the high 50s. Large temperature gradients are not seen in the minimum temperatures. Average minimum temperatures at Half Moon Bay are about 43 degrees in winter and 50-52 in summer. The east peninsula, represented by Redwood City, reports winter minimum temperatures of 40 degrees, and summer minimum temperatures of 52-54 degrees.

Two important gaps in the Santa Cruz Mountains occur on the peninsula. The larger of the two is the San Bruno Gap, extending from Fort Funston on the ocean to the San Francisco Airport. Because the gap is oriented in the same northwest to southeast direction as the prevailing winds, and because the elevations along the gap are less than 200 feet, marine air is easily able to penetrate into the bay. The other gap is the Crystal Springs Gap, between Half Moon Bay and San Carlos. As the sea breeze strengthens on summer afternoons, the gap permits maritime air to pass across the mountains, and its cooling effect is commonly seen from San Mateo to Redwood City.

Rainfall amounts on the east side of the peninsula are somewhat lower than on the west side with San Francisco and Redwood City reporting an average of 19.5 inches per year. On the west side, Half Moon Bay reports 25 inches per year. Areas in the Santa Cruz Mountains are significantly higher, especially west of the ridgeline, due to orographic-lifting induced condensation, close proximity to a moisture source, and fog drip.

Annual average wind speeds range from 5 to 10 mph throughout the peninsula, with higher wind speeds usually found along the coast. However, winds on the eastern side of the peninsula are often high in certain areas, such as near the San Bruno Gap and the Crystal Springs Gap. The prevailing winds along the peninsula's coast are from the west, although individual sites can show significant differences. The southeastern portion of the peninsula is the area most protected from the high winds and fog of the marine layer, and therefore has the highest air pollution potential.

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<sup>1</sup> *BAAQMD CEQA Guidelines, April 1996, p. D-14.*



## Existing Air Quality Conditions

Presently, three categories of air pollutants are regulated by federal, state, and/or regional government agencies; criteria pollutants, toxic air contaminants (TACs), and greenhouse gases. These air pollutants, which are emitted in the Basin via “everyday” activities, can pose significant health and environmental risks. A detailed description of each air pollutant category, the existing major sources of these air pollutants in the Basin, and the overall air quality conditions of the Basin are discussed below.

### *Criteria Air Pollutants*

The Federal Clean Air Act (FCAA) of 1970, and subsequent Federal Clean Air Act Amendments (FCAAA) of 1977 and 1990, required the establishment of national ambient air quality standards (NAAQS) for wide-spread pollutants considered harmful to public health and the environment. These pollutants, commonly referred to as criteria pollutants, include ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), respirable particulate matter (PM<sub>10</sub>), fine particulate matter (PM<sub>2.5</sub>), sulfur dioxide (SO<sub>2</sub>), and lead (Pb). A description of each criteria pollutant as well as their potential health impacts are presented below.

- **Ozone (O<sub>3</sub>)** is a highly reactive and unstable gas that is formed when reactive organic gases (ROGs) and nitrogen oxides (NO<sub>x</sub>), both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant. Short-term exposures (lasting for a few hours) to ozone at levels typically observed in areas of high ozone can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Elevated ozone levels may lead to increases in school absences, daily hospital admission rates, as well as mortality rates.
- **Carbon Monoxide (CO)** is a colorless, odorless gas produced by the incomplete combustion of carbon-containing fuels, such as gasoline or wood. CO concentrations tend to be the highest during the winter morning, when little to no wind and surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, motor vehicles operating at slow speeds are the primary source of CO in the Basin. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections.

Inhaled CO has no direct toxic effect on the lungs, but exerts its effect on tissues by interfering with oxygen transport. Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include patients with diseases involving heart and blood vessels, fetuses, and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes. Exposure to low levels of CO can cause fatigue, headaches, nausea, and dizziness, as well as aggravating cardiovascular disease. High concentrations of CO may be lethal with death resulting from asphyxiation.

- **Respirable Particulate Matter (PM<sub>10</sub>) and Fine Particulate Matter (PM<sub>2.5</sub>)** consist of extremely small, suspended particles or droplets 10 microns and 2.5 microns or smaller in diameter. Some sources of particulate matter, like pollen and windstorms, are naturally occurring. However, in populated areas, most particulate matter is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities. A consistent correlation between elevated ambient fine particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and the world. The elderly, people with pre-existing respiratory or cardiovascular disease and children are more susceptible to the effects of high levels of PM<sub>10</sub> and PM<sub>2.5</sub>.
- **Nitrogen dioxide (NO<sub>2</sub>)** is a nitrogen oxide compound that is produced from the combustion of fossil fuels, such as in internal combustion engines (both gasoline and diesel powered) and power plant facilities. Of the seven types of nitrogen oxide compounds, NO<sub>2</sub> is the most abundant in the atmosphere. Commuters in heavy traffic may be exposed to higher concentrations of NO<sub>2</sub> than those indicated by regional monitors. Short term exposure to NO<sub>2</sub> may lead to an increased resistance to air flow and airway contraction. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups. Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposures to NO<sub>2</sub>.
- **Sulfur dioxide (SO<sub>2</sub>)** is a colorless, extremely irritating gas or liquid. It enters the atmosphere mainly as a result of burning high sulfur-content fuel oils and coal, as well as from chemical processes occurring at chemical plants and refineries. When SO<sub>2</sub> oxidizes in the atmosphere, it forms sulfates (SO<sub>4</sub>). Collectively, these pollutants are referred to as sulfur oxides (SO<sub>x</sub>). Acute exposure to SO<sub>2</sub> can cause an increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties in asthmatics. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO<sub>2</sub>. Very high levels of exposure to SO<sub>2</sub> can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract.
- **Lead (Pb)** occurs in the atmosphere as particulate matter. Present sources of Pb include the manufacturing and recycling of batteries, paint, ink, ceramics, ammunition, and the use of secondary Pb smelters. The combustion of leaded gasoline was the primary source of airborne Pb in the Basin until the use of leaded gasoline was no longer permitted for on-road motor vehicles. Pb is also present in many soils and can get re-suspended in the air.

Fetuses, infants, and children are more sensitive than others to the adverse effects of Pb exposure. Exposure to low levels of Pb can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased Pb levels are associated with

increased blood pressure. Pb poisoning can cause anemia, lethargy, seizures, and death; although it appears that there are no direct effects of Pb on the respiratory system.

The average daily emissions of criteria pollutants from existing regional and local sources in the project vicinity are listed below in Table IV.C-1.

**Table IV.C-1  
2008 Estimated Average Daily Regional & Local Emissions**

Emissions Source	Emissions in Tons Per Day					
	ROG	CO	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>San Francisco Bay Area Air Basin</b>						
Stationary Sources	106.6	44.3	50.6	45.9	16.3	12.1
Area-Wide Sources	87.9	161.9	16.9	0.6	175.5	52.9
Mobile Sources	183.1	1,541.5	380.5	14.9	20.3	16.3
Natural (non-anthropogenic) Sources	106.5	49.4	1.6	0.5	5.1	4.3
Total Emissions	484.1	1,797.0	449.7	62.0	217.2	85.6
<b>San Mateo County</b>						
Stationary Sources	7.4	2.1	1.7	0.1	1.0	0.8
Area-Wide Sources	8.7	11.0	1.9	0.1	16.5	4.2
Mobile Sources	18.6	159.8	39.7	0.3	1.8	1.4
Natural (non-anthropogenic) Sources	6.9	–	–	–	–	–
Total Emissions	41.6	172.8	43.3	0.4	19.3	6.3
<i>Notes: – = information not available</i>						
<i>Source: California Air Resources Board, website: <a href="http://www.arb.ca.gov/app/emsmv/emssumcat.php">http://www.arb.ca.gov/app/emsmv/emssumcat.php</a>, July 2009.</i>						

Stationary (point) sources occur at an identified location and are usually associated with manufacturing and industry. Examples are boilers or combustion equipment that produces electricity or generates heat. Area sources are widely distributed and produce many small emissions. Examples of area sources include residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and consumer products such as barbecue lighter fluid and hair spray.

Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road. On-road sources may be legally operated on roadways and highways. Off-road sources include aircraft, ships, trains, racecars, and self-propelled construction equipment. Mobile sources account for the majority of the air pollutant emissions within the Basin. Air pollutants can also be generated by the natural environment (natural non-anthropogenic sources). For example, fine dust particles are pulled off the ground surface and suspended in the air during high winds.

### **Toxic Air Contaminants (TACs)**

TACs are a category of air pollutants regulated separately from criteria pollutants. TACs refer to a diverse group of air pollutants that are capable of causing chronic (e.g., of long duration) and acute (e.g., severe but of short duration) adverse effects on human health. TACs are suspected, or known, to cause

cancer, birth defects, neurological damage, or death. TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources, such as industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). Diesel exhaust is the predominant TAC in urban air and is estimated to represent about two-thirds of the cancer risk from TACs (based on the statewide average).

The preferred technique for reducing toxic air emissions is source reduction, and as part of a local control strategy in the Bay Area, all applications for new stationary sources are reviewed to ensure compliance with required emission controls and limits. The BAAQMD maintains an inventory of stationary sources of toxic air contaminants that emit TACs above certain threshold quantities in the Bay Area. Since the San Mateo County General Plan has not been updated since 1994, (published in 1986, Air Resources Chapter adopted in 1994) a list of facilities/stationary sources that exceed TAC threshold trigger levels in San Mateo County is not available.

### ***Greenhouse Gases***

Greenhouse gases refer to a group of compounds present in the earth's atmosphere that regulate temperature and climate by trapping a portion of the infrared radiation from the sun. The principal greenhouse gases are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), sulfur hexafluoride (SF<sub>6</sub>), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), and water vapor (H<sub>2</sub>O). CO<sub>2</sub> is the most predominant greenhouse gas in the Earth's atmosphere, as is therefore used as the baseline for determining the warming potential of the other greenhouse gases (CO<sub>2</sub>e equivalents). These greenhouse gases are produced via natural processes as well as human activities (e.g., combustion of fossil fuels).

Since the industrial revolution, there has been a significant increase in the amount of greenhouse gases emitted into the atmosphere. Research has shown that this exponential increase in greenhouse gas emissions from human activities has contributed to rapid Global Climate Change. Global Climate Change, also known as global warming, is a change in the average weather on earth that can be measured by wind patterns, storms, precipitation and temperature. Although there is disagreement as to the speed of global warming and the extent of the impacts attributable to human activities, most agree that there is a direct link between increased emissions of greenhouse gases and global temperature variations.

In December of 2008, the BAAQMD published a document entitled, "Source Inventory of Bay Area Greenhouse Gas Emissions."<sup>2</sup> This document is a greenhouse gas inventory for the Bay Area, which reflects the estimated 2007 greenhouse gas emissions for all seven counties located in the jurisdiction of the BAAQMD- Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, Napa, and the southern portions of Solano and Sonoma counties. This greenhouse gas inventory is based on the standards for criteria pollutant inventories and is intended to support the BAAQMD's climate protection activities.

Based on the information contained in the "Source Inventory of Bay Area Greenhouse Gas Emissions", Table IV.C-2 below shows the regional (Bay Area) and local (San Mateo County, project location) 2007

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<sup>2</sup> [http://www.mtc.ca.gov/planning/climate/Bay\\_Area\\_Greenhouse\\_Gas\\_Emissions\\_12-08.pdf](http://www.mtc.ca.gov/planning/climate/Bay_Area_Greenhouse_Gas_Emissions_12-08.pdf)

greenhouse gas emissions from existing direct and indirect greenhouse gas sources. The emissions are estimated for existing industrial, commercial, transportation, residential, forestry, and agriculture activities. The estimated greenhouse gas emissions are presented in carbon dioxide equivalents, which weight each greenhouse gas by its global warming potential. The global warming potentials used in the BAAQMD document “Source Inventory of Bay Area Greenhouse Gas Emissions” are in accordance with the Second Assessment Report (SAR) of the Intergovernmental Panel on Climate Change (IPCC).

**Table IV.C-2  
2007 Estimated Regional & Local Greenhouse Gas Emissions**

Emissions Source	Emissions in Tons of CO <sub>2</sub> e Per Year (2007)	
	Bay Area	San Mateo County
<b>Electricity/Co-Generation</b>	15,197,047	1,036,254
<b>Off-Road Equipment</b>	2,920,462	269,650
<b>Agricultural/Farming</b>	1,106,246	27,062
<b>Industrial/Commercial</b>		
Oil Refineries	14,187,633	0
Waste Management	1,576,275	212,580
Other	19,098,557	1,339,328
<b>Residential Fuel Usage</b>		
Natural Gas	6,495,464	723,595
LP Gas/Liquid Fuel	169,911	19,481
Solid Fuel	151,742	9,203
<b>Transportation</b>		
Off-Road	10,804,821	3,972,218
On-Road	30,844,862	3,351,469
<b>Total Emissions</b>	<b>102,552,991</b>	<b>10,960,839</b>
<i>Source: <a href="http://www.mtc.ca.gov/planning/climate/Bay_Area_Greenhouse_Gas_Emissions_12-08.pdf">http://www.mtc.ca.gov/planning/climate/Bay Area Greenhouse Gas Emissions 12-08.pdf</a> July 2009.</i>		

**Ambient Air Quality**

As discussed above, the FCAA requires the United States Environmental Protection Agency (U.S. EPA) to set NAAQS for six common air pollutants, typically referred to as “criteria pollutants”. The FCAA also afforded individual states the option to adopt standards that are more stringent and/or include other pollutants. As such, the CARB also established ambient air quality standards for the state (CAAQS) as outlined in the 1988 California Clean Air Act (CCAA). The national and state ambient air quality standards have been set at levels designed to protect human health, with an adequate margin of safety, including sensitive populations such as children, the elderly, and individuals suffering from respiratory disease.

Air quality in the Basin is monitored by the BAAQMD, which operates a regional network of air pollution monitoring stations to determine if the federal and state standards for criteria air pollutants (NAAQS and CAAQS) are being achieved. The BAAQMD Redwood City Monitoring Station is closest to the project site. Table IV.C-3 identifies the NAAQS and CAAQS for relevant air pollutants, the

concentrations registered, and the violations of State and Federal pollutant standards that have occurred at the Redwood City Monitoring Station from 2005 to 2007.

**Table IV.C-3  
Summary of Ambient Air Quality in the Project Vicinity**

Emissions Source	Standard	Year		
		2005	2006	2007
<b>Carbon Monoxide (CO)</b>				
Maximum 1-hour concentration measured		4.5 ppm	2.4 ppm	5.5 ppm
Days exceeding national 1-hour standard	35 ppm	0	0	0
Days exceeding State 1-hour standard	20 ppm	0	0	0
Maximum 8-hour concentration measured		2.3 ppm	1.7 ppm	2.3 ppm
Days exceeding national & State 8-hour standard	9.0 ppm	0	0	0
<b>Ozone (O<sub>3</sub>)</b>				
Maximum 1-hour concentration measured		0.084 ppm	0.085 ppm	0.077 ppm
Days exceeding State 1-hour standard	0.09 ppm	0	0	0
Maximum 8-hour concentration		0.061 ppm	0.063 ppm	0.069 ppm
Days exceeding national 8-hour standard	0.075 ppm	0	0	0
Days exceeding State 8-hour standard	0.070 ppm	0	0	0
<b>Nitrogen Dioxide (NO<sub>2</sub>)</b>				
Maximum 1-hour concentration measured		0.062 ppm	0.069 ppm	0.057 ppm
Days exceeding State 1-hour standard	0.25 ppm <sup>1</sup>	0	0	0
Annual Arithmetic Mean (AAM)		0.015 ppm	0.014 ppm	0.013 ppm
Exceedance of national AAM standard?	0.053 ppm	No	No	No
Exceedance of State AAM standard?	0.030 ppm	No	No	No
<b>Respirable Particulate Matter (PM<sub>10</sub>)</b>				
Maximum 24-hour concentration measured		81 µg/m <sup>3</sup>	70 µg/m <sup>3</sup>	56 µg/m <sup>3</sup>
Days exceeding national 24-hour standard	150 µg/m <sup>3</sup>	0	0	0
Days exceeding State 24-hour standard	50 µg/m <sup>3</sup>	2	2	1
Annual Arithmetic Mean (AAM)		20.9 µg/m <sup>3</sup>	19.8 µg/m <sup>3</sup>	19.6 µg/m <sup>3</sup>
Exceedance of State AAM standard?	20 µg/m <sup>3</sup>	Yes	No	No
<b>Fine Particulate Matter (PM<sub>2.5</sub>)</b>				
Maximum 24-hour concentration measured		30.9 µg/m <sup>3</sup>	75.3 µg/m <sup>3</sup>	45.4 µg/m <sup>3</sup>
Days exceeding national 24-hour standard	35 µg/m <sup>3</sup>	0	1	1
Annual Arithmetic Mean (AAM)		8.8 µg/m <sup>3</sup>	9.6 µg/m <sup>3</sup>	8.3 µg/m <sup>3</sup>
Exceedance of national AAM standard?	15 µg/m <sup>3</sup>	No	No	No
Exceedance of State AAM standard?	12 µg/m <sup>3</sup>	No	No	No
Notes: ppm = parts per million by volume µg/m <sup>3</sup> = micrograms per cubic meter				
<sup>1</sup> In 2008, the nitrogen dioxide standard was lowered from 0.25 to 0.18 ppm.				
Source: BAAQMD, July 2009. <a href="http://www.baaqmd.gov/Divisions/Communications-and-Outreach/Air-Quality-in-the-Bay-Area/Air-Quality-Summaries.aspx">http://www.baaqmd.gov/Divisions/Communications-and-Outreach/Air-Quality-in-the-Bay-Area/Air-Quality-Summaries.aspx</a>				

As shown in Table IV.C-3, the Redwood City monitoring station measurements indicate that the ambient air concentrations in the vicinity of the project have not exceeded the NAAQS or the CAAQS for CO, O<sub>3</sub>, and NO<sub>2</sub> from 2005-2007 (most recent data available). The State 24-hour standard for PM<sub>10</sub> was

exceeded twice in 2005 and 2006 and once in 2007. The national 24-hour standard for PM<sub>2.5</sub> was exceeded once in 2006 and 2007.

### ***Attainment Status***

Ambient air concentrations of criteria pollutants are used by the U.S. EPA and the CARB to assess and classify the air quality of each air basin, county, or a specific developed area. The classification is determined by comparing actual monitoring data with federal and state standards. If a pollutant concentration in an area is lower than the federal and/or state standard, the area is classified as being in “attainment”. If the pollutant concentration exceeds the federal and/or state standard, the area is classified as a “non-attainment” area. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated “unclassified.” The attainment status for the Basin is outlined below in Table IV.C-4.

**Table IV.C-4  
Ambient Air Quality Attainment Status for San Francisco Air Basin**

<b>Pollutant</b>	<b>State-Level Attainment Status</b>	<b>National-Level Attainment Status</b>
Ozone (1-hour)	Non-attainment	N/A
Ozone (8-hour)	Non-attainment	Non-attainment
Particulates (PM <sub>10</sub> ), (24-hour)	Non-attainment	Unclassified
Particulates (PM <sub>10</sub> ), (AAM)	Non-attainment	N/A
Fine Particulates (PM <sub>2.5</sub> ), (24-hour)	N/A	Non-attainment
Fine Particulates (PM <sub>2.5</sub> ), (AAM)	Non-attainment	Attainment
Carbon Monoxide (1-hour)	Attainment	Attainment
Carbon Monoxide (8-hr)	Attainment	Attainment
Nitrogen Dioxide	Attainment	Attainment
Sulfur Dioxide (1-hour)	Attainment	N/A
Sulfur Dioxide (24-hour)	Attainment	Attainment
Lead (Pb)	Attainment	Attainment
<i>Note: N/A = not applicable</i>		
<i>Source: BAAQMD, <a href="http://www.baaqmd.gov/pln/air_quality/ambient_air_quality.htm">http://www.baaqmd.gov/pln/air_quality/ambient_air_quality.htm</a>, updated December 30, 2008.</i>		

As can be seen, the Basin is considered “non-attainment” for the O<sub>3</sub> (8-hour) and PM<sub>2.5</sub> (24-hour) federal standards, and is considered “non-attainment” for the O<sub>3</sub> (1-hour and 8-hour), PM<sub>10</sub> (24-hour and AAM) and PM<sub>2.5</sub> (AAM) state standards.

### **Sensitive Receptors**

Some groups of people are more affected by air pollution than others. CARB has identified the following people who are most likely to be affected by air pollution: children under 14, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, and parks. The project site will contain residential units and is currently bordered by the El Granada Mobile Home

Park to the north. Therefore, the potential exposure of sensitive receptors to air pollutant emissions is considered in this air quality analysis.

## **REGULATORY SETTING**

Air quality within the Basin is addressed through the efforts of various federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, and policy-making aimed at regulating air pollutants of concern as defined under the Federal Clean Air Act (FCAA) and the California Clean Air Act (CCAA). The agencies and legislation responsible for improving the air quality within the Basin are discussed below.

### **Federal Oversight**

The FCAA governs air quality in the United States and is administered by the U.S. EPA. In addition to administering the FCAA, the U.S. EPA is also responsible for setting and enforcing the NAAQS for atmospheric pollutants. As part of its enforcement responsibilities, the U.S. EPA requires each state with non-attainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution. These measures need to incorporate performance standards and market-based programs that can be met within the timeframe identified in the SIP.

### **State Oversight**

The CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, the CARB conducts research, sets CAAQS, compiles emission inventories, develops suggested control measures, and prepares the SIP. For example, the CARB establishes emissions standards for motor vehicles sold in California, consumer products (e.g., hair spray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. The CARB also oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional and county level.

Since the Federal Government currently does not regulate emissions of greenhouse gases, CARB has been tasked with regulating greenhouse gas emissions in California under the California Global Warming Solutions Act of 2006 (Assembly Bill No. 32; California Health and Safety Code Division 25.5, Sections 38500, et seq., or AB 32). AB 32 was passed in response to Executive Order S-3-05 issued by Governor Schwarzenegger in 2005, which sets forth a series of target dates by which statewide emission of greenhouse gases would be progressively reduced:

- By 2010, reduce greenhouse gas emissions to 2000 levels;
- By 2020, reduce greenhouse gas emissions to 1990 levels; and



- By 2050, reduce greenhouse gas emissions to 80 percent below 1990 levels.

AB 32 requires the CARB to design and implement emission limits, regulations, and other measures, such that feasible and cost-effective statewide greenhouse gas emissions are reduced to 1990 levels by 2020 (representing an approximate 25% reduction in emissions). In addition to identifying early actions to reduce greenhouse gases, CARB has also developed mandatory greenhouse gas reporting regulations that require emissions reporting for classes of facilities that collectively account for 94 percent of the stationary source emissions in California, including cement plants, oil refineries, electric generating facilities/providers, co-generation facilities, hydrogen plants and other stationary combustion sources that emit more than 25,000 metric tons per year of CO<sub>2</sub>e emissions<sup>3</sup>.

### **Regional Oversight**

The BAAQMD is the primary agency responsible for comprehensive air pollution control in the Basin. The BAAQMD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emission sources, and enforces such measures through educational programs or fines. The BAAQMD is also tasked with addressing the State's requirements established under the CCAA (e.g., bringing the San Francisco Bay Area into attainment).

To bring the Basin into attainment for O<sub>3</sub> and PM, the BAAQMD has developed the 2000 Clean Air Plan (CAP), the 2005 Ozone Attainment Plan, and the Particulate Matter Implementation Schedule (November 9, 2005 BAAQMD Staff Report). The current Basin CAP, which was adopted by the BAAQMD Board of Directors on December 20, 2000, identifies the control measures that would be implemented through 2006 to reduce major sources of pollutants. The Bay Area 2005 Ozone Attainment Plan includes control measures for ozone precursors (reactive organic gases (ROGs) and NO<sub>x</sub>), whereas the Particulate Matter Implementation Schedule addresses a variety of pollutants (including direct emissions of PM and gases that are PM precursors). The BAAQMD is currently drafting the 2009 CAP, which will:

- Update the Bay Area 2005 Ozone Strategy in accordance with the requirements of the CCAA to implement "all feasible measures" to reduce ozone
- Consider the impacts of ozone control measures on particulate matter (PM), air toxics, and greenhouse gases in a single, integrated plan
- Review progress in improving air quality in recent years
- Establish emission control measures to be adopted or implemented in the 2009-2012 timeframe

### **Local Oversight**

Local jurisdictions, such as the County of San Mateo, have the authority and responsibility to reduce air pollution through its policies and decision-making authority. Specifically, the County of San Mateo is

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<sup>3</sup> California Air Resources Board, December 6, 2007c, *Proposed Regulation for the Mandatory Reporting of California Greenhouse Gas Emissions Pursuant to the California Global Warming Solutions Act of 2006 (AB 32)*, available at [http://www.arb.ca.gov/cc/ccei/reporting/GHGReportBoardSlides12\\_06\\_07.pdf](http://www.arb.ca.gov/cc/ccei/reporting/GHGReportBoardSlides12_06_07.pdf) (proposed regulations were approved by CARB on December 6, 2007).

responsible for the assessment and mitigation of air emissions resulting from its land use decisions. As such, the County of San Mateo's 1986 General Plan (Air Resources Chapter adopted in 1994) and other planning and building documents identify goals and policies that help the County of San Mateo contribute to regional air quality improvement efforts. Relevant policies from the County's General Plan Air Resources Chapter include:

17.15 Reduce Air Pollutants, Odors and Dust from Stationary Sources by Regulating Land Use Development

Reduce air pollutants, offensive odors and dust from stationary sources to the maximum practicable extent by:

- a. Requiring that all demolition, grading (excluding agriculture) and construction projects conform with applicable BAAQMD recommended dust control measures, including, but not limited to, surface wetting and seeding.
- b. Requiring that all land uses (excluding agriculture) conform with applicable BAAQMD recommended odor control measures, including, but not limited to, incineration, carbon filtering and chemical scrubbing.
- c. Requiring surface mining, oil and gas operations and industrial development to reduce their dust, odor and other air quality impacts, consistent with Mineral Resource Policy (3.13, 13.15, 13.16).
- d. Referring to BAAQMD all development projects identified by BAAQMD Regulation 2 as requiring air quality permit review, including, but not limited to, gasoline stations, dry cleaning plants, solid waste disposal sites, print shops, and auto body shops. This policy does not apply to (1) residential dwellings, (2) motels/hotels, (3) restaurants, (4) office and commercial buildings where the only emissions are from gas-fired space heating, and (5) agriculture.

17.16 Reduce Public Exposure to Air Pollutants, Offensive Odors and Dust by Land Use Planning

Reduce public exposure to air pollutants, offensive odors and dust by planning the distribution of land uses in the following ways:

- a. Designating sensitive receptor areas outside of high pollution concentration areas.
- b. Establishing buffer zones between sensitive receptors and significant emission sources.
- c. Establishing buffer zones between residential land uses and any land use known to cause offensive odors or dust, consistent with Mineral Resource and Urban Land Use Chapter policies to protect adjacent land uses (Policies 3.12-3.20 and 8.24). Examples include, but are not limited to, sewage treatment plants, landfill sites, and chemical manufacturing.

- d. Allowing stationary sources to locate in areas designated by the General Plan for industrial and commercial development.

## **ENVIRONMENTAL IMPACTS**

### **Thresholds of Significance**

In accordance with Appendix G of Title 14, Chapter 3 of the California Code of Regulations (CCR's): The 2006 CEQA Guidelines, the proposed project would have a significant environmental impact if it would:

- a) conflict with or obstruct implementation of the applicable air quality plan.
- b) violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- c) result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- d) expose sensitive receptors to substantial pollutant concentrations.
- e) create objectionable odors affecting a substantial number of people.

At this time there are currently no thresholds or official guidance adopted by the BAAQMD or other agencies in California to assess the significance of potential greenhouse gas emissions. However, projects are still required under CEQA to make a meaningful attempt to identify, analyze, and mitigate any potentially significant impacts resulting from greenhouse gas emissions associated with the construction and operation of the project. As such, greenhouse gases resulting from the implementation of the project would be considered to have a significant impact if the project would:

- f) conflict with or obstruct implementation of greenhouse gas reduction measures under AB 32 and/or other state, regional, or local regulations.

### **Project Impacts and Mitigation Measures**

In order to determine if the project has the potential to significantly impact air quality (exceed any of the thresholds listed above), the methodology outlined in the *BAAQMD CEQA Guidelines* and endorsed by the County of San Mateo were used to evaluate thresholds (a) through (e). The *BAAQMD CEQA Guidelines* recommends analytical methodologies and provides evaluation criteria, such as defined screening thresholds for pollutant emissions, in order to determine the level of significance of potential project impacts. Projects that would generate emissions below the defined thresholds are considered to have a less-than-significant impact on air quality; projects that exceed the screening thresholds must provide further analysis such as district-approved air dispersion modeling to refute (or validate) a determination of significance or must acknowledge a potentially significant air quality impact. The goals,

policies, and programs relating to greenhouse gases outlined in AB 32 and the California Office of Planning and Research (OPR) technical advisory document, were used to evaluate threshold (f).

### ***Impact AQ-1 Consistency with Air Quality Plan***

A significant impact may occur if the project would conflict with or obstruct the implementation of the current Basin CAP (BAAQMD 2000 CAP). To determine if this may occur, the *BAAQMD CEQA Guidelines* recommends that the project's potential to conflict with or obstruct the current CAP be based on an evaluation of (a) the consistency of the project with the local general plan, and (b) the consistency of the general plan with the current CAP. If the applicable local general plan is consistent with the CAP, and the project is consistent with the applicable local general plan, the project would not have a significant impact under this threshold of significance. If the local general plan is not consistent with the CAP, or the project is not consistent with the local general plan, a quantitative analysis is required to determine whether the impact is significant.

#### *a) Consistency of the project with the County of San Mateo General Plan*

According to the *BAAQMD CEQA Guidelines*, a project is consistent with the general plan if the project does not require a general plan amendment. Based on the land use information contained in Chapter 7 of the County of San Mateo General Plan, the project would not require a general plan amendment. Therefore, the project is consistent with the County of San Mateo 1986 General Plan.

#### *b) Consistency of the County of San Mateo General Plan with the BAAQMD 2000 CAP*

As stated on page 20 of the *BAAQMD CEQA Guidelines*, the applicable local general plan is consistent with the current CAP if:

- the general plan population projections are consistent with the CAP and Association of Bay Area Governments (ABAG) projections.
- the rate of increase in vehicle miles traveled (VMT) does not exceed the rate of increase in population.
- the general plan implements CAP transportation control measures.
- the general plan provides buffer zones around sources of odors, toxics, and accidental releases.

Since the current County of San Mateo General Plan has not been updated since 1994, not all of these requirements are met. Therefore, the *BAAQMD CEQA Guidelines* sets the following quantitative requirements to establish consistency between the project, the County of San Mateo General Plan, and the 2000 CAP:

The project, in conjunction with past, present, and reasonably foreseeable future projects would not:

- i. exceed State or national CO concentrations standard
- ii. exceed 80 pounds/day of ROG, NO<sub>x</sub>, or PM<sub>10</sub>

- iii. pose a significant odor, toxics, or accidental release impact.

Or;

- iv. The project in combination with past, present, and reasonably foreseeable future projects would not cause the County of San Mateo's population to exceed CAP and ABAG population projections.
- v. The project in combination with past, present, and reasonably foreseeable future projects would not cause the rate of increase in VMT to exceed the rate of increase in population.

Quantitative requirements i through iii for the proposed project are discussed below in Impact AQ-2. As can be seen in Impact AQ-2, the project would not result in the exceedances of quantitative requirements i, ii, or iii. However, a quantitative evaluation for the proposed project, in conjunction with past, present, and reasonable foreseeable future projects was not conducted. Instead, requirements iv and v were evaluated to determine consistency.

The two primary components of the proposed project include: (1) the Office Park (northern parcel) development consisting of four, three-story buildings (225,000 sf total) planned for mixed office use, and a 640-space parking lot; and (2) the Wellness Center (southern parcel) development with a maximum of 70 units for approximately 50 DD adults and 20 live-in staff members, other onsite living and recreation facilities for residents, associated fencing, a separate storage building and a 73-space parking lot. Based on Section IV.M (Transportation & Traffic), the proposed project would generate an estimated 2,123 daily trips, including 292 trips during the AM peak hour, and 268 trips during the PM peak hour.

All other projects that are proposed (i.e., with pending applications), recently approved, under construction, or reasonably foreseeable that could produce a cumulative impact on the local environment are shown in Table III-1 of the Project Description (Section III). These related projects consist of approved, proposed, or projects currently under construction in the County of San Mateo (specifically the Mid-Coast Area) and the City of Half Moon Bay. These projects consist mainly of retail, restaurant, and warehouse/office uses.

As stated previously, the 2000 BAAQMD CAP is being used as guidance since the 2009 BAAQMD CAP is currently being drafted. Because the 2000 CAP only contains population and VMT projections through 2006, the project's potential to exceed CAP population projections cannot be determined.

As discussed in Section IV.K (Population & Housing), population growth associated with the Office Park and Wellness Center is more than three times greater than the projected population growth in the unincorporated Half Moon Bay area between 2009 and 2013, when assuming a conservative scenario that all persons filling the jobs and housing units at the project site would be coming from outside of the unincorporated Half Moon Bay area. However, it is anticipated that the majority of jobs and housing created by the project would be filled by the existing population due to the current unemployment and vacancy rates.

Additionally, housing to be provided at the project site is in conformity with area plans and policies because of its emphasis on providing affordable housing for developmentally disabled persons. The Housing Element, Local Coastal Program, and Montara - Moss Beach - El Granada Community Plan include variously as part of their goals to provide affordable housing options for special needs groups including the disabled. A related goal is to provide affordable housing in areas that reduce travel time between work and home. Since the housing at the project site is fulfilling a specific need identified in the local plans, this suggests that the housing at the project site is not contributing to substantial population growth in the area. Moreover, 37 of the jobs at the Wellness Center would be specifically provided for DD residents living at the project site. These jobs would not affect the balance between jobs and housing in the local community. The proposed project would assist the area in achieving a jobs/housing balance by providing approximately 825 net new jobs and 70 new housing units, or approximately 12 jobs per dwelling unit. By providing a substantial number of new job opportunities along with a moderate supply of new housing, the proposed project would not only provide adequate jobs to employ future project residents, but provides a surplus of jobs to employ existing and future residents in the surrounding community.

Regarding cumulative impacts contributing to substantial population growth, the employment potential of related projects needs to be considered. While on an individual basis, the impacts of the proposed project are not significant, cumulatively with other projects, the potential jobs created could induce substantial population growth in the area. The projects in the City of Half Moon Bay are not relevant to the cumulative impact discussion as they concern residential and park uses. Within the Midcoast area and the City of Pacifica, both of which contain insufficient local jobs for employed residents and those seeking work, as indicated by the jobs/housing imbalance in those areas and by unemployment rates, approximately 33,155 square feet and 94,743 square feet of commercial, industrial and mixed-use projects have been proposed, respectively. Applying employee generation rates to these numbers indicates that the related projects would generate up to 448 employees. Along with the 825 employees expected to be generated at the proposed project, a total of 1,250 employees could be generated by projects in the area. In the year 2030 (based on an approximately 20 year horizon from project occupation), the population in unincorporated Half Moon Bay is projected to be 12,300 and projected to be 42,100 in City of Pacifica. The ratio of jobs to employed residents is projected to be one job per 2.9 residents in unincorporated Half Moon Bay and one job per 3.1 residents in the City of Pacifica. Therefore, given the imbalance in the number of jobs compared to the number of residents, impacts associated with the potential growth in jobs stemming from the related projects would be less than significant and would create local employment opportunities for residents currently working outside of the area and for unemployed residents seeking employment.

In April of 2001, the County of San Mateo published the Countywide Transportation Plan 2010.<sup>4</sup> This transportation plan estimates that the VMT increase for San Mateo County from 1990 to 2010 will be 19.8 percent. According to the California Department of Finance (Demographic Research) Unit,<sup>5</sup> the population increase in San Mateo County from 1990 to 2010 will be approximately 13.7 percent (648,162

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<sup>4</sup> [http://www.co.sanmateo.ca.us/vgn/images/portal/cit\\_609/10133371ctp-exec\\_summary.pdf](http://www.co.sanmateo.ca.us/vgn/images/portal/cit_609/10133371ctp-exec_summary.pdf)

<sup>5</sup> <http://www.dof.ca.gov/HTML/DEMOGRAP/ReportsPapers/ReportsPapers.php#projections>

people to 736,667). As can be seen, the projected rate of VMT increase is already estimated to be larger than the rate of population increase in San Mateo County. Therefore, the project in combination with past, present, and reasonably foreseeable future projects would not cause the rate of increase in VMT to exceed the rate of increase in population, as it is already greater. In addition, the project would incorporate bus stops and shuttle services to help minimize the increase in VMT in San Mateo County.

Based on the information discussed above, the project's potential to conflict with or obstruct implementation of the applicable air quality plan is *less than significant*.

### ***Impact AQ-2 Construction and Operation Emissions***

According to the *BAAQMD CEQA Guidelines*, a proposed project may violate an air quality standard or contribute substantially to an existing or projected air quality violation if: (1) the recommended BAAQMD construction mitigation measures are not implemented during the construction phase of the project, as appropriate, (2) and/or the project's operational emissions do not meet the six criteria outlined below.

For the project's operational emissions to be deemed insignificant, they must not:

- a) exceed established threshold values for criteria pollutants.
- b) significantly increase local carbon monoxide emissions (formation of CO hot spots).
- c) have significant odor impacts.
- d) potentially expose sensitive receptors to substantial levels of TACs.
- e) potentially expose receptors to acutely hazardous air emissions from accidental releases.
- f) have cumulative impacts that are significant.

### *Construction Emissions*

As stated in Section III (Project Description) of the DEIR, the two primary components of the proposed project include: (1) the Office Park (northern parcel) development consisting of four, three-story buildings (225,000 sf total) planned for mixed office use, and a 640-space parking lot; and (2) the Wellness Center (southern parcel) development with a maximum of 70 units for approximately 50 DD adults and 20 live-in staff members, other onsite living and recreation facilities for residents, associated fencing, a separate storage building and a 73-space parking lot.

As shown in Table IV.C-5, the project construction time schedule would be between approximately 30 and 36 months to fully complete the Wellness Center and Office Park development. Overall, the initial grading and sorting of materials would take approximately three weeks, utilities installation about one month, and foundation construction about two months. After the construction of the foundations, the placement of the prefabricated Wellness Center units and the erection of the structures for the Office Park

would take approximately 18 months. It would take another 12 months for finish work, including the installation of the water recycling system and the solar system. The construction of the permeable parking lots and fire trails would take about three weeks to complete while the construction of the wetlands and landscaping would require about six months (assumed to begin after the completion of the Wellness Center and Office Park construction).

**Table IV.C-5  
Construction Schedule**

Activity	Schedule
Initial Grading/Material Sorting	3 weeks
Utilities Installation	1 month
Foundation Construction	2 months
Wellness Center/Office Park	30 months
Permeable Parking Lot/Fire Trails	3 weeks
Wetlands/Landscaping	6 months
<i>Source: Big Wave, LLC, Facilities Plan: Draft #2, Big Wave Property, January 2009.</i>	

Construction equipment and personnel specifications are anticipated to involve, but are not limited to, the following:

- Initial grading would be accomplished with two 637 push-pull scrapers and one D-6 Cat crawler, two pickup trucks and one water truck;
- Utilities installation would involve two 20-ton excavators, one small backhoe, three dump trucks and two pickup trucks and one water truck;
- Foundation construction would involve two 20-ton excavators, one small backhoe, three dump trucks, ten pickup trucks, one water truck, and one pile driver. Approximately 3,000 cubic yards of concrete would be placed for the foundations involving 10 concrete trucks and one concrete-pumper. Approximately 250 piles may be driven involving a pile-driver, large fork lift and 60 semi truck deliveries. It is anticipated that there would be a crew of approximately 10 earth workers, 15 carpenters, and 6 driving crew;
- The placement of the prefabricated Wellness Center units and the erection of the structures for the Office Park would require two 50-ton cranes, 5 extended-lift trucks and about 15 smaller vehicles and employ a crew of approximately 30 personnel. Five tractor trailers would make about 2 trips per day to the site each;
- The construction of the permeable parking lots and fire trails would require approximately 4,100 cubic yards of base rock and 4,000 cubic yards of permeable concrete. Construction equipment would require a concrete pump truck and 5 concrete trucks. This portion of the project would employ a crew of approximately 10; and



- The construction of the wetlands and landscaping would require two backhoes and 4 pickup trucks and a crew of approximately 15 laborers.

Although there are exhaust emissions emitted from all engine-powered equipment, the *BAAQMD CEQA Guidelines* states that PM<sub>10</sub>, typically in the form of fugitive dust, is the pollutant of greatest concern with respect to construction activities. Fugitive dust is mostly caused by material handling, grading activities, and traffic on unpaved or unimproved surfaces. As such, the BAAQMD requires that particular mitigation measures (depending on the size of the project site) geared towards PM<sub>10</sub> reduction be implemented.

As stated in the *BAAQMD CEQA Guidelines*, “[t]he District’s approach to CEQA analyses of construction impacts is to emphasize implementation of effective and comprehensive control measures rather than detailed quantification of emissions. If all of the control measures indicated [here] (as appropriate, depending on the size of the project area) will be implemented, then air pollutant emissions from construction activities would be considered a less-than-significant impact.” Therefore, if all of the construction mitigation measures required by the BAAQMD for a project site greater than four acres are implemented (identified below in Mitigation Measure AQ-2), air quality impacts related to construction of the project would *be less than significant*.

#### ***Mitigation Measure AQ-2 Construction Emissions***

The applicant shall require the construction contractor to implement a dust control program. The program shall be applied to all construction activities involving grading, excavation, and use of unpaved areas for staging, extensive hauling of materials, or building demolition. The dust control program shall include the following measures:

- Water all active construction areas at least twice daily.
- Cover all trucks hauling soil, sand, and other loose materials *or* require all trucks to maintain at least two feet of freeboard.
- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites.
- Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites.
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.
- Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more).
- Enclose, cover, water twice daily, or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.).

- Limit traffic speeds on unpaved roads to 15 miles per hour (mph).
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- Replant vegetation in disturbed areas as quickly as possible.
- Install wheel washers for all existing, or wash off the tires or tracks of all trucks and equipment leaving the site.
- Limit the area subject to excavation, grading, and other construction activity at any one time.

### *Operational Emissions*

Operational emissions associated with the proposed project would result primarily from increased vehicular trips to and from the project site, the internal combustion equipment associated with the onsite membrane bioreactor (MBR), ultraviolet (UV)-disinfected tertiary wastewater treatment plant, and the 600 kW emergency natural gas engine generator. Other sources of emissions associated with the project would include area source emissions, such as the use of natural gas for water heaters and cooking appliances. However, the proposed project would supply a majority of energy for heating, cooling and electrical demand with renewable energy, through a combination of offsite and onsite power generation. The potential onsite power systems include solar heat, photovoltaic panels, wind generation, back up and cogeneration with a natural gas generator for peak shaving and geothermal cooling. Passive heating and cooling is also a focus of the proposed development architectural design. Additionally, the electrical equipment cooling process would be a source of building heating. Natural gas fuel cells would be utilized for the backup communications power.

For the purposes of this DEIR, the potential emissions associated with the MBR, UV wastewater treatment plant and the emergency natural gas engine generator are not evaluated. This is due to the fact that:

- the specifics of the internal combustion equipment associated with the MBR, UV wastewater treatment plant and the emergency natural gas engine generator (make, model, emission factors, hours of operation, etc.) are not known at this time.
- these potential sources of air pollutants would require construction and operating permits issued by the BAAQMD. Prior to the issuance of operating permits, the BAAQMD would require that the internal combustion equipment associated with the MBR, UV wastewater treatment plant and the emergency natural gas engine generator be in compliance with the BAAQMD CEQA guidelines (which includes a cumulative impact analysis).

According to the *BAAQMD CEQA Guidelines*, a proposed project may violate an air quality standard or contribute substantially to an existing or projected air quality violation if the project’s operational emissions:

- a) Exceed established threshold values for criteria pollutants

The *BAAQMD CEQA Guidelines* states that if the total operational emissions (direct and indirect emissions) of a project exceed the thresholds listed in Table IV.C-6, the operational emissions will be considered significant. It should be noted that these significance thresholds do not account for the size of the project and therefore a larger project is more likely to exceed these thresholds.

**Table IV.C-6  
BAAQMD Thresholds of Significance for Project Operations**

Pollutant	Daily Emissions (pounds/day)	Annual Emissions (tons/year)
ROG	80	15
NOx	80	15
PM <sub>10</sub>	80	15
Notes: ROG = reactive organic gases Source: BAAQMD CEQA Guidelines, page 16.		

Direct emissions are those that are emitted on a site, including stationary sources and onsite mobile equipment. Indirect emissions come from mobile sources that access the project site but generally emit off site. For many types of land-use development projects, the principal sources of air pollutant emissions are the motor vehicle trips generated by the project. The potential mobile source emissions and area source emissions resulting from the project were calculated using the URBEMIS2007 (version 9.2.4) computer model distributed for use by the CARB and recommended for use by the BAAQMD. The average daily direct and indirect emissions associated with the proposed project are presented in Table IV.C-7 and are compared with the BAAQMD project-specific recommended thresholds of significance. As shown in the table, the project would not generate average daily direct and indirect emissions of ROG, NOx, or PM<sub>10</sub> that would exceed BAAQMD-recommended thresholds. Therefore, impacts related to operational emissions for the project would be *less than significant*.

**Table IV.C-7  
Air Pollutant Emissions from Project Operations (pounds/day)\***

Operational Activity	ROG	NOx	PM <sub>10</sub>
<b>Summer</b>			
Mobile Source Emissions	12.46	9.67	28.67
Area Source Emissions	6.26	2.29	0.03
Total Operational Emissions	18.72	11.96	28.70
Significance Threshold	80	80	80
Significant Impact?	<b>No</b>	<b>No</b>	<b>No</b>

<b>Winter</b>			
Mobile Source Emissions	11.17	15.74	28.67
Area Source Emissions	5.52	2.17	0.00
Total Operational Emissions	16.69	17.91	28.67
Significance Threshold	80	80	80
Significant Impact?	<b>No</b>	<b>No</b>	<b>No</b>
*Highest pounds/day reported from summer and winter reports Source: Christopher A. Joseph & Associates, July 2009. Calculation data and results provided in Appendix D of this DEIR.			

b) Significantly increase local carbon monoxide emissions (formation of CO hot spots)

Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed national and/or state standards for CO are termed CO “hotspots”. According to the *BAAQMD CEQA Guidelines*, if the implementation of a project results in the formation of hotspots at affected intersections due to an increase in traffic, the project will have significant operational impacts.

The *BAAQMD CEQA Guidelines* states that localized CO concentrations should be estimated for projects in which: (1) vehicle emissions of CO would exceed 550 pounds per day, (2) project traffic would impact intersections or roadway links operating at Level of Service (LOS) D, E or F, or would cause the LOS to decline to D, E or F, (3) and/or project traffic would increase traffic volumes on nearby roadways by more than ten percent.<sup>6</sup>

As determined in the URBEMIS 2007 run for the project (calculation data and results are included in Appendix D of this DEIR), the CO emissions associated with the project (142 pounds per day) would not exceed BAAQMD’s threshold of 550 pounds per day. However, the traffic study found that traffic generated by the project would impact intersections that operate at LOS D, E, or F. Therefore, the localized CO concentrations at affected intersections were estimated and compared to State and national CO concentration standards.

A simplified CALINE4 screening procedure developed by the BAAQMD was used to calculate the potential CO concentrations at the intersections and roadway segments listed in Table IV.C-8. The screening procedure assumes worst-case conditions and provides an estimation of maximum, worst-case CO concentrations. Maximum CO concentrations were calculated for peak-hour traffic volumes (AM and PM) as well as 8-hour traffic volumes (assumed four hours at peak AM traffic volume and four hours at peak PM traffic volume).

<sup>6</sup> As stated in the *BAAQMD CEQA Guidelines*, if the increase in traffic volume is less than 100 vehicles per hour, the localized CO concentrations do not need to be estimated

**Table IV.C-8  
Predicted Future Localized Carbon Monoxide Concentrations**

Intersection	CO Concentrations in Parts Per Million					
	Roadway Edge		25 Feet		50 Feet	
	1-Hour	8-Hour	1-Hour	8-Hour	1-Hour	8-Hour
Prospect Way & Capistrano Rd	6.2	2.8	5.9	2.6	5.8	2.5
Broadway & Prospect Way	6.2	2.8	5.9	2.6	5.8	2.5
Airport St & Stanford/Cornell Ave	5.9	2.6	2.7	2.4	5.7	2.4
Airport St & La Granada Ave	5.9	2.6	5.7	2.5	5.7	2.4
Airport St & Los Banos Ave	5.8	2.5	5.7	2.4	5.6	2.4
Hwy 1 & Cypress Ave	7.0	3.4	6.4	2.9	6.1	2.7
Hwy 1 & Capistrano Rd (South)	7.6	3.8	6.7	3.1	6.4	2.9
Hwy 1 & Capistrano Rd (North)	7.0	3.4	6.3	2.9	6.1	2.7
<i>Note: National 1-hour standard is 35.0 ppm                      State 1-hour standard is 20.0 ppm                      National and State 8-hour standard is 9.0 ppm                      Source: Christopher A. Joseph &amp; Associates, July 2009. Calculation data and results provided in Appendix D of this DEIR.</i>						

Since Table IV.C-8 shows that the local CO concentrations at the above intersections would not exceed State or national ambient air quality standards, the potential impact from the CO emissions associated with the project’s operation would be *less than significant*.

c) Have significant odor impacts

The potential impact of odors from the implementation of the project was determined to be *less than significant*. See Impact AQ-5 for further explanation.

d) Potentially expose sensitive receptors to substantial levels of TACs

As discussed above, potential sources of TACs can include stationary sources such as industrial facilities (e.g., refineries) and commercial facilities (e.g., dry cleaners), as well as mobile sources (e.g., on-road vehicles). According to the *BAAQMD CEQA Guidelines*, when evaluating the potential impacts of TACs related to a project, two situations should be considered: (1) the proposed project is a source of TACs and will be located near sensitive receptors; and/or (2) sensitive receptors within the proposed project area will be located near an existing source of TACs. As stated in the *BAAQMD CEQA Guidelines*, a project that emits (or exposes sensitive receptors to) TACs and exceeds the following criteria is considered to have a significant air quality impact:

- Probability of contracting cancer for the Maximally Exposed Individual (MEI)<sup>7</sup> exceeds 10 in one million; or

<sup>7</sup> An MEI is a hypothetical offsite person, usually at or near the site boundary, who would receive the maximum exposure from a facility’s operations.

- Ground-level concentrations of non-carcinogenic TACs would result in a hazard index<sup>8</sup> greater than one (1) for the MEI.

To identify and track existing sources of TACs in certain areas, the California Legislature enacted the Air Toxics Hot Spots Information and Assessment Act (AB 2588) in September of 1987. This law requires facilities with stationary sources to report the types and quantities of certain substances their facilities routinely release into the air. The goals of AB 2588 are to collect emission data, identify facilities having localized impacts, ascertain health risks, and notify nearby residents of significant risks based on estimated cancer and non-cancer health risks. According to the CARB website,<sup>9</sup> there are five facilities registered under the Air Toxics Hot Spots Act within one mile of the project site. The name of the five facilities, their yearly emissions of TACs, and the BAAQMD risk assessment trigger thresholds are listed below in Table IV.C-9. As discussed in the BAAQMD Regulation 2, Rule 5, if these trigger thresholds are exceeded for any one source and/or facility, a health risk assessment is required.

**Table IV.C-9  
Emissions from AB 2588 Facilities within 1 Mile of Project Site (pounds/year)**

Facility Name	Benzene	Ethylene Glycol	Formaldehyde	Nickel	Toluene	Xylene
30 CES/CEVC	3.1	0.1	19.3	0.1	0	0
Half Moon Bay Airport	0	0	0	0	4.9	1.0
Montara Sanitary District	0	0	0.3	0	0	0
Montara Water & Sanitary Dis.	0	0	0.2	0	0	0
Sewer Authority Mid-Coastside	0	0	0.2	0	0	0
Total Operational Emissions	3.1	0.1	20	0.1	4.9	1.0
BAAQMD Trigger Level	6.4	15,000	30	0.73	12,000	27,000
<b>Risk Assessment Required?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

*Source: <http://www.arb.ca.gov/app/emsinv/facinfo/facinfo.php>, March 2009.*

As can be seen in Table IV.C-9, no single facility exceeds the BAAQMD health risk assessment trigger levels. In fact, the total emissions of all five facilities are less than the BAAQMD trigger levels. Therefore, based on the information above, the implementation of the project would not locate sensitive receptors near existing significant sources of TACs.

The implementation of the project would generate traffic trips. TAC emissions from motor vehicles are generally a result of diesel exhaust emissions associated with truck or bus operations. Since the number of new daily truck trips generated by the implementation of the project would be relatively low (2.62 percent of total daily trips, or 56 truck trips), the amount of TACs that would be generated

<sup>8</sup> A hazard index measures the potential for non-cancer health effects. It is the ratio of the estimated exposure level to the Reference Exposure Level, which is the level at or below which no adverse health effects are anticipated.

<sup>9</sup> <http://www.arb.ca.gov/app/emsinv/facinfo/facinfo.php>

by these new trips over a 24-hour period is not anticipated to exceed the thresholds of significance for TACs listed above. As such, since the project site would not be located near land uses that have the potential to emit a large amount of TACs or generate a significant number of truck trips per day, the operational emissions related to TACs would be *less than significant*.<sup>10</sup>

e) Potentially expose receptors to acutely hazardous air emissions from accidental releases

The *BAAQMD CEQA Guidelines* states that the determination of significance regarding accidental releases of acutely hazardous materials (AHMs) should be made for: (1) projects using or storing AHMs located near existing receptors, and (2) development projects resulting in receptors located near existing facilities using or storing AHMs. Any project resulting in receptors being within the Emergency Response Planning Guidelines (ERPG) exposure level 2<sup>11</sup> for a facility will have a significant air quality impact.

In March of 2007, the environmental and geotechnical consulting firm Treadwell & Rollo conducted a Phase I Environmental Site Assessment (Phase I report) for the project. According to the Phase I report, the project site is adjoined by Half Moon Bay Airport to the northeast; live-work spaces, Coastside Self Storage, and various light industrial-use buildings to the southeast; the Pacific Ocean to the southwest; and El Granada Mobile Home Park to the northwest. A review of environmental regulatory agency lists and records was performed for the project site and adjoining properties to identify potential sources of or activities involving hazardous substances or petroleum products. Based on the investigation, the Half Moon Bay Airport stores and uses jet fuel for small planes. Also, one underground storage tank (UST) with unknown contents was identified within 500 feet of the project site at the Half Moon Bay Airport. However, there is no indication of a past release of hazardous materials or petroleum products from this UST or any storage facility on this property. Moreover, a jet fuel release or spill does not typically result in an ERPG exposure level 2.

Based on the current project description, the project will not store or use AHMs. The water and wastewater treatment system would not use any chemicals, as disinfection is accomplished with physical membrane filtering and UV light. The wastewater treatment plant also has fixed gasketed covers and air resulting from the non-chemical activated sludge system would be routed through a soil filter (air scrubbed) before being released into the atmosphere.

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<sup>10</sup> As stated previously, for the purposes of this DEIR, the potential emissions associated with the internal combustion equipment for the MBR, UV wastewater treatment plant and the emergency natural gas engine generator are not evaluated. This is due to the fact that the specifics of the MBR, UV wastewater treatment plant internal combustion equipment and the emergency natural gas engine generator (make, model, emission factors, hours of operation, etc.) are not known at this time and that they would require construction and operating permits issued by the BAAQMD (which requires compliance with the BAAQMD CEQA guidelines before issuance).

<sup>11</sup> ERPG exposure level 2 is defined as the maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour without experiencing or developing irreversible or other serious health effects or symptoms which could impair an individual's ability to take protective action.

Since the project would not include the use or storage of AHMs and the Phase I report for the project site did not identify any hazardous materials that could likely result in an ERPG exposure level 2, the potential to expose receptors to acutely hazardous air emissions from accidental releases of AHMs is ***less than significant***.

f) Have cumulative impacts that are significant

According to the BAAQMD CEQA Guidelines, any project that would individually have a significant air quality impact would also have a significant cumulative air quality impact. Since the project's operational emissions do not have any individual significant air quality impacts under the BAAQMD CEQA Guidelines, the project's cumulative operational impacts will be ***less than significant***.

***Impact AQ-3 Cumulative Regional Operational Impacts***

As stated previously, the Basin is considered "non-attainment" for the O<sub>3</sub> (8-hour) and PM<sub>2.5</sub> (24-hour) federal standards, and is considered "non-attainment" for the O<sub>3</sub> (1-hour and 8-hour), PM<sub>10</sub> (24-hour and AAM) and PM<sub>2.5</sub> (AAM) state standards. As such, the *BAAQMD CEQA Guidelines* states that a project would result in a significant increase of criteria pollutant emissions if the operation of the project emits more than 80 pounds per day of ozone precursors (ROG and NO<sub>x</sub>) or PM<sub>10</sub>. As discussed in Impact AQ-2(a), the operational emissions for the project would not exceed the BAAQMD-recommended thresholds of 80 pounds per day. Therefore, the project's potential impact on criteria pollutant emissions would be ***less than significant***.

***Impact AQ-4 Sensitive Receptors***

The BAAQMD's definition of significant criteria pollutant concentrations are outlined in Impact AQ-2(a) above. In addition to criteria pollutant exposure, projects that have the potential to emit TACs or expose sensitive receptors to TACs as outlined in Impact AQ-2(d) could also have significant impacts. As stated in Impact AQ-2(a) and (d), the project would not expose sensitive receptors to substantial pollutant (criteria and TAC) concentrations. Therefore, the project's potential to expose sensitive receptors to substantial pollutant concentrations is ***less than significant***.

***Impact AQ-5 Objectionable Odors***

The project would have a significant impact if the implementation of the project would result in a frequent exposure of members of the public to objectionable odors. According to the BAAQMD, the main facility types that have the potential to create objectionable odors are listed below in Table IV.C-10. In addition, Table IV.C-10 lists the proximity receptors would have to be to these types of facilities to require further analysis.



**Table IV.C-10  
Project Screening Trigger Levels for Potential Odor Sources**

Type of Operation	Project Screening Distance (miles)
Wastewater Treatment Plant	1
Sanitary Landfill	1
Transfer Station	1
Composting Facility	1
Petroleum Refinery	2
Asphalt Batch Plant	1
Chemical Manufacturing	1
Fiberglass Manufacturing	1
Painting/Coating Operations	1
Rendering Plant	1
Coffee Roaster	1
<i>Source: BAAQMD CEQA Guidelines, February 2009.</i>	

#### *Offsite (Existing) Facilities*

Based on the information contained in Table IV.C-9, there are three facilities within 1 mile of the proposed project site that could potentially expose sensitive receptors to objectionable odors: the Montara Sanitary District Facility (Facility ID 14543), the Montara Water and Sanitary District Facility (Facility ID 13639), and the Sewer Authority Mid-Coastline Facility (Facility ID 14542). According to the BAAQMD CEQA Guidelines, in order for a potentially significant odor impact to occur, one or more of these facilities would have to have:

- a) more than one confirmed complaint per year averaged over a three year period, or
- b) three or more unconfirmed complaints per year averaged over a three year period.

Based on the information obtained from the BAAQMD's Department of Public Records, no odor complaints for these three facilities have been submitted to the BAAQMD within the last three years. Therefore, the potential to expose receptors to objectionable offsite odors is ***less than significant***.

#### *Onsite Facilities*

As described in more detail in Section III (Project Description), a wastewater treatment plant would be constructed onsite as part of the proposed project. All sewage treatment plants generate odors, with hydrogen sulfide (H<sub>2</sub>S) being the most prevalent malodorous gas. It has a very unique, unpleasant and discernable odor (rotten eggs). Odors can become a nuisance if they are allowed to escape the immediate sewage treatment area and spread to areas where people reside, work or congregate. The proposed wastewater treatment plant would be completely covered with aluminum plates and hatches and sealed with rubber gaskets. A vacuum fan would distribute all process air through a soil scrubber constructed adjacent to the plant. The wastewater plans for the project indicate that odors will be vented to a soil scrubber system that will be constructed adjacent to the treatment plant. The soil scrubber system is

described as being 150 square feet in area, covered in loam, wood or root chips, and planted in native vegetation.

This type of odor removal system is common and can be effective. Soil scrubber and other odor removal systems are normally sized on the basis of the air flow from the treatment plant blower system. Preliminary calculations should be provided to support the proposed sizing and confirm how the scrubber will be incorporated into the site plan. Odor generation is a potentially significant concern due to the location of the treatment plant in the southern corner of the project site, where there is very little buffer area between the treatment plant and neighboring properties or the Wellness Center buildings on the site. This is a *potentially significant* impact.

However, the following mitigation measure would reduce Impact AQ-5 to a less-than-significant level:

***Mitigation Measure AQ-5 Sewage Treatment Odors***

The project applicant shall provide supporting engineering calculations and site plan details to verify the basis of design for the odor removal system. This information shall be supplied as part of the engineering report to be submitted for review and approval by the RWQCB.

***Impact AQ-6 Greenhouse Gas Emissions***

AB 32 focuses on reducing greenhouse gas emissions in California, and requires the CARB, the State agency charged with regulating statewide air quality, to adopt rules and regulations that would achieve greenhouse gas (GHG) emissions equivalent to statewide levels in 1990 by 2020. This 2020 target date reflects California's AB 32 mandate for greenhouse gas emissions reductions based on the following CARB timeline:<sup>12</sup>

January 1, 2009	CARB adopts a "scoping plan" indicating how emissions reductions will be achieved.
January 1, 2010	Early-action measures take effect (discussed below).
January 1, 2012	Greenhouse gas rules and market mechanisms adopted by the CARB are legally enforceable.
December 31, 2020	Deadline for achieving 2020 greenhouse gas emission cap.

As reflected in the AB 32 timeline, CARB has not yet established greenhouse gas thresholds or produced a formal guidance document for greenhouse gas impact analysis. In addition, no thresholds or official guidance has been currently adopted by the BAAQMD or other agencies in California to assess the significance of potential greenhouse gas emissions. However, in October 2007, Governor Schwarzenegger signed Senate Bill 97 (SB 97), which requires the Governor's Office of Planning and Research (OPR) to prepare CEQA guidelines to address the potential impacts of greenhouse gases and

<sup>12</sup> California Air Resources Board, <http://www.arb.ca.gov/cc/cc.htm>.

provide recommended mitigation measures. These guidelines and regulations are expected to be certified and adopted by the State Resources Agency by January 1, 2010. In the interim, OPR, in collaboration with the California Resources Agency, the California Environmental Protection Agency and the California Air Resources Board, recently provided a new technical advisory<sup>13</sup> containing informal guidance for public agencies as they address the issue of climate change in their CEQA documents. This technical advisory provides OPR's perspective on the issue and precedes the development of implementing regulations for CEQA, in accordance with Senate Bill 97 (Chapter 185, Statutes of 2007).

In the technical advisory, OPR recommends each public agency that is a lead agency for complying with CEQA to develop its own approach to performing a climate change analysis for projects that generate greenhouse gas emissions. A consistent approach should be applied for the analysis of such projects, and the analysis must be based on best available information. For such projects, three types of analyses are used to determine whether the project could be in conflict with the State, regional, and local measures for reducing greenhouse gas emissions. The analyses are as follows:

- a) Quantify the potential greenhouse gas emissions associated with the implementation of the project.
- b) Assess the significance of the impact on climate change using applicable guidance documents and State, regional, and local greenhouse gas reduction goals.
- c) Assess whether elements of the project and associated mitigation measures contribute to the efficiency of the project and sufficiently reduce greenhouse gas emissions.

*a) Greenhouse Gas Quantification*

In order to make a meaningful and significant attempt to analyze the project's effects on greenhouse gas (GHG) emissions and climate change, the potential direct and indirect greenhouse gas emissions due to the implementation of the project were estimated. To estimate the potential greenhouse gas emissions from the construction of the proposed project, the URBEMIS 2007 computer model (distributed for use by the CARB) was used. As discussed above in Impact AQ-2, the project construction time schedule would be between approximately 30 and 36 months to fully complete the Wellness Center and Office Park development. Table IV.C-11 outlines the project phases, associated timelines, and the required construction equipment. All of this information was input into the URBEMIS 2007 computer model in lieu of the URBEMIS 2007 default construction values in order to estimate the greenhouse gases resulting from construction of the project as accurately as possible.

During operation of the proposed project, the consumption of fossil fuels to generate electricity and to provide heating and hot water for the onsite land uses, the conveyance of water, solid waste generation, as well as the consumption of fuel by on-road mobile vehicles associated with the project generates GHG emissions. To estimate the GHG emissions, it was necessary to determine the project's consumption rates

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<sup>13</sup> Governor's Office of Planning and Research. "CEQA and Climate Change: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review". June 19, 2008.

as well as the GHG emissions factors. The consumption rates for these project-related activities are consistent with those identified in the Utility & Service Systems Section (Section IV.N). The GHG emission factors from the California Climate Action Registry (CCAR) Protocol for natural gas and electricity were then applied to the respective consumption rates, to calculate annual GHG emissions in metric tons. GHG emissions from water consumption were determined by evaluating the water-related energy use relationship identified in the California Energy Commission (CEC) California’s Water-Energy Relationship document.<sup>14</sup> The solid waste emission rate was obtained from the EPA’s Solid Waste Management and Greenhouse Gases: A Life-Cycle Assessment of Emissions and Sinks<sup>15</sup>. The on-road mobile vehicle miles per day and vehicle fleet mix with the proposed project were estimated using the URBEMIS 2007 computer model. The GHG emission factors from the CCAR Protocol for motor vehicles were applied to calculate annual GHG emissions in metric tons.

**Table IV.C-11  
Construction Schedule & Required Equipment**

Activity	Schedule	Equipment
Initial Grading/Material Sorting	3 weeks	2 push-pull scrapers, 1 Cat crawler, 2 pickup trucks, 1 water truck
Utilities Installation	1 month	2 (20 ton) excavators, 1 backhoe, 3 dump trucks, 2 pickup trucks, 1 water truck
Foundation Construction	2 months	2 (20 ton) excavators, 1 backhoe, 3 dump trucks, 10 pickup trucks, 1 water truck, 1 pile driver
Wellness Center/Office Park	30 months	2 (50 ton) cranes, 5 extended lift trucks, 15 small vehicles, 5 tractor trailers (2 trips/day), 1 water truck
Permeable Parking Lot/Fire Trails	3 weeks	Concrete pump truck, 5 concrete trucks
Wetlands/Landscaping	6 months	2 backhoes, 4 pickup trucks
<i>Source: Big Wave, LLC, Facilities Plan: Draft #2, Big Wave Property, January 2009.</i>		

As shown in Table IV.C-12 below, construction of the project would produce approximately 2,738 tons of CO<sub>2</sub>e emissions per highest year and project operations would produce approximately 4,374 metric tons of CO<sub>2</sub>e emissions per year.

**Table IV.C-12  
Estimated Greenhouse Gas Emissions for the Proposed Project**

Emissions Source	CO <sub>2</sub> e Emissions (metric tons/year)
<b>Construction</b>	
Construction Activities (2010)	1,327
Construction Activities (2011)	2,738
Construction Activities (2012)	1,154
<b>Operations</b>	
Natural Gas Use	631

<sup>14</sup> California Energy Commission. *California’s Water-Energy Relationship*. November 2005.

<sup>15</sup> United States Environmental Protection Agency. *Solid Waste Management and Greenhouse Gases, A Life-Cycle Assessment of Emissions and Sinks*. Third Edition. September, 2006.

**Table IV.C-12  
Estimated Greenhouse Gas Emissions for the Proposed Project**

Emissions Source	CO <sub>2</sub> e Emissions (metric tons/year)
Electricity Use <sup>1</sup>	1,529
Waste Generation	81
Motor Vehicles	2,132
<b><i>Proposed Project Operations Total</i></b>	<b><i>4,374</i></b>
<i>Notes:</i> <sup>1</sup> Emissions from electricity use may be significantly lower than reported since the project may generate a portion of its electrical, heating, and cooling energy for the site via onsite renewable resources (e.g., wind power, solar power). Source: Christopher A. Joseph & Associates, April 2009. Calculation data and results provided in Appendix D of this DEIR.	

- b) Assess the significance of the impact on climate change using applicable guidance documents and State, regional, and local greenhouse gas reduction goals.

As stated previously, there are currently no thresholds or official guidance adopted by the BAAQMD or other agencies in California to assess the significance of potential greenhouse gas emissions. However, a feasible way to determine if the project would have a significant impact on greenhouse gas emissions is to evaluate if the implementation of the project would conflict with any recommended State, regional, and/or local greenhouse gas reduction goals or policies that are applicable to the project.

### **AB 32**

As an initial step of AB 32, CARB was required to adopt regulations that require the reporting and verification of statewide greenhouse gas emissions by January 1, 2008. These newly adopted regulations require emissions reporting beginning January 1, 2009 for classes of facilities that collectively account for 94 percent of the stationary source emissions in California, including cement plants, oil refineries, electric generating facilities/providers, co-generation facilities, hydrogen plants, and other stationary combustion sources that emit more than 25,000 metric tons per year of CO<sub>2</sub>e emissions.<sup>16</sup> Since the project would not fall under any of these industrial categories that are required to report their greenhouse gas emissions and would not have any significant stationary sources, the project is not subject to CARB's mandatory reporting.

As a central requirement of AB 32, the CARB was assigned the task of developing a Scoping Plan that outlines the State's strategy to achieve the 2020 greenhouse gas emissions limit. This Scoping Plan, which was developed by CARB, was published in October 2008. The Scoping Plan proposed a comprehensive set of actions designed to reduce overall greenhouse gas emissions in California, improve the environment, reduce the State's dependence on oil, diversify the State's energy sources, save energy,

<sup>16</sup> California Air Resources Board, December 6, 2007c, *Proposed Regulation for the Mandatory Reporting of California Greenhouse Gas Emissions Pursuant to the California Global Warming Solutions Act of 2006 (AB 32)*, available at [http://www.arb.ca.gov/cc/ccei/reporting/greenhouse\\_gasReportBoardSlides12\\_06\\_07.pdf](http://www.arb.ca.gov/cc/ccei/reporting/greenhouse_gasReportBoardSlides12_06_07.pdf) (proposed regulations were approved by CARB on December 6, 2007).

create new jobs, and enhance public health. As shown in Table IV.C-13, the project would be consistent with all feasible and applicable strategies of the recommended measures of CARB Scoping Plan to reduce greenhouse gas emissions in California.

**Table IV.C-13  
Project Consistency with CARB Scoping Plan  
Recommended Greenhouse Gas Emission Reduction Measures**

Measure	Project Consistency
<b>California Air Resources Board</b>	
<u>California Cap-and-Trade Program Linked to Western Climate Initiative Partner Jurisdictions</u> Implement a broad-based California cap-and-trade program to provide a firm limit on emissions. Link the California cap-and-trade program with other Western Climate Initiative Partner programs to create a regional market system to achieve greater environmental and economic benefits for California. Ensure California’s program meets all applicable AB 32 requirements for market-based mechanisms.	<b>Not applicable.</b> While this measure is not specifically applicable to the project, the project would not preclude the implementation of this measure by CARB.
<u>California Light-Duty Vehicle Greenhouse Gas Standards</u> Implement adopted Pavley standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.	<b>Consistent.</b> The vehicles that travel to and from the project site on public roadways would be in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase.
<u>Energy Efficiency</u> Maximize energy efficiency building and appliance standards, and pursue additional efficiency efforts including new technologies, and new policy and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California (including both investor-owned and publicly owned utilities).	<b>Consistent.</b> The project would be required to be constructed in compliance with the standards of Title 24 that are in effect at the time of development. The current 2005 Title 24 standards are approximately 8.5 percent more efficient than those of the 2001 standards. In addition, by targeting a LEED Platinum rating, the project would exceed Title 24 standards.
<u>Renewables Portfolio Standard</u> Achieve 33 percent renewable energy mix statewide.	<b>Not applicable.</b> While this measure is not applicable, the project would not preclude the implementation of this measure by municipal utility providers. In addition, the project will include sources of renewable energy including solar panels and wind energy.
<u>Low Carbon Fuel Standard</u> Develop and adopt the Low Carbon Fuel Standard.	<b>Consistent.</b> Residents, and employees of the project could purchase low carbon fuel once they are commercially available in the region and local vicinity.
<u>Regional Transportation-Related Greenhouse Gas Targets</u> Develop regional greenhouse gas emissions reduction targets for passenger vehicles.	<b>Consistent.</b> The passenger vehicles that travel to and from the project site on public roadways would be subject to all applicable CARB efficiency standards that are in effect at the time of vehicle manufacture.
<u>Vehicle Efficiency Measures</u> Implement light-duty vehicle efficiency measures.	<b>Consistent.</b> The light-duty vehicles that travel to and from the project site on public roadways would be subject to all applicable CARB efficiency standards that are in effect at the time of vehicle manufacture.
<u>Goods Movement</u> Implement adopted regulations for the use of shore power for ships at berth. Improve efficiency in goods	<b>Not applicable.</b> While this measure is not applicable, the project would not preclude the implementation of this measure by CARB.

**Table IV.C-13  
Project Consistency with CARB Scoping Plan  
Recommended Greenhouse Gas Emission Reduction Measures**

Measure	Project Consistency
movement activities.	
<u>Million Solar Roofs Program</u> Install 3,000 MW of solar-electric capacity under California's existing solar programs.	<b>Consistent</b> Solar panels will be installed on all roofs.
<u>Medium/Heavy-Duty Vehicles</u> Adopt medium and heavy-duty vehicle efficiency measures.	<b>Consistent.</b> The medium and heavy-duty vehicles that travel to and from the project site on public roadways would be subject to all applicable CARB efficiency standards that are in effect at the time of vehicle manufacture.
<u>Industrial Emissions</u> Require assessment of large industrial sources to determine whether individual sources within a facility can cost-effectively reduce greenhouse gas emissions and provide other pollution reduction co-benefits. Reduce greenhouse gas emissions from fugitive emissions from oil and gas extraction and gas transmission. Adopt and implement regulations to control fugitive methane emissions and reduce flaring at refineries.	<b>Not applicable.</b> The project is not an industrial facility and would not involve the operation of industrial processes.
<u>High Speed Rail</u> Support implementation of a high speed rail system.	<b>Not applicable.</b> While this measure is not applicable, the project would not preclude the implementation of this measure by the State.
<u>Green Building Strategy</u> Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.	<b>Consistent.</b> As discussed previously, the project would target a LEED Platinum rating by incorporating a variety of green building elements, including use of efficient water management techniques, green roofs, and other sustainability features.
<u>High Global Warming Potential Gases</u> Adopt measures to reduce high global warming potential gases.	<b>Consistent.</b> As discussed above, the project applicant intends to target a LEED Platinum rating for the project, which would entail the incorporation of a variety of green building elements.
<u>Recycling and Waste</u> Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste.	<b>Consistent.</b> The project would be subject to the requirements of AB 939 that require a minimum of 50 percent diversion for the year 2000. The project would also be subject to all applicable State requirements for solid waste reduction as they change in the future.
<u>Sustainable Forests</u> Preserve forest sequestration and encourage the use of forest biomass for sustainable energy generation.	<b>Not applicable.</b> The project is not located within or near a forest.
<u>Water</u> Continue efficiency programs and use cleaner energy sources to move and treat water.	<b>Consistent.</b> As discussed previously, the project applicant intends to target a LEED Platinum rating for the project, which would include the incorporation of efficient water management techniques.
<u>Agriculture</u> In the near-term, encourage investment in manure digesters and at the five-year Scoping Plan update determine if the program should be made mandatory by 2020.	<b>Not applicable.</b> The project would not include agricultural uses on the scale that would warrant manure digesters.
<i>Sources: Air Resources Board, Climate Change Proposed Scoping Plan, October 2008 and Christopher A. Joseph &amp; Associates, January 2009.</i>	

Based on the discussion above, the project would not conflict or obstruct the implementation of CARB’s Scoping Plan. As such, the project’s potential impact on greenhouse gas emissions and climate change would be deemed *less than significant* under AB 32.

**OPR**

The OPR technical advisory discussed above identifies examples of mitigation measures that have been employed by some public agencies to reduce greenhouse gas emissions, either as general development policies or on a project-by-project basis. All of the applicable mitigation measures contained in the OPR technical advisory are consistent with the green building and sustainable principles for the project as shown in Table IV.C-14 below:

**Table IV.C-14  
Project Consistency with OPR Recommended Greenhouse Gas Mitigation Measures**

OPR Recommended Mitigation Measure	Project Consistency
Implement land use strategies to encourage jobs/housing proximity, encourage compact, mixed-use projects	<b>Consistent.</b> This project is designated as a mixed-use development consisting of residential, general office, light manufacturing, sustainable organic food production, and research and development uses.
Encourage walking, bicycling, and the use of public transit systems	<b>Consistent.</b> The project provides a variety of transportation choices by including safe and convenient transportation alternatives. The project would implement parking procedures that result in office workers utilizing ride sharing, shuttle service to park and ride lots, and public transportation. The project would extend multi-purpose bike and walking trails, connecting the project to parks and services. These trails may include the trail to the Post Ridge property and the multipurpose trail along Airport Street and Princeton.
Encourage new developments to integrate housing, civic and retail amenities (jobs, schools, parks, shopping opportunities) to help reduce VMT resulting from discretionary automobile trips	<b>Consistent.</b> This project is designated as a mixed-use development consisting of residential, general office, light manufacturing, sustainable organic food production, and research and development uses.
Plant trees and vegetation near structures to shade buildings and reduce energy requirements for heating/cooling	<b>Consistent.</b> Landscaping plans will be designed in conjunction with structural elements to provide for the most energy effective buildings.
Encourage public and private construction of LEED certified or equivalent buildings	<b>Consistent.</b> All structures for the project will be LEED certified (platinum certification).
Recognize and promote energy saving measures beyond Title 24 requirements for residential and commercial projects	<b>Consistent.</b> All structures for the project will be LEED certified, which includes energy efficiency requirements beyond Title 24.
Incorporate onsite renewable energy production, including installation of photovoltaic cells or other solar options	<b>Consistent.</b> The potential renewable, onsite power systems include solar heat, photovoltaic panels, wind generation, and geothermal cooling.
Create bicycle lanes and walking paths directed to the location of schools, parks, and other destination points	<b>Consistent.</b> The project would extend multi-purpose bike and walking trails, connecting the project to parks and services. These trails may include the trail to the Post Ridge property and the multipurpose trail along Airport Street and Princeton.



As shown in Table IV.C-14 above, the project would be consistent with mitigation measures and methodologies contained in the OPR advisory document. As such, the project's potential impact on greenhouse gas emissions and climate change would be deemed *less than significant* under the OPR technical advisory document.

*c) Would elements of the project and associated mitigation measures contribute to the efficiency of the project and sufficiently reduce greenhouse gas emissions?*

To achieve environmental sustainability and associated decreases in greenhouse gas emissions, the project will pursue the following:

- Obtain Platinum LEED certification
- Offset the conversion of farmland to development, with 25 acres of leased land in the airport zoned industrial for permanent high yield farming with recycled water
- Pursue alternative transportation options
- Construct bicycle storage and changing facilities
- Provide priority parking for low-emitting, fuel-efficient vehicles (5% of total parking spaces)
- Create efficient parking
- Restore natural habitat
- Maximize open space with over 57% of the Wellness Center site restored as State Designated wetlands and over 45% of the Office Park site restored as State Designated wetlands. Over 47% of the entire site will be restored as wetlands.
- Significantly reduce existing impermeable surface (proposed project has less than 25% permeable surfaces).
- Maximize storm water infiltration and native plant evapotranspiration.
- Create permeable pavement with high reflectivity and porous, open grid design
- Install solar panels on all roofs. Solar panels absorb heat energy and convert it to electricity and building heat, reducing the building and roof temperatures.
- Install wind power system.
- Install minimal outdoor lighting and paths illuminated with three-foot-tall bollards.
- Provide tenant guidelines for energy efficiency and environmental protection.

- Landscape with native plants that do not require water or maintenance once mature.
- Use only recycled water to irrigate landscapes.
- Exceed the usage amount of implemented ground water recharge systems
- Reduce water consumption by 30% from current standards with recycled water used for toilets. Certify energy systems through LEED. The project goals may be as high as producing all of the buildings' energy onsite.
- Cool building geothermally and without refrigerants
- Recycle over 50% of the construction waste, ultimate goal is 75%.
- Use recycled materials to construct buildings: at least 1% with a goal of 20%. Crushed recycled concrete for base rock is approximately 20%.
- Use 20% locally processed and produced materials (possible with concrete tilt-up buildings)
- Limit smoking in the buildings
- Air condition buildings with controlled outdoor air
- Exceed ventilation standards by 30%
- Use only low emitting materials. Adhesives and sealants will be avoided.
- Implement an Indoor Air Quality management plan during construction
- Minimize use of high emitting paint, carpets, and composite wood or fiber
- Design buildings to incorporate chemical and pollutant source control
- Design and incorporate thermal comfort by way of opening windows and individual thermostats
- Incorporate a minimum of 2% glazing on windows and light buildings with 75% natural daylight
- Create occupied spaces with scenic outside views (over 90%)
- Employ LEED accredited professionals, focusing on a certified innovative design process

The implementation of these green building principles, performance standards, and mitigation measures will extensively reduce the potential greenhouse gas emissions associated with the implementation of the project. As such, the project's potential impact on greenhouse gas emissions and climate change would be deemed *less than significant* under this analysis.

## CUMULATIVE IMPACTS

Because the proposed project would not individually have a significant air quality impact, the BAAQMD requires that a determination of cumulative impacts be based on an evaluation of the consistency of the proposed project with the local general plan and of the general plan with the regional air quality plan (CAP). If a project is proposed in a city or county with a general plan that is consistent with the CAP, and the project is consistent with that general plan, the project would not have a significant cumulative impact. If the city or county general plan is not consistent with the CAP, or the project is not consistent with the general plan, quantitative analysis is required to determine whether the impact is significant.

As discussed in Impact AQ-1, since the current County of San Mateo General Plan has not been updated since the Air Resources Chapter was adopted in 1994, it does not meet all of the qualitative requirements outlined in the *BAAQMD CEQA Guidelines* to be considered consistent with the BAAQMD 2000 CAP. Therefore, the *BAAQMD CEQA Guidelines* sets the following quantitative requirements to establish consistency between the project, the County of San Mateo General Plan, and the 2000 CAP:

The project, in conjunction with past, present, and reasonably foreseeable future projects would not:

- i. exceed State or national CO concentrations standards
- ii. exceed 80 pounds/day of ROG, NO<sub>x</sub>, or PM<sub>10</sub>
- iii. pose a significant odor, toxics, or accidental release impact

Or;

- iv. The project in combination with past, present, and reasonably foreseeable future projects would not cause the County of San Mateo's population to exceed CAP and ABAG population projections
- v. The project in combination with past, present, and reasonably foreseeable future projects would not cause the rate of increase in VMT to exceed the rate of increase in population

Based on the information contained in Impact AQ-1, the project, in conjunction with past, present, and reasonably foreseeable future projects would not result in the exceedances of quantitative requirements iv and v. Therefore, the project is consistent with the County of San Mateo General Plan and the County of San Mateo General Plan is consistent with the 2000 CAP.

As such, the cumulative air quality impacts associated with the implementation of the project would be ***less than significant***.

## LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the implementation of Mitigation Measure AQ-2 and AQ-5, air quality impacts related to construction, operational and cumulative emissions would be ***less than significant***.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### D. BIOLOGICAL RESOURCES

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#### INTRODUCTION

This section of the Draft Environmental Impact Report (DEIR) provides a description of the biological resources on the project site, including the vegetation communities, wildlife, special-status species, sensitive natural communities; a discussion of the regulations that serve to protect sensitive resources; an assessment of the potential impacts of the proposed project; and recommendations to minimize and mitigate potentially significant impacts on biological resources. Various technical reports were prepared and reviewed to analyze the potential biological resources impacts associated with the proposed project. These technical reports are summarized in the Backgrounds and Methods section below and are included in Appendix E of this DEIR.

#### ENVIRONMENTAL SETTING

##### Local Setting

As discussed in Section III (Project Description) of this DEIR, the project site is approximately 19.4 acres in size and is composed of two parcels (Assessor's Parcel Numbers [APN] 047-311-060 and 047-312-040) located on the west side of Airport Road (refer to Figures III-1 and III-2). The project parcels are separated by an unnamed County-owned intermittent stream tributary to Pillar Point Marsh, which borders the subject properties to the south. Pillar Point Marsh is a marsh community influenced by both tidal action and freshwater runoff (refer to Figure IV.H-3, Pillar Point Marsh Boundary Local Coastal Program, in Section IV.H, Hydrology and Water Quality, of this DEIR). The northern parcel (APN 047-311-060) is approximately 14.25 acres and the southern parcel (APN 047-312-040) is approximately 5.28 acres. The project site is bordered to the northwest by the El Granada Mobile Home Park, to the northeast by the Half Moon Bay Municipal Airport, to the southwest by Pillar Point Marsh, and to the southeast by commercial and industrial developments in Princeton. The overall terrain of the site is relatively flat, with elevations ranging from approximately 9 to 28 feet NVGD. Because the project site has been in agricultural production since 2003,<sup>1</sup> the extent of natural vegetation communities and wildlife habitats remaining on the site is limited to those that are contiguous to habitats (e.g., coastal freshwater marsh and central coast arroyo willow riparian forest) in and around Pillar Point Marsh just beyond the proposed project boundary. Non-native annual grasses and forbs occur in scattered patches within the agricultural fields and along the project fringes.

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<sup>1</sup> Peck, Jeff. *Peninsula Builders, Inc. January 3, 2007 – email to Aindrea Jensen.*

## REGULATORY SETTING

The following discussion identifies federal, state and local environmental regulations that serve to protect sensitive biological resources relevant to the California Environmental Quality Act (CEQA) review process.

### Federal

#### *Federal Endangered Species Act*

The Federal Endangered Species Act (FESA) of 1973, as amended, provides the regulatory framework for the protection of plant and animal species (and their associated critical habitats), which are formally listed, proposed for listing, or candidates for listing as endangered or threatened under the FESA. The FESA has four major components: provisions for listing species, requirements for consultation with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service), prohibitions against "taking" of listed species, and provisions for permits that allow incidental "take." The FESA also discusses recovery plans and the designation of critical habitat for listed species. Both the USFWS and the NOAA Fisheries Service share the responsibility for administration of the FESA. During CEQA review process, each agency is given the opportunity to comment on the potential of the proposed project to affect listed plants and animals.

#### *Clean Water Act Section 404 & 401*

The U.S. Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency (EPA) regulate the discharge of dredged or fill material into waters of the United States, including wetlands, under Section 404 of the Clean Water Act (CWA) (33 U.S.C. 1344). Waters of the United States are defined in Title 33 CFR Part 328.3(a) and include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds. The lateral limits of jurisdiction in those waters may be divided into three categories – territorial seas, tidal waters, and non-tidal waters – and is determined depending on which type of waters is present (Title 33 CFR Part 328.4(a), (b), (c)). Activities in waters of the United States regulated under Section 404 include fill for development, water resource projects (such as dams and levees), infrastructure developments (such as highways and airports) and mining projects. Section 404 of the CWA requires a federal license or permit before dredged or fill material may be discharged into waters of the United States, unless the activity is exempt from Section 404 regulation (e.g., certain farming and forestry activities).

Section 401 of the Clean Water Act (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification from the state in which the discharge originates or would originate, or, if appropriate, from the interstate water pollution control agency having jurisdiction over the affected waters at the point where the discharge originates or would originate, that the discharge will comply with the

applicable effluent limitations and water quality standards. A certification obtained for the construction of any facility must also pertain to the subsequent operation of the facility. The responsibility for the protection of water quality in California rests with the State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs). The RWQCB's Water Quality Control Plan for the North Coast Basin (Basin Plan) and the California Water Code define waters of the state as follows: "'Waters of the state' means any surface water or groundwater, including saline waters, within the boundaries of the state (Water Code §13050 (e))." This definition is broader than that of "waters of the United States" and consequently should always be considered when determining impacts upon water resources.

### ***Fish and Wildlife Coordination Act***

The Fish and Wildlife Coordination Act (16 U.S.C. Sections 661-667e, March 10, 1994, as amended 1946, 1958, 1978, and 1995) requires that whenever waters or channel of a stream or other body of water are proposed or authorized to be modified by a public or private agency under a federal license or permit, the federal agency must first consult with the USFWS and/or NOAA Fisheries and with the head of the agency exercising administration over the wildlife resources of the state where construction will occur (in this case the California Department of Fish and Game (CDFG)), with a view to conservation of birds, fish, mammals and all other classes of wild animals and all types of aquatic and land vegetation upon which wildlife is dependent.

### ***The Migratory Bird Treaty Act & Bald and Golden Eagle Protection Act***

The Federal Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 et seq.), Title 50 Code of Federal Regulations (CFR) Part 10, prohibits taking, killing, possessing, transporting, and importing of migratory birds, parts of migratory birds, and their eggs and nests, except when specifically authorized by the Department of the Interior. As used in the act, the term "take" is defined as meaning, "to pursue, hunt, capture, collect, kill or attempt to pursue, hunt, shoot, capture, collect or kill, unless the context otherwise requires." With a few exceptions, most birds are considered migratory under the MBTA. Disturbances that causes nest abandonment and/or loss of reproductive effort or loss of habitat upon which these birds depend would be in violation of the MBTA.

The Bald Eagle Protection Act (16 U.S.C. 668) was passed in 1940 to protect bald eagles and was later amended to include golden eagles. Under the act it is unlawful to import, export, take, sell, purchase, or barter any bald eagle or golden eagle, their parts, products, nests, or eggs. Take includes pursuing, shooting, poisoning, wounding, killing, capturing, trapping, collecting, molesting, or disturbing eagles.

## **State**

### ***California Endangered Species Act***

The State of California enacted similar laws to the FESA, the California Native Plant Protection Act (NPPA) in 1977 and the California Endangered Species Act (CESA) in 1984. The CESA expanded upon

the original NPPA and enhanced legal protection for plants, but the NPPA remains part of the California Fish and Game Code. To align with the FESA, CESA created the categories of “threatened” and “endangered” species. It converted all “rare” animals into the CESA as threatened species, but did not do so for rare plants. Thus, these laws provide the legal framework for protection of California-listed rare, threatened, and endangered plant and animal species. CDFG implements NPPA and CESA, and its Wildlife and Habitat Data Analysis Branch maintains the California Natural Diversity Database (CNDDDB), a computerized inventory of information on the general location and status of California’s rarest plants, animals, and natural communities. During the CEQA review process, CDFG is given the opportunity to comment on the potential of the proposed project to affect listed plants and animals.

### ***The Natural Community Conservation Planning Act***

The Natural Community Conservation Planning (NCCP) Act of 1991 represents an unprecedented effort by the State of California, and numerous private and public partners, to broaden its orientation and objectives beyond those of the CESA and FESA (refer to discussions above). The primary objective of the NCCP Act is to conserve natural communities at the ecosystem scale while accommodating compatible land use. The NCCP seeks to anticipate and prevent the controversies and gridlock caused by species’ listings by focusing on the long-term stability of wildlife and plant communities and including key interests in the process.

### ***The California Coastal Act***

The California Coastal Commission (Commission), in partnership with coastal cities and counties, plans and regulates the use of land and water in the coastal zone under the California Coastal Act (CCA). On land the coastal zone varies in width from several hundred feet in highly urbanized areas up to five miles in certain rural areas, and offshore the coastal zone includes a three-mile-wide band of ocean. The coastal zone established by the CCA does not include the San Francisco Bay, where development is regulated by the Bay Conservation and Development Commission. Development activities, which are broadly defined by the CCA to include (among others) construction of buildings, divisions of land, and activities that change the intensity of use of land or public access to coastal waters, generally require a coastal development permit from either the Commission or the local government. The CCA includes goals and policies that constitute the statutory standards applied to planning and regulatory decisions made by the Commission and by local governments. Refer to the County of San Mateo Local Coastal Program section below for more detail.

### ***Fully Protected Species & Species of Special Concern***

The classification of “fully protected” was CDFG’s initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, amphibian and reptiles, birds, and mammals. Most of the species on these lists have subsequently been listed under CESA and/or FESA. The Fish and Game Code sections (fish at §5515, amphibian and reptiles at §5050, birds at §3511, and mammals at §4700) dealing with “fully protected” species states that these species “...may not be taken or possessed at any time and no provision of this code or any other



law shall be construed to authorize the issuance of permits or licenses to take any fully protected species,” although take may be authorized for necessary scientific research. This language makes the “fully protected” designation the strongest and most restrictive regarding the “take” of these species. In 2003, the code sections dealing with fully protected species were amended to allow CDFG to authorize take resulting from recovery activities for state-listed species.

Species of special concern are broadly defined as animals not listed under the FESA or CESA, but which are nonetheless of concern to CDFG because are declining at a rate that could result in listing or historically occurred in low numbers and known threats to their persistence currently exist. This designation is intended to result in special consideration for these animals by CDFG, land managers, consulting biologist, and others, and is intended to focus attention on the species to help avert the need for costly listing under FESA and CESA and cumbersome recovery efforts that might ultimately be required. This designation also is intended to stimulate collection of additional information on the biology, distribution, and status of poorly known at-risk species, and focus research and management attention on them. Although these species generally have no special legal status, they are given special consideration under CEQA during project review.

### ***California Fish and Game Code Sections 3503 & 3513***

According to Section 3503 of the California Fish and Game Code it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird (except English sparrows (*Passer domesticus*) and European starlings (*Sturnus vulgaris*)). Section 3503.5 specifically protects birds in the orders Falconiformes and Strigiformes (birds-of-prey). Section 3513 essentially overlaps with the MTBA, prohibiting the take or possession of any migratory non-game bird. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “take” by CDFG.

### ***California Native Plant Society***

The California Native Plant Society (CNPS) publishes and maintains an Inventory of Rare and Endangered Vascular Plants of California in both hard copy and electronic version ([www.cnps.org/rareplants/inventory/6thedition.htm](http://www.cnps.org/rareplants/inventory/6thedition.htm)). The Inventory assigns plants to the following categories:

- 1A – Presumed extinct in California
- 1B – Rare, threatened, or endangered in California and elsewhere
- 2 – Rare, threatened, or endangered in California, but more common elsewhere
- 3 – Plants for which more information is needed
- 4 – Plants of limited distribution

Additional endangerment codes are assigned to each taxon as follows:

- 1 – Seriously endangered in California (over 80% of occurrences threatened/high degree of immediacy of threat).
- 2 – Fairly endangered in California (20-80% occurrences threatened).
- 3 – Not very endangered in California (<20% of occurrences threatened or no current threats known).

Plants on Lists 1A, 1B, and 2 of the CNPS Inventory consist of plants that may qualify for listing, and are given special consideration under CEQA during project review. Although plants on List 3 and 4 have little or no protection under CEQA, they are usually included in the project review for completeness.

### ***Porter-Cologne Water Quality Control Act***

Waters of the State are defined by the Porter-Cologne Act as “any surface water or groundwater, including saline waters, within the boundaries of the state.” The RWQCB protects all waters in its regulatory scope, but has special responsibility for isolated wetlands and headwaters. These water bodies have high resource value, are vulnerable to filling, and may not be regulated by other programs, such as Section 404 of the CWA. Waters of the State are regulated by the RWQCB under the State Water Quality Certification Program, which regulates discharges of dredged and fill material under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. Projects that require a Corps permit, or fall under other federal jurisdiction, and have the potential to impact waters of the State are required to comply with the terms of the Water Quality Certification Program. If a proposed project does not require a federal license or permit, but does involve activities that may result in a discharge of harmful substances to waters of the State, the RWQCB has the option to regulate such activities under its State authority in the form of Waste Discharge Requirements or Certification of Waste Discharge Requirements.

### ***California Fish and Game Code Section 1600***

Streams, lakes, and riparian vegetation as habitat for fish and other wildlife species, are subject to jurisdiction by CDFG under Sections 1600-1616 of the California Fish and Game Code. Any activity that will do one or more of the following: 1) substantially obstruct or divert the natural flow of a river, stream, or lake; 2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or 3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake; generally require a 1602 Lake and Streambed Alteration Agreement. The term “stream,” which includes creeks and rivers, is defined in the California Code of Regulations (CCR) as follows: “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation” (14 CCR 1.72). In addition, the term stream can include ephemeral streams, dry washes, watercourses with subsurface flows,

canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife.<sup>2</sup> Riparian is defined as, “on, or pertaining to, the banks of a stream;” therefore, riparian vegetation is defined as, “vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself.”<sup>3</sup> Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from CDFG.

### ***Sensitive Vegetation Communities***

Sensitive vegetation communities are natural communities and habitats that are either unique, of relatively limited distribution in the region, or of particularly high wildlife value. However, these communities may or may not necessarily contain special-status species. These sensitive natural communities are usually identified in local or regional plans, policies or regulations, or by CDFG (i.e., CNDDDB) or the USFWS. Impacts to sensitive natural communities and habitats must be considered and evaluated under CEQA.

### **Local**

In addition to federal and state regulations, the County’s General Plan<sup>4</sup> defines certain goals and objectives, and general policies for protecting natural resources (i.e., vegetative, water, fish and wildlife resources). Also, the County has adopted various ordinances that provide protection to natural resources within the County’s limits. Consistent with the goals and policies of the CCA the County’s Local Coastal Program (LCP)<sup>5</sup> provides protection of the coastal resources.

### ***County of San Mateo General Plan***

The General Plan contains the following policies related to biological resources that are applicable to the proposed project:

#### *Vegetative, Water, Fish and Wildlife Resource Policies*

#### 1.2 Protect Sensitive Habitats

- Protect sensitive habitats from reduction in size or degradation of the conditions necessary for their maintenance.

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<sup>2</sup> California Department of Fish and Game. Environmental Services Division (ESD). 1994. *A Field Guide to Lake and Streambed Alteration Agreements, Sections 1600-1607, California Fish and Game Code.*

<sup>3</sup> California Department of Fish and Game. Environmental Services Division (ESD). 1994. *Ibid.*

<sup>4</sup> San Mateo County. 1986. *General Plan Policies. Department of Environmental Management, Planning and Building Division, San Mateo County, California. November 1986.*

<sup>5</sup> San Mateo County. 1998. *Local Coastal Program Policies. Environmental Services Agency, Planning and Building Division, San Mateo County, California. June 1998.*

1.3 Protection and Productive Use of Economically Valuable Vegetative, Water, Fish and Wildlife Resources

- Protect the availability and encourage the productive use of the County's economically valuable vegetative, water, fish and wildlife resources in a manner which minimizes adverse environmental impacts.

1.4 Access to Vegetative, Water, Fish and Wildlife Resources

- Protect and promote existing rights of public access to vegetative, water, fish and wildlife resources for purposes of study and recreation consistent with the need to protect public rights, rights of private property owners and protection and preservation of such resources.

*General Policies*

1.20 Importance of Sensitive Habitats

- Consider areas designated as sensitive habitats as a priority resource requiring protection.

1.21 Importance of Economically Valuable Vegetative, Water, Fish and Wildlife Resources

- Consider Vegetative, Water, Fish and Wildlife Resources which are economically valuable as a priority resource to be enhanced, utilized, managed and maintained for the needs of present and future generations.

*Regulation of Development*

1.22 Regulate Development to Protect Vegetative, Water, Fish and Wildlife Resources

- a. Regulate land uses and development activities to prevent, and if infeasible mitigate to the extent possible, significant adverse impacts on vegetative, water, fish and wildlife resources.
- b. Place a priority on the managed use and protection of vegetative, water, fish and wildlife resources in rural areas of the County.

1.23 Regulate Location, Density and Design of Development to Protect Vegetative, Water, Fish and Wildlife Resources

- Regulate the location, density and design of development to minimize significant adverse impacts and encourage enhancement vegetative, water, fish and wildlife resources.

*Resource Protection*

1.24 Protect Vegetative Resources

- Ensure that development will: (1) minimize the removal of vegetative resources and/or; (2) protect vegetation which enhances microclimate, stabilizes slopes or reduces surface water runoff, erosion or sedimentation; and/or (3) protect historic and scenic trees.

1.25 Protect Water Resources

- Ensure that development will: (1) minimize the alteration of natural water bodies, (2) maintain adequate stream flows and water quality for vegetative, fish and wildlife habitats; (3) maintain and improve, if possible, the quality of groundwater basins and recharge areas; and (4) prevent to the greatest extent possible the depletion of groundwater resources.

1.26 Protect Fish and Wildlife Resources

- Ensure the development will minimize the disruption of fish and wildlife and their habitats.

*Sensitive Habitats*

1.27 Regulate Development to Protect Sensitive Habitats

- Regulate land uses and development activities within and adjacent to sensitive habitats in order to protect critical vegetative, water, fish and wildlife resources; protect rare, endangered, and unique plants and animals from reduction in their range or degradation of their environment; and protect and maintain the biological productivity of important plant and animal habitats.

1.28 Establish Buffer Zones

- Establish necessary buffer zones adjacent to sensitive habitats which include areas that directly affect the natural conditions in the habitats.

1.29 Uses Permitted in Sensitive Habitats

- Within sensitive habitats, permit only those land uses and development activities that are compatible with the protection of sensitive habitats, such as fish and wildlife management activities, nature education and research, trails and scenic overlooks and, at a minimum level, necessary public service and private infrastructure.

### 1.30 Uses Permitted in Buffer Zones

- Within buffer zones adjacent to sensitive habitats, permit the following land uses and development activities: (1) land uses and activities which are compatible with the protection of sensitive habitats, such as fish and wildlife management activities, nature education and research, trail and scenic overlooks, and at a minimum level, necessary public and private infrastructure; (2) land uses which are compatible with the surrounding land uses and will mitigate their impact by enhancing or replacing sensitive habitats; and (3) if no feasible alternative exists, land uses which are compatible with the surrounding land uses.

### 1.31 Regulate the Location, Siting and Design of Development in Sensitive Habitats

- Regulate the location, siting and design of development in sensitive habitats and buffer zones to minimize to the greatest extent possible adverse impacts, and enhance positive impacts.

### 1.32 Performance Criteria and Development Standards

- Establish performance criteria and development standards for development permitted within sensitive habitats and buffer zones, to prevent and if infeasible mitigate to the extent possible significant negative impacts, and to enhance positive impacts.

### *Productive Uses*

### 1.33 Regulate Productive Uses of Vegetative, Water, Fish and Wildlife Resources

- Regulate resource productive uses which are subject to local control in order to prevent and if infeasible mitigate to the extent possible significant adverse impacts on vegetative, water, fish and wildlife resources and to maintain and enhance (1) productivity of forests and other vegetative resources; (2) productive capacity and quality of groundwater basins and recharge areas, streams, reservoirs, and other water bodies; (3) productivity of fisheries and other fish and wildlife resources; and (4) the recreational value and aesthetic value of these areas.

### 1.34 Protect Productive Uses of Vegetative, Water, Fish and Wildlife Resources

- Regulate development in order to protect and promote the managed use of vegetative, water, fish and wildlife resources.

### 1.36 Protect and Productive Use of Water Resources

- Ensure that land uses and development on or near water resources will not impair the quality or productive capacity of these resources.

*Control of Incompatible Vegetative, Fish and Wildlife Resources*1.38 Control Incompatible Vegetation, Fish and Wildlife

- Encourage and support the control of vegetation, fish and wildlife resources which are harmful to the surrounding environment or pose a threat to public health, safety and welfare.

1.39 Minimize Adverse Impacts of Programs Controlling Incompatible Vegetation, and Fish and Wildlife

- Minimize the negative impacts and risks of programs controlling incompatible vegetation, fish and wildlife.

***San Mateo County Ordinances***

The County has adopted the following ordinances to provide protection to natural resources within the County's limits.

*Significant Tree Ordinance* – This ordinance requires a permit for the removal or destruction of any significant trees and tree communities within the unincorporated area of the County. As defined in Chapter 2 of the ordinance, significant tree means any live woody plant rising above the ground with a single stem or trunk of a circumference of 38 inches or more measured at four and one half feet vertically above the ground or immediately below the lowest branch, whichever is lower, and having the inherent capacity of naturally producing one main axis continuing to grow more vigorously than the lateral axes. Tree communities are defined as a group of trees of any size which are ecologically or aesthetically related to each other such that loss of several of them would cause a significant ecological, aesthetic, or environmental impact in the immediate area.

*Heritage Tree Ordinance* – This ordinance requires a permit for the removal, destruction, or trimming of any heritage trees within the unincorporated area of the County. As defined in Chapter 2 of the ordinance, heritage tree means any of the following: (a) Class 1 any tree or grove of trees designated after Board of Supervisors; and (b) Class 2 any one of the 17 designated species of trees, healthy and generally free from disease, with a diameter equal to or greater than the specified size listed in Chapter 2 of the ordinance:

*Excavating, Grading, Filling and Clearing Ordinance* – This ordinance requires a land clearing permit for vegetation removal when: (a) the land area to be cleared is 5,000 square feet or greater, within any two-year period except in County Scenic Corridors where vegetation removal is greater than 1,000 square feet; (b) the existing slopes are greater than 20 percent; and (c) the land area to be cleared is in any sensitive habitat or buffer zone as identified in the County General Plan.

Applications for this permit must include plans for erosion control, the removal and disposal of vegetation, and a statement of the purpose for the removal of vegetation. Performance standards require

erosion control and grading standards in conformance with the Grading Permit Performance Standards Handbook. Approval of the permit is subject to the finding that the granting of the permit will not have a significant adverse effect on the environment.

### ***County of San Mateo Local Coastal Program***

In late 1980, the County Board of Supervisors adopted and the Commission certified the County's LCP. In April 1981, the County assumed responsibility for implementing the CCA in the unincorporated area of the County, including the issuance of Coastal Development Permits (CDP). All development in the coastal zone requires either a CDP or an exemption from CDP requirements. For a permit to be issued the development must comply with the goals and policies of the LCP and those ordinances adopted to implement the LCP. The Sensitive Habitat Component of the County's current LCP<sup>6</sup> contains the following policies to facilitate the management of the sensitive coastal resources.

#### *General Policies*

##### 7.1 Definition of Sensitive Habitats

- Define sensitive habitats as any area in which plant or animal life or their habitats are either rare or especially valuable and any area which meets one of the following criteria: (1) habitats containing or supporting "rare and endangered" species as defined by the State Fish and Game Commission, (2) all perennial and intermittent streams and their tributaries, (3) coastal tide lands and marshes, (4) coastal and offshore areas containing breeding or nesting sites and coastal areas used by migratory and resident water-associated birds for resting areas and feeding, (5) areas used for scientific study and research concerning fish and wildlife, (6) lakes and ponds and adjacent shore habitat, (7) existing game and wildlife refuges and reserves, and (8) sand dunes.
- Sensitive habitat areas include, but are not limited to, riparian corridors, wetlands, marine habitats, sand dunes, sea cliffs, and habitats supporting rare, endangered, and unique species.

##### 7.2 Designation of Sensitive Habitats

- Designate sensitive habitats as including, but not limited to, those shown on the Sensitive Habitats Map for the Coastal Zone.

##### 7.3 Protection of Sensitive Habitats

- a. Prohibit any land use or development which would have significant adverse impact on sensitive habitat areas.

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<sup>6</sup> *Environmental Services Agency, Building and Planning Division, San Mateo County, California. (Updated June 1998). Local Coastal Program Policies.*



- b. Development in areas adjacent to sensitive habitats shall be sited and designed to prevent impacts that could significantly degrade the sensitive habitats. All uses shall be compatible with the maintenance of biologic productivity of the habitats.

#### 7.4 Permitted Uses in Sensitive Habitats

- a. Permit only resource dependent uses in sensitive habitats. Resource dependent uses for riparian corridors, wetlands, marine habitats, sand dunes, sea cliffs and habitats supporting rare, endangered, and unique species shall be the uses permitted in Policies 7.9, 7.16, 7.23, 7.26, 7.30, 7.33, and 7.44, respectively, of the County LCP on March 25, 1986.
- b. In sensitive habitats, require that all permitted uses comply with U.S. Fish and Wildlife and State Department of Fish and Game regulations.

### *Riparian Corridors*

#### 7.9 Permitted Uses in Riparian Corridors

- a. Within corridors, permit only the following uses: (1) education and research, (2) consumptive uses as provided for in the Fish and Game Code and Title 14 of the California Administrative Code, (3) fish and wildlife management activities, (4) trails and scenic overlooks on public land(s), and (5) necessary water supply projects.
- b. When no feasible or practicable alternative exists, permit the following uses: (1) stream dependent aquaculture, provided that non-stream dependent facilities locate outside of corridor, (2) flood control projects, including selective removal of riparian vegetation, where no other method for protecting existing structures in the floodplain is feasible and where such protection is necessary for public safety or to protect existing development, (3) bridges when supports are not in significant conflict with corridor resources, (4) pipelines, (5) repair or maintenance of roadways or road crossings, (6) logging operations which are limited to temporary skid trails, stream crossings, roads and landings in accordance with State and County timber harvesting regulations, and (7) agricultural uses, provided no existing riparian vegetation is removed, and no soil is allowed to enter stream channels.

#### 7.11 Establishment of Buffer Zones

- a. On both sides of riparian corridors, from the “limit of riparian vegetation” extend buffer zones 50 feet outward for perennial streams and 30 feet outward for intermittent streams.
- b. Where no riparian vegetation exists along both sides of riparian corridors, extend buffer zones 50 feet from the predictable high water point for perennial streams and 30 feet from the midpoint of intermittent streams.

- c. Along lakes, ponds, and other wet areas, extend buffer zones 100 feet from the high water point except for manmade ponds and reservoirs used for agricultural purposes for which no buffer zone is designated.

#### 7.17 Performance Standards in Wetlands

- Require that development permitted in wetlands minimize adverse impacts during and after construction. Specifically, require that: (1) all paths be elevated (catwalks) so as not to impede movement of water, (2) all construction takes place during daylight hours, (3) all outdoor lighting be kept at a distance away from the wetland sufficient not to affect the wildlife, (4) motorized machinery be kept to less than 45 dBA at the wetland boundary, except for farm machinery, (5) all construction which alters wetland vegetation be required to replace the vegetation to the satisfaction of the Planning Director including “no action” in order to allow for natural reestablishment, (6) no herbicides be used in wetlands unless specifically approved by the County Agricultural Commissioner and State Department of Fish and Game, and (7) all projects be reviewed by the State Department of Fish and Game and State Water Quality Board to determine appropriate mitigation measures.

#### 7.18 Establishment of Buffer Zones

- Buffer zones shall extend a minimum of 100 feet landward from the outermost line of wetland vegetation. This setback may be reduced to no less than 50 feet only where (1) no alternative development site or design is possible; and (2) adequacy of the alternative setback to protect wetland resources is conclusively demonstrated by a professional biologist to the satisfaction of the County and the State Department of Fish and Game. A larger setback shall be required as necessary to maintain the functional capacity of the wetland ecosystem.

### *Rare and Endangered Species*

#### 7.36 San Francisco Garter Snake

- a. Prevent any development where there is known to be a riparian or wetland location for the San Francisco garter snake with the following exceptions: (1) existing manmade impoundments smaller than one-half acre in surface, and (2) existing manmade impoundments greater than one-half acre in surface providing mitigation measures are taken to prevent disruption of no more than one half of the snake’s known habitat in that location in accordance with recommendations from the State Department of Fish and Game.
- b. Require developers to make sufficiently detailed analyses of any construction which could impair the potential or existing migration routes of the San Francisco garter snake. Such analyses will determine appropriate mitigation measures to be taken to provide for appropriate migration corridors.

*Unique Species*7.49 California Wild Strawberry

- Require any development, within one-half mile of the coast, to mitigate against the destruction of any California wild strawberry in one of the following ways:
  - a. Prevent any development, trampling, or other destructive activity which would destroy the plant, or
  - b. After determining specifically if the plants involved are of particular value, successfully transplant them or have them successfully transplanted to some other suitable site. Determination of the importance of the plants can only be made by a professional doing work in strawberry breeding.

**BACKGROUND AND METHODOLOGY**

The analysis of potential biological resources impacts associated with the proposed project involved review of available background information, including (but not limited to) biological resources reports completed for the project site and surrounding lands (e.g., Pillar Point Marsh), and completion of field surveys by the DEIR consultant, Christopher A. Joseph & Associates (CAJA).

Prior to conducting field surveys, CAJA's biologist reviewed the previous biological resources reports completed for the project site to verify the adequacy, completeness, and accuracy of these reports for their use in this section of the DEIR. These reports are included in Appendix E of this DEIR and are summarized below.

- *San Mateo County Biological Impact Report, Big Wave Development Site, Princeton, San Mateo County, California* prepared by Wetlands Research Associates, Inc. in November 2001.<sup>7</sup> This report is based on general plant and animal surveys conducted by Wetland Research Associates, Inc. (WRA) on the northern project parcel (APN 047-311-060) on October 27, 2000<sup>8</sup> and November 20, 2000.<sup>9</sup> It provides a description of the existing biological conditions of the project site evaluates the potential for special-status plant and animal species and sensitive habitats to occur on the site, identifies potential impacts to biological resources that may occur as a result of development of the site, and presents avoidance and minimization measures to reduce potential impacts.

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<sup>7</sup> *Wetland Research Associates, Inc., (WRA). 2001a. San Mateo County Biological Impact Report, Big Wave Development Site, Princeton, San Mateo County, California.*

<sup>8</sup> *General plant surveys were conducted October 27, 2000.*

<sup>9</sup> *General wildlife surveys were conducted on November 20, 2000.*

- *San Mateo County Local Coastal Program Wetland Delineation Study, Big Wave Development Site, Princeton, San Mateo County, California* prepared by WRA in November 2001.<sup>10</sup> This report describes the nature and extent of areas on the northern project parcel that could be considered jurisdictional by the County under the LCP.
- *San Mateo County Biological Impact Report, Big Wave Development Site, Princeton, San Mateo County, California* prepared by WRA in May 2003.<sup>11</sup> This report updates the 2001 biological impact report (refer to the report above). At the time of the 2001 report, the project description and footprint were undetermined. WRA conducted subsequent surveys on the northern project parcel on January 17, 2003, March 19, 2003, and May 7, 2003 to determine whether existing site conditions had changed since its previous surveys. The biological impact report was revised accordingly.
- *San Mateo County Local Coastal Program Wetland Delineation Study, Big Wave Development Site, Princeton, San Mateo County, California* prepared by WRA in May 2003.<sup>12</sup> This report updates the 2001 wetland delineation study (refer to the report above). At the time of the 2001 study, the project description and footprint were undetermined. WRA conducted subsequent surveys on the northern project parcel and revised the wetland delineation study accordingly.
- *San Mateo County Rare Plant Report, Big Wave Development Site, Princeton, San Mateo County, California* prepared by WRA in March 2004.<sup>13</sup> This report is based on special-status plant surveys conducted WRA on the northern project parcel on March 19, 2003 and May 7, 2003. It determines the presence or absence of special-status plant species on the site and identifies potential impacts to special-status plants that may occur as a result of development of the site.
- *Wetland Delineation Study, Big Wave Office Park and Wellness Center – Southern Parcel, San Mateo County, California* prepared by CAJA in May 2007.<sup>14</sup> This report describes the nature and extent of areas on the southern parcel that could be considered jurisdictional by the Corps under Section 404 of the CWA and the County under the LCP.
- *An Analysis of the Geographic Extent of Waters of the United States, Including Wetlands, on the Big Wave Property, San Mateo County, California*, prepared by WSP Ecosystem Science and

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<sup>10</sup> Wetland Research Associates, Inc., (WRA). 2001b. *San Mateo County Local Coastal Program Wetland Delineation Study, Big Wave Development Site, Princeton, San Mateo County, California*.

<sup>11</sup> Wetland Research Associates, Inc., (WRA). 2003a. *San Mateo County Biological Impact Report, Big Wave Development Site, Princeton, San Mateo County, California*.

<sup>12</sup> Wetland Research Associates, Inc., (WRA). 2003b. *San Mateo County Local Coastal Program Wetland Delineation Study, Big Wave Development Site, Princeton, San Mateo County, California*.

<sup>13</sup> Wetland Research Associates, Inc., (WRA). 2004. *San Mateo County Rare Plant Report, Big Wave Development Site, Princeton, San Mateo County, California*.

<sup>14</sup> Christopher A. Joseph & Associates (CAJA). 2007. *Wetland Delineation Study, Big Wave Office Park and Wellness Center – Southern Parcel, San Mateo County, California. Draft – May 2007*.

Natural Resources Management in March 2008.<sup>15</sup> This report provides current information on the extent and types of wetland habitat present on and adjacent to the Big Wave site parcels.

- *Biological Resources of the Proposed Big Wave Wellness Center and Office Park Project Site, San Mateo County, California*, prepared by WSP Ecosystem Science and Natural Resources Management in August 2008, revised February 2009.<sup>16</sup>

In addition to the reports listed above, CAJA's biologist reviewed the Fitzgerald Marine Reserve Master Plan, Part Two: Environmental Setting – Draft prepared by Brady/LSA in May 2002<sup>17</sup> and San Mateo County Parks Vegetation Resources prepared by Rana Creek Habitat Restoration in March 2002.<sup>18</sup> Also, CAJA's biologist reviewed letters from the resource and regulatory agencies regarding the previous biological resources studies completed for the site, and contacted representatives from the agencies to discuss the biological resources on and in the vicinity of the project site. Representatives from CDFG and USFWS met with CAJA's biologist on the site on January 10, 2007. CAJA's biologist conducted field surveys on December 12, 2006, January 10, 2007, January 11, 2007, and February 22, 2007. WSP scientists performed reconnaissance-level wildlife surveys on February 25, 2008 and January 2009, in addition to the November 20, 2007, March 27, 2008 wetland delineation site visits. The methods used to assess the biological resources on the site are described in more detail below.

### ***Vegetation Communities & Wildlife Habitats***

The vegetation communities and wildlife habitats identified on the project site were classified based on Holland (1986),<sup>19</sup> where appropriate. However, few Holland classifications exist for areas dominated by non-native species (i.e., disturbed areas). Therefore, the California Wildlife Habitat Relationships (CWHR) habitat classification scheme was also used to describe the communities present on the site.<sup>20</sup> Vegetation communities and wildlife habitats present on the site were mapped by hand in the field using aerial imagery and then digitized onto appropriate base maps in ArcGIS 9, and a Trimble Geo-XT handheld global positioning system (GPS) and downloaded onto the appropriate base maps in ArcGIS 9.

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<sup>15</sup> WSP Ecosystem Science and Natural Resources Management (WSP), 2008. *An Analysis of the Geographic Extent of Waters of the United States, Including Wetlands, on the Big Wave Property, San Mateo County, California*.

<sup>16</sup> WSP Ecosystem Science and Natural Resources Management (WSP) 2008, Rev. 2009. *Biological Resources of the Proposed Big Wave Wellness Center and office Park Project Site, San Mateo County, California*.

<sup>17</sup> Brady/LSA. 2002. *Fitzgerald Marine Reserve Master Plan, Part Two: Environmental Setting – Draft*.

<sup>18</sup> Rana Creek Habitat Restoration. 2002. *San Mateo County Parks Vegetation Resources. Prepared for County San Mateo Environmental Services Agency Parks & Recreation Division. March 2002*.

<sup>19</sup> Holland, R. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California. Nongame-Heritage Program, California Department of Fish and Game*.

<sup>20</sup> California Department of Fish and Game (CDFG). 1988. *A Guide to Wildlife Habitats. Eds. Kenneth E. Mayer and William F. Laudenslayer, Jr. State of California, Resources Agency, Department of Fish and Game. Sacramento, California*.

### ***Special-Status Species***

For the purposes of this analysis, special-status species include those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the USFWS or NOAA Fisheries Service under the FESA; those listed or proposed for listing as rare, threatened, or endangered by CDFG under the CESA; plants occurring on List 1A, List 1B, List 2, List 3 and List 4 of the CNPS Inventory; and animals designated as “species of special concern” or “fully protected” by CDFG.

The potential occurrence of special-status species on the project site was evaluated by first developing a list of special-status plants and animals that are known to or have the potential to occur in the vicinity of the project site based on a search of the CNDDDB records within a five-mile radius of the site<sup>21</sup> and the CNPS Electronic Inventory records, including the Montara Mountain (448C) U.S. Geological Service (USGS) 7.5-Minute Quadrangle and the five surrounding USGS quadrangles (San Francisco South [448B], Hunters Point [448A], San Mateo [448D], Half Moon Bay [429B], and Woodside [429A]),<sup>22</sup> and review of the USFWS list of Federal Endangered and Threatened Species that Occur in or May be Affected by Projects in the Montara Mountain (448C) USGS 7.5-Minute Quad,<sup>23</sup> San Mateo County Biological Impact Report, Big Wave Development Site, Princeton, San Mateo County, California,<sup>24,25</sup> San Mateo County Rare Plant Report, Big Wave Development Site, Princeton, San Mateo County, California,<sup>26</sup> Fitzgerald Marine Reserve Master Plan, Part Two: Environmental Setting – Draft,<sup>27</sup> and Biological Resources of the Proposed Big Wave Wellness Center and Office Park Project Site, San Mateo County, California.<sup>28</sup> Each species was then evaluated for its potential to occur on the site during the reconnaissance-level field surveys according to the following criteria:<sup>29,30</sup>

- (1) Not Present. Species listed as Not Present on the project site are those species for which:

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<sup>21</sup> California Department of Fish and Game (CDFG). 2009 California Natural Diversity Database (CNDDDB) Rarefind [CD-ROM], Wildlife Habitat Data Analysis Branch, California Department of Fish and Game. Sacramento: California.

<sup>22</sup> California Native Plant Society (CNPS). 2009. Inventory of Rare and Endangered Plants (online edition, v7-09b). California Native Plant Society, Sacramento. Available from <http://cnps.org/inventory>.

<sup>23</sup> U.S. Fish and Wildlife Service (USFWS). March 5, 2007. Federal Endangered and Threatened Species that Occur in or May be Affected by Projects in the Montara Mountain USGS 7.5-Minute Quad. Sacramento (CA): Sacramento Fish and Wildlife Office. Accessed May 4, 2009. Available from [http://www.fws.gov/sacramento/es/spp\\_list.htm](http://www.fws.gov/sacramento/es/spp_list.htm)

<sup>24</sup> Wetland Research Associates, Inc. (WRA). 2001a. Ibid.

<sup>25</sup> Wetland Research Associates, Inc. (WRA). 2003a. Ibid.

<sup>26</sup> Wetland Research Associates, Inc. (WRA). 2004. Ibid.

<sup>27</sup> Brady/LSA. 2002. Ibid.

<sup>28</sup> WSP Ecosystem Science & Restoration (WSP). 2008, rev. 2009. Ibid.

<sup>29</sup> Wetland Research Associates, Inc. (WRA). 2004. Ibid

<sup>30</sup> WSP Ecosystem Science & Restoration (WSP). 2008, rev. 2009. Ibid

No suitable habitat occurs on the project site. The species has no likelihood for utilizing any portion of the site due to lack of habitat requirements (e.g., foraging, breeding, cover, substrate, elevation, hydrology, plant community, disturbance regime, etc.).

The site has been surveyed during the proper time of year with negative results for the species.

- (2) Low Potential to Occur. Species listed as having a Low Potential to Occur on the project site are those species for which:

There are no known records of occurrence in the vicinity of the site; and/or

The majority of the habitat on the project site is unsuitable or of very poor quality for the species;

Required habitat components are not present on the site.

- (3) Moderate Potential to Occur. Species listed as having a Moderate Potential to Occur on the project site are those species for which:

There are known records of occurrence in the vicinity of the site; and/or

Some of the required habitat components are available on the site, but the site lacks some critical components required by the species.

- (4) Likely to Occur. Species listed as Likely to Occur on the project site are those species for which:

There are known records of occurrence in the vicinity of the site (there are many records and/or records in close proximity); and/or

Habitat components are available on the site but no record of the species utilizing the project site exists.

- (5) Present. Species listed as Present on the project site are those species for which:

The species was observed or is otherwise known to occur on the project site.

Table IV.D-1 and Table IV.D-2 present the list of special-status plants and animals that are known to or have the potential to occur in the vicinity of the project site, their habitat requirements, and a rating of potential for occurrence on the site. Although species restricted to marine habitats (e.g., black abalone (*Haliotes cracherodii*), white abalone [*Haliotes sorenseni*], Gaudalupe fur seal (*Arctocephalus townsendi*), blue whale [*Balaenoptera musculus*], finback whale (*Balaenoptera physalus*), right whale (*Eubalaena glacialis*), and sperm whale (*Physeter catodon*) are known to or have the potential to occur in the vicinity of the project site, these species were not included in Table IV.D-2, as the project site does not support habitat used by these species. Also, the words “nesting,” “nesting colony” or “wintering” following the sensitivity/regulatory status of the bird species in Table IV.D-2 indicates the regulatory

status only while the species is nesting or wintering. Only those species identified as having a “moderate” or “likely” potential to occur on the site, and those identified as “present” are discussed further in this section of the DEIR.

### ***Sensitive Natural Communities***

Sensitive natural communities are identified by federal, state, and local agencies as those habitats that support special-status species, provide important habitat values for wildlife, represent areas of unusual or regionally restricted habitats, and/or provide high biological diversity. The potential occurrence of sensitive natural communities on the project site was evaluated by first developing a list of sensitive habitats that are known to or have the potential to occur in the vicinity of the project site based on a search of the CNDDDB records within a five-mile radius of the site<sup>31</sup> and review of the San Mateo County Biological Impact Report, Big Wave Development Site, Princeton, San Mateo County, California,<sup>32,33</sup> San Mateo County Rare Plant Report, Big Wave Development Site, Princeton, San Mateo County, California,<sup>34</sup> Fitzgerald Marine Reserve Master Plan, Part Two: Environmental Setting – Draft,<sup>35</sup> County of San Mateo General Plan,<sup>36</sup> and County of San Mateo Local Coastal Program.<sup>37</sup> The vegetation communities and wildlife habitats identified on the site and recorded on the list of sensitive habitats were then evaluated using the specific methods presented below to determine the nature and extent of these communities present.

### ***Riparian Habitat***

In addition to reviewing the biological impacts reports and wetland studies completed for the project site, CAJA reviewed aerial photographs (historical and recent aerial photographs<sup>38,39</sup>) to determine the nature and extent of riparian habitat on the site. During field surveys CAJA recorded and mapped by hand and/or using a Trimble Geo-XT hand-held GPS riparian vegetation present on and immediately adjacent to the site. In addition, WSP delineated and mapped the extent of riparian habitat on the project site that currently bisects the project parcels.<sup>40</sup>

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<sup>31</sup> California Department of Fish and Game (CDFG). 2006 California Natural Diversity Database (CNDDDB 2009) [CD-ROM], Wildlife Habitat Data Analysis Branch, California Department of Fish and Game. Sacramento: California.

<sup>32</sup> Wetland Research Associates, Inc. (WRA). 2001a. *Ibid.*

<sup>33</sup> Wetland Research Associates, Inc. (WRA). 2003a. *Ibid.*

<sup>34</sup> Wetland Research Associates, Inc. (WRA). 2004. *Ibid.*

<sup>35</sup> Brady/LSA. 2002. *Ibid.*

<sup>36</sup> San Mateo County. 1986. *Ibid.*

<sup>37</sup> San Mateo County. 1998. *Ibid.*

<sup>38</sup> Historical aerial photographs from 1943 through 2001 (Environmental Data Resources, Inc. [EDR] 2007).

<sup>39</sup> Aerial photograph from January 2006 (HJW GeoSpatial 2006).

<sup>40</sup> WSP Ecosystem Science & Restoration (WSP). 2008. *Ibid.*



### ***Jurisdictional Waters and Wetlands***

The presence of jurisdictional waters and wetlands on the project site were determined based on the review of the wetland delineation studies completed by WRA, CAJA, and WSP. These studies used technical guidelines and methods provided by the Corps in its Arid West Regional Supplement<sup>41</sup> to the 1987 Corps of Engineers Wetland Manual (hereafter referred to as the Corps Manual)<sup>42</sup> and/or the County's LCP. According to the Corps wetland delineation methodology, a wetland must exhibit the following field indicators: (1) a prevalence or dominance of hydrophytic vegetation (i.e., "water loving" species with "obligate" [OBL],<sup>43</sup> "facultative wetland" [FACW],<sup>44</sup> or "facultative" [FAC]<sup>45</sup> wetland indicator status in Reed [1988]<sup>46</sup>); (2) hydric soils (i.e., soils that are saturated or flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part); and (3) wetland hydrology (i.e., permanent or periodic inundation, or soil saturation to the surface for a sufficient duration to support hydrophytic vegetation). If positive indicators cannot be determined for any one of these parameters, the area is not a wetland. In the absence of adjacent wetland, the Corps jurisdiction extends to the ordinary high water mark (OHWM) of the water. According to the County's LCP methodology (refer to the County of San Mateo Local Coastal Program Section Wetland Policy 7.14), a wetland is "an area where the water table is at, near, or above the land surface long enough to bring about the formation of hydric soils or to support the growth of plants which normally are found to grow in water or wet ground. In San Mateo County, wetlands typically contain the following plants: cordgrass, pickleweed, jaumea, frankenia, marsh mint, tule, bulrush, narrow-leaf cattail, broadleaf cattail, pacific silverweed, salt rush, and bog rush. To qualify, a wetland must contain at least a 50% cover of some combination of these plants, unless it is a mudflat" (San Mateo County 1998).<sup>47</sup>

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<sup>41</sup> U.S. Army Corps of Engineers (Corps). 2006. *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*. Eds. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-06-16, U.S. Army Engineer Research and Development Center, Vicksburg, MS.

<sup>42</sup> Environmental Laboratory. 1987. *Corps of Engineers Wetland Delineation Manual, Technical Report Y-87-7*, U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, Miss.

<sup>43</sup> *Plants that occur almost always (estimated probability >99 percent) in wetlands under natural conditions, but which may also occur rarely (estimated probability <1 percent) in non-wetlands.*

<sup>44</sup> *Plants that occur usually (estimated probability >67 percent) in wetlands, but also occur (estimated probability 1 percent to 33 percent) in non-wetlands.*

<sup>45</sup> *Plants with a similar likelihood (estimated probability 33 percent to 67 percent of occurring in both wetlands and non-wetlands.*

<sup>46</sup> Reed, P. B., Jr. 1988. *National List of Plant Species that Occur in Wetlands: California, Region 0*. (Biological Report 88[26.10]0. U.S. Fish and Wildlife Service. Fort Collins, Colorado.

<sup>47</sup> San Mateo County. 1998. *Ibid.*

## EXISTING CONDITIONS

The following sections provide descriptions of the vegetation communities and wildlife habitats, special-status species and sensitive natural communities, and jurisdictional waters and wetlands present or potentially present on the project site.

### *Vegetation Communities & Wildlife Habitats*

The majority of the project site has been recently disturbed by agricultural activities (i.e., disking and/or planting of irrigated row and field crops) and, therefore, the extent of natural vegetation communities and wildlife habitats on the site are limited to those that are contiguous to habitats in and around Pillar Point Marsh. In those areas where normal farming activities have not occurred recently (e.g., along the Airport Street verge and in very small, scattered patches within the agricultural fields), non-native annual grasses and herbs occur.<sup>48</sup> Vegetation communities and wildlife habitats identified on the site are described in more detail below and illustrated in Figure IV.D-1.

### *Agricultural (Irrigated Row and Field Crops)*

Irrigated row and field crops are typically established in flat to gently rolling terrain on fertile soils and are greatly manipulated in terms of soils, irrigation, crop rotation, and fertilization. Irrigated row and field crops are usually grown in monoculture, using plowing or herbicides to eliminate unwanted vegetation. Cultivated species in such fields exhibit a variety of sizes, shapes, and growing patterns that provide various heights and canopy cover. Irrigated row and field crops have been planted on the project site since 2003 and prior to this the site had not been in agricultural production for at least seven years.<sup>49</sup> At the time of CAJA's field surveys, fava bean (*Vicia faba*) was planted on the southern project parcel and Swiss chard (*Beta vulgaris* var. *ciela*) was planted on the northern project parcel; however, the project parcels are planted in rotations with various other vegetable crops (e.g., corn [*Zea mays*], squash [*Cucurbita* sp.], garlic [*Allium* sp.]).<sup>50</sup> Non-cultivated species such as ruderal, weedy grass and forb species including common vetch (*Vicia sativa*), bristly oxtongue (*Picris echioides*), black mustard (*Brassica nigra*), poison hemlock (*Conium maculatum*), ripgut brome (*Bromus diandrus*), wild oat (*Avena fatua*), and wild radish (*Raphanus sativus*), were observed along the boundaries of the project parcels fronting El Granada Mobile Home Park, Airport Road, and the commercial and industrial developments in Princeton.

The value of irrigated row and field crops to wildlife depends on the vegetation characteristics, agricultural practices, and irrigation regimes. Agricultural fields provide habitat for a number of insects, reptiles, birds and small mammals, which in turn serve as important prey for predatory birds and mammals. Large mammals such as the black-tailed deer (*Odocoileus hemionus*) also frequent

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<sup>48</sup> *WSP Ecosystem Science & Restoration (WSP). 2008, rev. 2009. Ibid.*

<sup>49</sup> *Peck, Jeff. Peninsula Builders, Inc. January 3, 2007. Ibid.*

<sup>50</sup> *Iacopi, Michael. Iacopi Farms. January 10, 2007. Field meeting with Aindrea Jensen.*

agricultural fields. Some of these species forage in the agricultural fields and retreat to the protective cover of the surrounding habitat (e.g., riparian forest in Pillar Pt. Marsh) for shelter and nesting, while others disperse through this habitat. Wildlife species observed on the project site during past surveys include American crow (*Corvus brachyrhynchos*), northern harrier (*Circus cyaneus*), American kestrel

(*Falco sparverius*), Brewer's blackbird (*Euphagus cyanocephalus*), great blue heron (*Ardea Herodias*), and white-tailed kite (*Elanus leucurus*).<sup>51,52,53</sup>

### ***Coastal Freshwater Marsh (Pillar Point Marsh)***

Coastal freshwater marsh develops in shallow, standing or slow-moving water at the edge of lakes, ponds and rivers, and at other sites that lack currents and are permanently flooded or saturated by fresh water. Highly organic, mineral rich soils of sand, silt, and clay typically underlie freshwater marshes and support up to 16-foot tall, perennial, emergent plants. Characteristic species include cattails (*Typha angustifolia*, *Typha domingensis*, *Typha latifolia*), and bulrushes (*Scirpus acutus*, *Scirpus americanus*, *Scirpus californicus*, *Scirpus robustus*). Other smaller hydrophytic species are also present, including northern mudwort (*Limosella aquatic*), sedges (*Carex* ssp., *Cyperus* ssp., *Eleocharis* ssp.), and whorled marsh pennywort (*Hydrocotyle verticillata*). Although freshwater marsh is not present on the project site, it is found immediately adjacent to the project site within Pillar Point Marsh. Also, there is evidence (observations of species similar to those typically found within freshwater marshes on the site [refer to the Sensitive Habitat section]) to support the premise that if the project site was taken out of agricultural production, then this community would likely become established on portions of the site, particularly along the western edge of the southern project parcel. Within Pillar Point Marsh, the freshwater marsh supports a dense cattail/bulrush habitat. The most common species are broadleaf cattail (*Typha latifolia*) and California bulrush (*Scirpus californicus*).<sup>54</sup> Other species identified include bog rush (*Juncus effusus* var. *brunneus*), California blackberry (*Rubus ursinus*), Pacific silverweed (*Potentilla egedii* var. *grandis*), and swamp knotweed (*Polygonum coccineum*).<sup>55</sup>

Wildlife values of freshwater marsh habitat is generally considered to be high, due to the available surface water, abundance of insects, algae, and vascular plant forage, and protective cover of emergent vegetation. Although freshwater marshes are generally too wet to support small mammals, various birds, amphibians and reptiles are often abundant. Wildlife species noted in the Fitzgerald Marine Reserve Master Plan, Part Two: Environmental Setting – Draft<sup>56</sup> as using the freshwater marsh habitat in Pillar Point Marsh include birds such as great blue heron (*Ardea herodias*), marsh wren (*Cistothorus palustris*), and red-winged blackbird (*Agelaius phoeniceus*); reptiles such as common garter snake (*Thamnophis*

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<sup>51</sup> *Wetland Research Associates, Inc. (WRA). 2001a. Ibid.*

<sup>52</sup> *Observations made during CAJA's field surveys.*

<sup>53</sup> *WSP Ecosystem Science & Restoration (WSP). 2008, rev. 2009. Ibid.*

<sup>54</sup> *Rana Creek Habitat Restoration. 2002. Ibid.*

<sup>55</sup> *Brady/LSA. 2002. Ibid.*

<sup>56</sup> *Brady/LSA. 2002. Ibid.*

sirtalis) and San Francisco garter snake (*Thamnophis sirtalis tetrataenia*); and amphibian such as California newt (*Taricha torosa*), California red-legged frog (*Rana aurora draytonii*), Pacific treefrog (*Hyla regilla*), and western toad (*Bufo boreas*).

### ***Central Coast Arroyo Willow Riparian Forest (Pillar Point Marsh)***

Warner and Hendrix (1984) generally define riparian vegetation as that which occurs along water bodies such as intermittent and perennial streams, lakes, ponds, and floodplains, and is the interface between terrestrial and aquatic communities with soil moisture sufficiently in excess of that otherwise available through local precipitation to support the growth of mesic plants.<sup>57</sup> Central Coast arroyo willow riparian forest is a dense, low, closed-canopy broadleafed winter-deciduous forest of riparian vegetation dominated by arroyo willow (*Salix lasiolepis*). Other willow species (*Salix* spp.), white alder (*Alnus rhombifolia*) and wax myrtle (*Myrica californica*) are also characteristic species of this community. Central Coast arroyo willow riparian forest forms large thickets around the majority of the coastal freshwater marsh in Pillar Point Marsh, as well as a tributary drainage flowing from the Half Moon Bay Airport property that separates the proposed project parcels (refer to Section IV.H [Hydrology & Water Quality] and Figure IV.D-1). The tree canopy of this community extends onto portions of the project parcels, in particular along the western project boundary on the northern project parcel. Where this community occurs in Pillar Point Marsh arroyo willow is the dominant tree species; however, to a limited extent, Coulter's willow (*Salix coulteri*) also occurs along portions of the freshwater marsh and the tributary drainage.<sup>58</sup> Understory plants include such species as California blackberry, swamp knotweed, and stinging nettle (*Urtica dioica*). Invasive, non-native plant species such as Cape/German ivy (*Delairea odorata* / *Senecio mikanioides*) and poison hemlock are invading the coast arroyo-willow riparian forest habitat in Pillar Point Marsh.<sup>59</sup>

Riparian habitats are extremely productive and have diverse values for wildlife. The availability of water, the diversity and abundance of plant life, and the complex vegetation structure provide a number of wildlife species with food and water, cover, and movement corridor, as well as breeding and resting sites. Wildlife species noted in the Fitzgerald Marine Reserve Master Plan, Part Two: Environmental Setting – Draft<sup>60</sup> as using or expected to use the riparian forest habitat in Pillar Point Marsh include birds such as Bewick's wren (*Thryomanes bewickii*), common yellow throat (*Geothlypis trichas*), and wrentit (*Chamaea fasciata*); mammals such as brush rabbit (*Sylvilagus bachmani*), deer mice (*Peromyscus maniculatus*), dusky footed woodrat (*Neotoma fuscipes*), and raccoon (*Procyon lotor*), and amphibian such as California slender salamander (*Batrachoseps attenuatus*) and Pacific treefrog.

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<sup>57</sup> Warner, Richard, E. and K. E. Hendrix, eds. *California Riparian Systems: Ecology, Conservation, and Productive Management*. University of California Press, Berkeley and Los Angeles, California. 1984.

<sup>58</sup> Brady/LSA. 2002. *Ibid.*

<sup>59</sup> Brady/LSA. 2002. *Ibid.*

<sup>60</sup> Brady/LSA. 2002. *Ibid.*

***Special-Status Species***

As discussed above in the Background and Methods section, the special-status plants and animals evaluated for their potential to occur on the project site are listed in Table IV.D-1 and Table IV.D-2, respectively. Those species classified as having Moderate Potential to Occur, are Likely to occur or are identified as Present are discussed further below. The plants and animals classified as having a Low Potential to Occur or Not Present are not discussed because these species are not likely to occur on or adjacent to the project site due to the fact that the general habitat and/or micro-habitat requirements for the species are not present, the species distribution does not include the project site, or the species was not detected during appropriately timed field surveys.



Source: HJW GeoSpatial, Inc., MacLeod and Associates and Christopher A. Joseph & Associates, May 2007; WSP, March 17, 2008.

**Table IV.D-1  
Special-Status Plants Evaluated for Potential to Occur within the Project Site**

Plants												
Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>					General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status		CDFG Sensitivity Rank								
		CNPS	FESA	CESA	Global	State						
Acanthomintha duttonii	San Mateo thorn-mint	List IB.1	FE	CE	G1	S1.1	Chaparral, Valley and foothill grassland/serpentine	Apr-Jun	50-300	Not Present	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003. <sup>d</sup> Vegetation is limited to non-native and cultivated plants. Site is below the elevation range occupied by the species and no serpentine soils/substrates are present. Species is known from two extant natural occurrences and one introduced population. <sup>e</sup>	1,2
Allium peninsulare var. franciscanum	Franciscan onion	List IB.1	-	-	G5T2	S2.2	Cismontane woodland, Valley and foothill grassland/clay, volcanic, often serpentine	May-Jun	100-300	Not Present	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003. <sup>d</sup> Vegetation is limited to non-native and cultivated plants. Site is below the elevation range occupied by the species. Nearest recorded extant occurrence in the California Natural	1, 2, 4, 5, 6, 8

**Table IV.D-1  
Special-Status Plants Evaluated for Potential to Occur within the Project Site**

Plants												
Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>					General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status		CDFG Sensitivity Rank								
		CNPS	FESA	CESA	Global	State						
Amsinckia lunaris	bent-flowered fiddleneck	List IB.2	-	-	G2	S2.2	Coastal bluff scrub, Cismontane woodland, Valley and foothill grassland	Mar-Jun	3-500	Low	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003 <sup>d</sup> . Vegetation is limited to non-native and cultivated plants. Species was not observed during surveys conducted in 2003 on the northern parcel. <sup>f</sup>	1, 2, 4, 5, 6, 8
Arctostaphylos andersonii	Santa Cruz manzanita	List IB.2	-	-	G2	S2?	Broadleaved upland forest, Chaparral, North Coast coniferous forest/openings, edges	Nov-Apr	60-730	Not Present	Project site does not support habitats this species typically inhabits. Site is below the elevation range occupied by the species.	1, 2, 6, 8
Arctostaphylos hookeri ssp. franciscana	Franciscan manzanita	List 1A	-	-	G3TXC	SX	Coastal scrub (serpentine)	Feb-Apr	60-300	Not Present	Project site does not support habitats this species typically inhabits. No serpentine soils/substrates onsite.	1, 2, 6, 8



**Table IV.D-1  
Special-Status Plants Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>						General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status			Sensitivity Rank								
		Regulatory Status		Sensitivity Rank		Sensitivity Rank							
		CNPS	FESA	CESA	Global	CNDDDB	State						
Arctostaphylos hookeri ssp. ravenii	Presidio manzanita	List IB.1	FE	CE	G3T1	S1.1	Chaparral, Coastal prairie, Coastal scrub/serpentine outcrop	Feb-Mar	45-215	Not Present	Site is below the elevation range occupied by the species. Species last seen in 1942; now only occurs in cultivation. <sup>c</sup> Project site does not support habitats this species typically inhabits. Site is below the elevation range occupied by the species and no serpentine outcrops are present. Species is known from only one extant native occurrence at the Presidio in San Francisco. <sup>e</sup>	1, 2, 8	
Arctostaphylos imbricata	San Bruno Mountain manzanita	List IB.1	-	CE	G1	S1.2	Chaparral, Coastal scrub/rocky	Feb-May	275-370	Not Present	Project site does not support habitats this species typically inhabits. Site is below the elevation range occupied by the species. No rocky soils/substrates are present.	1, 2, 8	

**Table IV.D-1  
Special-Status Plants Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>						General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status			CDFG Sensitivity Rank								
		CNPS	FESA	CESA	CNDDDB		State						
					Global								
Arctostaphylos montanaensis	Montara manzanita	List IB.2	-	-	G2	S2.2	Chaparral (maritime), Coastal scrub	Jan-Mar	150-500	Not Present	Project site does not support habitats this species typically inhabits. Site is below the elevation range occupied by the species. Nearest recorded extant CNDDDB occurrence is approx. 3.5 mi NE of the site.	1, 2, 6, 8	
Arctostaphylos pacifica	Pacific Manzanita	List IB.1	-	CE	G1	S1.1	Chaparral (maritime), Coastal scrub	Feb – Apr	330	Not Present	Project site does not support habitats this species typically inhabits. Site is below the elevation range occupied by the species. Known only from San Bruno Mountain.	1, 2, 8	
Arctostaphylos regismontana	Kings Mountain manzanita	List IB.2	-	-	G2	S2.2	Broadleafed upland forest, Chaparral, North Coast coniferous forest/ granitic or sandstone	Jan-Apr	305-730	Not Present	Project site does not support habitats this species typically inhabits. Site is below the elevation range occupied by the species. No granitic or sandstone soils/substrates are present. Nearest recorded extant CNDDDB occurrence approx. 3 mi NE of the project site.	1, 2, 6, 8	

**Table IV.D-1  
Special-Status Plants Evaluated for Potential to Occur within the Project Site**

Plants												
Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>					General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status		Sensitivity Rank								
		CNPS	FESA	CESA	Global	CNDDDB						
Astragalus pycnostachyus var. pycnostachyus	coastal marsh milk-vetch	List IB.2	-	-	G2T2	S2.2	Coastal dunes (mesic), Coastal scrub, Marshes and swamps (coastal salt, streambanks)	Apr-Oct	0-30	Moderate	Although this species was not observed during surveys conducted in 2003 on the northern parcel, <sup>c</sup> suitable habitat occurs along the drainage separating the project parcels and the parcels' western boundary in and around Pillar Point Marsh. Nearest recorded CNDDDB occurrence is from Pillar Point Marsh; occurrence is from 1902, and species was not found during limited surveys of Pillar Point Marsh in 2004; species is presumed extant.	1, 2, 4, 5, 6, 8
Astragalus tener var. tener	alkali milk-vetch	List IB.2	-	-	G1T1	S1.1	Playas, Valley and foothill grassland (adobe clay), Vernal pools/alkaline	Mar-Jun	0-60	Low	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003 <sup>d</sup> . Vegetation limited to non-native and cultivated plants. No alkaline soils/substrates are present on the site.	1, 2, 8

**Table IV.D-1  
Special-Status Plants Evaluated for Potential to Occur within the Project Site**

Plants												
Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>					General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status		Sensitivity Rank								
		CNPS	FESA	CESA	Global	CNDDDB						
Carex comosa	Bristly sedge	List 2.1	-	-	G5	S2?	Coastal prairie, Marshes and swamps, Valley and foothill grassland	May-Sept	0-625	Moderate	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003 <sup>d</sup> . Vegetation limited to non-native and cultivated plants. Suitable habitat occurs along the drainage separating the project parcels and the parcels' western boundary in and around Pillar Point Marsh. This species was not observed during reconnaissance-level surveys completed in November 1997 in and around Pillar Point Marsh. <sup>e</sup>	1, 7, 8
Centromadia parryi ssp. parryi	pappose tarplant	List 1B.2	-	-	G4T2	S2.2	Chaparral, Coastal prairie, Meadows and seeps, Marshes and swamps (coastal salt), Valley and	May-Nov	2-420	Low	Although suitable habitat occurs along the drainage separating the project parcels and the parcels' western boundary in and around Pillar Point Marsh, no alkaline soil/substrate are present.	1, 2, 8

**Table IV.D-1  
Special-Status Plants Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>						General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status			CDFG Sensitivity Rank								
		Regulatory Status		Sensitivity Rank		CNDDDB							
		CNPS	FESA	CESA	Global	State	Global						
Chorizanthe cuspidata var. cuspidata	San Francisco Bay spineflower	List IB.2	-	-	G2T2	S2.2	foothill grassland (vernally mesic)/ often alkaline Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub/sandy	Apr-Jul (Aug)	3-215	Not Present	Project site does not support habitats this species typically inhabits.	1, 2, 4, 5, 6, 7, 8	
Chorizanthe robusta var. robusta	robust spineflower	List IB.1	FE	-	G2T1	S1.1	Cismontane woodland (openings), Coastal dunes, Coastal scrub/sandy or gravelly	Apr-Sep	3-300	Not Present	Project site does not support habitats this species typically inhabits. Most populations are extirpated; now known from only six extended occurrences. <sup>c</sup>	1, 2, 5, 6, 7, 8	
Cirsium andrewsii	Franciscan thistle	List IB.2	-	-	G2	S2.2	Broadleafed upland forest, Coastal bluff scrub, Coastal prairie, Coastal scrub/mesic, sometimes serpentine	Mar-Jul	0-150	Not Present	The project site does not support habitats this species typically inhabits. The nearest recorded extant occurrence in the CNDDDB is approximately 4 mi north (N) of the site.	1, 2, 6, 8	

**Table IV.D-1  
Special-Status Plants Evaluated for Potential to Occur within the Project Site**

Plants												
Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>					General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status		CDFG Sensitivity Rank								
		CNPS	FESA	CESA	Global	CNDDDB						
<i>Cirsium fontinale</i> var. <i>fontinale</i>	fountain thistle	List IB.1	FE	CE	G2T1	S1.1	Chaparral (openings), Cismontane woodland, Valley and foothill grassland/serpentine seeps	Jun-Oct	90-175	Not Present	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003 <sup>d</sup> . Vegetation limited to non-native and cultivated plants. Site is below the elevation range occupied by the species and no serpentine seeps are present.	1, 2, 8
<i>Cirsium occidentale</i> var. <i>compactum</i>	compact cobwebby thistle	List IB.2	-	-	G3G4T2	S2.1	Chaparral, Coastal dunes, Coastal prairie, Coastal scrub	Apr-Jun	5-150	Not Present	Project site does not support habitats this species typically inhabits. Species is known from fewer than 20 occurrences <sup>e</sup> .	1, 2, 5, 6, 8
<i>Collinsia multicolor</i>	San Francisco collinsia	List IB.2	-	-	G2	S2.2	Closed-cone coniferous forest, Coastal scrub/sometimes serpentine	Mar-May	30-250	Not Present	Project site does not support habitats this species typically inhabits. The nearest recorded extant occurrence in the CNDDDB is approximately 4 mi NE of the site.	1, 2, 6, 8
<i>Cordylanthus maritimus</i> ssp. <i>palustris</i>	Point Reyes bird's-beak	List IB.2	-	-	G4?T2	S2.2	Marshes and swamps (coastal salt)	Jun-Oct	0-10	Not Present	Project site does not support habitats this species typically inhabits. The saltwater marsh associated with Pillar	1, 2, 8

**Table IV.D-1  
Special-Status Plants Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>						General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>	
		Regulatory Status		Sensitivity Rank		Global	State							
		CNPS	FESA	CESA	CDFG									
					Global									State
Dirca occidentalis	western leatherwood	List 3	-	-	G2G3	S2S3	Broadleafed upland forest, Closed-cone coniferous forest, Chaparral, Cismontane woodland, North Coast coniferous forest, Riparian forest, Riparian woodland/mesic	Jan-Mar (Apr)	50-395	Low	Point Marsh is separated from the freshwater marsh along the parcels' western boundary by culverts through the road prism of West Point Avenue. Known occurrences of this species in San Mateo County are probably extirpated. <sup>e</sup> Although riparian habitat occurs along the drainage separating the project parcels and parcels' western boundary in and around Pillar Point Marsh, the site is below the elevation range occupied by the species. Species was not observed during surveys conducted in 2003 on the northern parcel. <sup>f</sup> The nearest recorded extant occurrence in the CNDDDB is approximately 4.5 mi NE of the site.	1, 2, 6, 8		
Equisetum palustre	marsh horsetail	List 3	-	-	G5	S1S2	Marshes and swamps	unknown	45-1,000	Moderate	Although the project site is slightly below the	2, 4, 5, 6		

**Table IV.D-1  
Special-Status Plants Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>						General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status			Sensitivity Rank								
		Regulatory Status		CNPS	Sensitivity Rank		CNDDDB						
		FESA	CESA	Global	State								
											elevation range occupied by this species and this species was not observed during surveys conducted in 2003 on the northern parcel <sup>f</sup> , suitable habitat occurs along the drainage separating the project parcels and along the parcels' western boundary in and around Pillar Point Marsh,		
Eriophyllum latilobum	San Mateo woolly sunflower	List IB.1	FE	CE	G1	S1.1	Cismontane woodland (often serpentine, on roadcuts)	May-Jun	45-150	Not Present	The project site does not support habitats this species typically inhabits. Site is below the elevation range occupied by the species.	1, 2, 3, 8	
Fragaria chiloensis <sup>c</sup>	Beach strawberry	-	-	-	-	-	Coastal strand, Coastal bluff scrub		<200	Not Present	Project site does not support habitats this species typically inhabits.	7	
Fritillaria biflora var. ineziana	Hillsborough chocolate lily	List IB.1	-	-	G1QT1 Q	S1.1	Cismontane woodland, Valley and foothill grassland/serpentine	Mar-Apr	150-150	Not Present	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003 <sup>d</sup> . Vegetation limited to non-native and cultivated plants. Site is	1, 2, 6, 8	



**Table IV.D-1  
Special-Status Plants Evaluated for Potential to Occur within the Project Site**

Plants												
Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>					General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status		Sensitivity Rank								
		CNPS	FESA	CESA	Global	CNDDDB						
Fritillaria lanceolata var. tristulilis	Marin checker lily	1B.1	-	-	G5T 1	S1.1	Coastal bluff scrub, Coastal prairie, Coastal scrub	Feb-May	15 - 150	Not Present	Project site does not support habitats this species typically inhabits.	2
Fritillaria liliacea	fragrant fritillary	List 1B.2	-	-	G2	S2.2	Cismontane woodland, Coastal prairie, Coastal scrub, Valley and foothill grassland/often serpentine	Feb-Apr	3-410	Low	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003 <sup>d</sup> . Vegetation limited to non-native and cultivated plants. . . Species was not observed during surveys conducted in 2003 on the northern parcel <sup>f</sup> . No serpentine soils/substrates are present. The nearest recorded extant occurrence in the CNDDDB is approximately 3.8 mi NE of the site.	1, 2, 4, 5, 6, 7, 8
Gilia capitata ssp. chamissonis	dune gilia	List 1B.1	-	-	G5T2	S2.1	Coastal dunes, Coastal scrub	Apr-Jul	2-200	Not Present	Project site does not support habitats this species typically inhabits.	1, 2, 8

**Table IV.D-1  
Special-Status Plants Evaluated for Potential to Occur within the Project Site**

Plants												
Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>					General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status		CDFG Sensitivity Rank								
		CNPS	FESA	CESA	Global	CNDDDB						
Grindelia hirsutula var. maritima	San Francisco gumplant	List IB.2	-	-	G5T2	S2.1	Coastal bluff scrub, Coastal scrub, Valley and foothill grassland/sandy or serpentine	Jun-Sep	15-400	Low	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003 <sup>d</sup> . Vegetation limited to non-native and cultivated plants. Species was not observed during surveys conducted in 2003 on the northern parcel. <sup>f</sup> The nearest extant recorded occurrence in the CNDDDB is approximately 2.6 mi northwest (NW) of the site.	1, 2, 6, 7, 8
Helianthella castanea	Diablo helianthella	List IB.2	-	-	G3	S3.2	Broadleaved upland forest, Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland, Valley and foothill grassland	Mar-Jun	60-1,300	Low	Although grassland habitat previously occurred on the project site and riparian habitat occurs along the drainage separating the project parcels, the site is below the elevation range occupied by the species. Species was not observed during surveys conducted in 2003 on the northern parcel. <sup>f</sup>	1, 2, 5, 6, 8

**Table IV.D-1  
Special-Status Plants Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Plants										Discussion of Potential	Source <sup>b</sup>
		Sensitivity/Regulatory Status <sup>a</sup>					General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence			
		Regulatory Status		CDFG Sensitivity Rank		State							
		CNPS	FESA	CESA	CNDDDB								
Hemizonia congesta ssp. Congesta	Seaside tarplant; pale yellow hayfield tarplant	List 1B.2	-	-	G5T2 T3	S2S3	Valley and foothill grassland, sometimes roadside	Apr-Nov	20-560	Not Present	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003 <sup>d</sup> . Vegetation limited to non-native and cultivated plants. Species was not observed during surveys conducted in 2003 on the northern parcel. <sup>f</sup>		
Hesperovax sparsiflora var. brevifolia	short-leaved evax	List 1B.2	-	-	G4T2 T3	S2S3	Coastal bluff scrub (sandy), Coastal dunes	Mar-Jun	0-215	Not Present	Project site does not support habitats this species typically inhabits.	1, 2, 8	
Hesperolinon congestum	Marin western flax	List 1B.1	FT	CT	G2	S2.1	Chaparral, Valley and foothill grassland/serpentine	Apr-Jul	5-370	Not Present	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003 <sup>d</sup> . Vegetation limited to non-native and cultivated plants. No serpentine soils/substrates are present.	1, 2, 8	
Horkelia cuneata ssp. sericea	Kellogg's horkelia	List 1B.1	-	-	G4T1	S1.1	Closed-cone coniferous forest, Chaparral (maritime),	Apr-Sep	10-200	Not Present	The project site does not support habitats this species typically inhabits. The nearest recorded extant occurrence in the	1, 2, 5, 6, 7, 8	

**Table IV.D-1  
Special-Status Plants Evaluated for Potential to Occur within the Project Site**

Plants												
Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>					General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status		CDFG Sensitivity Rank								
		CNPS	FESA	CESA	Global	CNDDDB						
							Coastal scrub/sandy or gravelly, openings			CNDDDB is approximately 3.9 mi southeast (SE) of the site.		
Layia carnosa	beach layia	IB.1	FE	CE	G2	S2.2	Coastal dunes, Coastal scrub/sandy	Mar-Jul	0-60	The project site does not support habitats this species typically inhabits.	2	
Horkelia marinensis	Point Reyes horkelia	List IB.2	-	-	G2	S2.2	Coastal dunes, Coastal prairie, Coastal scrub/sandy	May-Sep	5-350	The project site does not support habitats this species typically inhabits.	1, 2, 4, 5, 6, 7, 8	
Leptosiphon croceus	coast yellow leptosiphon	List IB.1	-	-	G1	S1.1	Coastal bluff scrub, Coastal prairie	Apr-May	10-150	The project site does not support habitats this species typically inhabits. The nearest recorded extant occurrence in the CNDDDB is approximately 2.8 mi NW of the site.	1, 2, 8	
Leptosiphon rosaceus	rose leptosiphon	List IB.1	-	-	G1	S1.1	Coastal bluff scrub	Apr-Jul	0-100	The project site does not support habitats this species typically inhabits. The nearest recorded occurrence in the CNDDDB is approximately 1.1 mi NW of the site, and this population is possibly extirpated.	1, 2, 8	
Lessingia arachnoidea	Crystal Springs	List IB.2	-	-	G1	S1.2	Cismontane woodland,	Jul-Oct	60-200	Although grassland habitat previously	1, 2, 6, 8	

**Table IV.D-1  
Special-Status Plants Evaluated for Potential to Occur within the Project Site**

Plants													
Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>						General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status		Sensitivity Rank		CDFG							
		CNPS	FESA	CESA	Global	CNDDDB	State						
	lessingia							Coastal scrub, Valley and foothill grassland/serpentine, often roadsides			occurred on the project site, the site has been in agricultural production since 2003 <sup>d</sup> . Vegetation is limited to non-native and cultivated plants. Site is below the elevation range occupied by the species and no serpentine soils/substrates are present.		
Lessingia germanorum	San Francisco lessingia	List IB.1	FE	CE	G1	S1.1		Coastal scrub (remnant dunes)	(Jun)Aug-Nov	25-90	The project site does not support habitats this species typically inhabits.	1, 2, 7, 8	
Lessingia hololeuca	woolly-headed lessingia	List 3	-	-	G3	S3		Broadleafed upland forest, Coastal scrub, Lower montane coniferous forest, Valley and foothill grassland/clay, serpentine	Jun-Oct	15-305	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003 <sup>d</sup> . Vegetation is limited to non-native and cultivated plants. No serpentine soils/substrates are present.	2, 7	
Lilium maritimum	coast lily	List IB.1	-	-	G2	S2.1		Broadleafed upland forest, Closed-cone coniferous forest, Coastal	May-Aug	5-335	Although suitable habitat occurs along the drainage separating the project parcels and along the parcels' western boundary	2, 7	

**Table IV.D-1  
Special-Status Plants Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>						General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status			Sensitivity Rank								
		Regulatory Status		CNPS	Sensitivity Rank		CNDDDB						
		FESA	CESA	Global	State								
Lupinus arboreus var. eximius	San Mateo tree lupine						prairie, Coastal scrub, Marshes and swamps (freshwater), North Coast coniferous forest/ sometimes roadside				in and around Pillar Point Marsh, this species was not observed during reconnaissance-level surveys completed in November 1997 in and around Pillar Point Marsh. <sup>8</sup> Additionally, the known occurrences in San Mateo County are probably extirpated <sup>5</sup> .		
Lupinus arboreus var. eximius	San Mateo tree lupine	List 3.2	-	-	G2Q	S2.2	Chaparral, Coastal scrub	Apr-Jul	90-550	Not Present	The project site does not support habitats this species typically inhabits.	2, 6, 7	
Malacothamnus aboriginum	Indian Valley bush mallow	List 1B.2	-	-	G3	S3.2	Chaparral, Cismontane woodland/ rocky, often in burned areas	Apr-Oct	150-1,700	Not Present	The project site does not support habitats this species typically inhabits. The nearest recorded extant occurrence in the CNDDDB is approximately 4 mi NE of the site.	1, 2, 8	
Malacothamnus arcuatus	arcuate bush mallow	List 1B.2	-	-	G2Q	S2.2	Chaparral, Cismontane woodland	Apr-Sep	15-355	Not Present	The project site does not support habitats this species typically inhabits.	1, 2, 6, 8	
Malacothamnus davidsonii	Davidson's bush mallow	List 1B.2	-	-	G1	S1.1	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland	Jun-Jan	185-855	Low	Although riparian habitat is present along the drainage separating the project parcels, the site is below the elevation range occupied by the species.	1, 2, 8	

**Table IV.D-1  
Special-Status Plants Evaluated for Potential to Occur within the Project Site**

Plants												
Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>					General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status		CDFG Sensitivity Rank		State						
		CNPS	FESA	CESA	Global							
<i>Malacothamnus hallii</i>	Hall's bush mallow	List IB.2	-	-	G1Q	S1.2	Chaparral, Coastal scrub	May-Sep	10-760	Not Present	The project site does not support habitats this species typically inhabits. The nearest recorded extant occurrence in the CNDDDB is approximately 4 mi NE of the site.	1, 2, 8
<i>Pedicularis dudleyi</i>	Dudley's lousewort	List IB.2	-	CR	G2	S2.2	Chaparral (maritime), Cismontane woodland, North Coast coniferous forest, Valley and foothill grassland	Apr-Jun	60-900	Low	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003 <sup>d</sup> and the vegetation where present is limited to predominately non-native and cultivated plants. Additionally, the site is below the elevation range occupied by this species.	2
<i>Pentachaeta bellidiflora</i>	white-rayed pentachaeta	List IB.1	FE	CE	G1	S1.1	Valley foothill grassland (often serpentine)	Mar-May	35-620	Not Present	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003 <sup>d</sup> . Vegetation is	2, 4, 5, 6

**Table IV.D-1  
Special-Status Plants Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>						General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status			Sensitivity Rank								
		CNPS	FESA	CESA	CNDDB		State						
					Global	State							
											limited to non-native and cultivated plants. Site is below the elevation range occupied by the species and no serpentine soils/substrates are present. This species is only known from one extended occurrence bisected by Highway 280 and one occurrence in the Santa Lucia Mountains. <sup>c</sup>		
Plagiobothrys chorianus var. chorianus	Choris' popcorn-flower	List 1B.2	-	-	G3T2Q	S2.2	Chaparral, Coastal prairie, Coastal scrub/mesic	Mar-Jun	15-160	Not Present	The project site does not support habitats this species typically inhabits.	1, 2, 4, 5, 6, 7, 8	
Polemonium carneum	Oregon polemonium	List 2.2	-	-	G4	S1	Coastal prairie, Coastal scrub, Lower montaine coniferous forest	Apr-Sept	0-1830	Not Present	The project site does not support habitats this species typically inhabits.	1, 2	
Potentilla hickmanii	Hickman's cinquefoil	List 1B.1	FE	CE	G1	S1.1	Coastal bluff scrub, Closed-cone coniferous forest, Meadows and	Apr-Aug	10-135	Moderate	Suitable habitat occurs along the drainage separating the project parcels and along the parcels' western boundary in and around Pillar Point	1, 2, 3, 4, 5, 6, 7, 8	



**Table IV.D-1  
Special-Status Plants Evaluated for Potential to Occur within the Project Site**

Plants												
Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>					General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status		Sensitivity Rank		CDFG						
		CNPS	FESA	CESA	Global							
							seeps (vernally mesic), Marshes and swamps (freshwater)			Marsh. This species was not observed during reconnaissance-level surveys completed in November 1997 in and around Pillar Point Marsh, <sup>g</sup> nor was it observed during surveys conducted in 2003 on the northern parcel. <sup>f</sup> The nearest recorded extant occurrence in the CNDDDB is approximately 2 mi NW of the site.		
<i>Sanicula maritima</i>	adobe sanicle	List 1B.1	-	CR	G2	S2.2	Chaparral, coastal prairie, meadows and seeps, Valley and foothill grassland/clay, serpentine	Feb-May	30-240	Low	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003. <sup>d</sup> Vegetation is limited to non-native and cultivated plants. Site is below the elevation range occupied by the species and no serpentine soils/substrates are present. This species not observed during surveys conducted in 2003 on the northern parcel. <sup>f</sup>	1, 5, 6, 8

**Table IV.D-1  
Special-Status Plants Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>						General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status			CDFG Sensitivity Rank								
		Regulatory Status		Sensitivity Rank		CNDDDB							
		CNPS	FESA	CESA	Global	State	State						
<i>Silene verecunda</i> ssp. <i>verecunda</i>	San Francisco campion	List 1B.2	-	-	G5T2	S2.2	Coastal bluff scrub, Chaparral, Coastal prairie, Coastal scrub, Valley and foothill grassland/sandy	Mar-Jun (Aug)	30-645	Not Present	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003 <sup>d</sup> . Vegetation is limited to non-native and cultivated plants. Additionally, no sandy soils/substrates are present.	1, 2, 4, 5, 6, 7, 8	
<i>Suaeda californica</i>	California seablite	List 1B.1	FE	-	G1	S1.1	Marshes and swamps (coastal salt)	Jul-Oct	0-15	Not Present	The project site does not support habitats this species typically inhabits. The saltwater marsh associated with Pillar Point Marsh is separated from the freshwater marsh along the parcels' western boundary by culverts through the road prism of West Point Avenue.	1	
<i>Trifolium depauperatum</i> var. <i>hydrophilum</i>	saline clover	List 1B.2	-	-	G5T2?	S2.2?	Marshes and swamps, Valley and foothill grassland (mesic, alkaline),	Apr-Jun	0-300	Not Present	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003 <sup>d</sup> . Vegetation is limited to non-native and	1	

**Table IV.D-1  
Special-Status Plants Evaluated for Potential to Occur within the Project Site**

Plants												
Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>					General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status		CDFG Sensitivity Rank								
		CNPS	FESA	CESA	Global	State						
Triphysaria floribunda	San Francisco owl's clover	List 1B.2	-	-	G2	S2.2	Coastal prairie, Coastal scrub, Valley and foothill grassland/ usually serpentine	Apr-Jun	10-160	Low	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003 <sup>d</sup> and the vegetation where present is limited to predominately non-native and cultivated plants. Additionally, no serpentine soils/substrates are present on the site.	1, 4, 5, 6, 7, 8
Triquetrella californica	coastal triquetrella	1B.2	-	-	G1	S1.2	Coastal bluff scrub, Coastal scrub	Unknown	10-100	Not Present	The project site does not support habitats this species typically inhabits.	1
Usrea longissima	long beard lichen	-	-	-	G4	S4.2	North coast coniferous forest, Broadleafed upland forest	Unknown	0-2000	Not Present	The project site does not support habitats this species typically inhabits. No recent reports south of Sonoma.	1
Northern Coastal Salt Marsh		-	-	-	G3	S3.2	Brackish and Freshwater Marsh	-	-	Moderate	Occurrence recorded in project vicinity. Suitable habitat available in Pillar Point Marsh. Check Preserve report for location	1, 7

**Table IV.D-1  
Special-Status Plants Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Plants										Discussion of Potential	Source <sup>b</sup>
		Sensitivity/Regulatory Status <sup>a</sup>					General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence			
		Regulatory Status		CDFG Sensitivity Rank									
		CNPS	FESA	CESA	Global	State							
Northern Maritime Chaparral	-	-	-	-	G1	S1.2	Chaparral	-	Not Present	No suitable habitat occurs onsite or on neighboring Pillar Point Marsh. Only know local occurrence on Montara Mountain and Whiting Ridge at elevations above 1,000 ft.	1		
Serpentine Bunchgrass	-	-	-	-	G2	S2.2	Serpentine Soils	-	Not Present	No suitable habitat occurs onsite or on neighboring Pillar Point Marsh. Only known local occurrence on Montara Mountain at an elevation of 500 ft.	1		
Valley Needlegrass Grassland	-	-	-	-	G1	S3.1	Native Grassland	-	Not Present	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003 <sup>d</sup> and the vegetation where present is limited to predominately non-native and cultivated plants. Only known local occurrence on Sawyer Ridge at an elevation of 1,000 ft.	1		
Riparian Corridors <sup>c</sup>	(Per designation as a	-	-	-	-	-	The limit of riparian vegetation (at	-	Present	Riparian vegetation and its corresponding corridor occurs onsite along the	7		

**Table IV.D-1  
Special-Status Plants Evaluated for Potential to Occur within the Project Site**

Plants											
Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>				General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status		Sensitivity Rank							
		CNPS	FESA	CESA	Global						
	Sensitive Habitat in the San Mateo County LCP)					least 50% cover) normally found near streams, lakes and other bodies of freshwater: red alder, jaumea, pickleweed, big leaf maple, narrow-leaf cattail, arroyo willow, broadleaf cattail, horsetail, creek dogwood, black cottonwood, and box elder.			drainage that separates the northern and southern project parcels. The drainage is directly confluent to Pillar Point Marsh.		

<sup>a</sup> Sensitivity/Regulatory Status Codes:  
 FESA: Federal Endangered Species Act of 1972, as amended  
 FE = Federally listed as Endangered; FT = Federally listed as Threatened; FD = Federally delisted (monitored for 5 years)  
 CESA: California Endangered Species Act  
 CE = State listed as Endangered; CT = State listed as Threatened; CR = State listed as Rare  
 CNDDDB: California Natural Diversity Database

**Table IV.D-1  
Special-Status Plants Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Plants										Discussion of Potential	Potential for Occurrence	Source <sup>b</sup>
		Sensitivity/Regulatory Status <sup>a</sup>			General Habitat	Blooming Period	Elevation (meters)	Regulatory Status			Sensitivity Rank			
		Regulatory Status		CNDDB				Global	State					
		CNPS	FESA							CESA				
<p><i>GI/S1 = Extremely endangered; less than 6 viable element occurrences (EOs) OR less than 1,000 individuals OR less than 2,000 acres; G2/S2 = Endangered; 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres; G3/S3 = Restricted range, rare: 21-80 EOs OR 3,000-10,000 individuals OR 10,000-50,000 acres; G4/S4 = Apparently secure; some factors exist to cause some concern such as narrow habitat or continued threats; G5/S5 = Demonstrably secure; commonly found throughout its historic range; GnTh = Subspecies receive a T-rank attached to the G-rank, G-rank reflects the condition of the entire species and T-rank reflects the global situation of just the subspecies; GH/SH = All sites historical, the element has not been seen for at least 20 year, but suitable habitat exists; GX/SX = All site extirpated, this element is extinct in the wild (0.1 = very threatened, 0.2 = threatened, 0.3 = no current threats known)</i></p> <p><i>CNPS: California Native Plant Society</i></p> <p><i>List 1B = Plants listed as rare, threatened, or endangered in California and elsewhere; List 2 = Plants rare, threatened, or endangered in California, but more common elsewhere; List 3 = Plants about which more information is needed; List 4 = Limited distribution (&gt;80% of occurrences threatened/high degree of immediacy of threat); .2 = Fairly endangered in California [20-80% occurrences threatened]; .3 Not very endangered in California [&lt;20% of occurrences threatened or no current threats known].</i></p> <p><i><sup>b</sup> Source: 1 = Search of the California Natural Diversity Database (Biogeographic Data Branch, California Department of Fish and Game 2009) occurrences within a five mile radius of project site; 2 = Search of the California Native Plant Society's On-line Inventory (CNPS 2009) of the Montara Mountain (448C) USGS 7.5-Minute Quad and the five surrounding quads; 3 = Review of the U.S. Fish and Wildlife Service Sacramento Office's list of Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Montara Mountain (448C) USGS 7.5-Minute Quad; 4 = Review of the San Mateo County Biological Impact Report, Big Wave Development Site, Princeton, San Mateo County, California prepared by Wetlands Research Associates, Inc. in 2001; 5 = Review of the Biological Impact Report, Big Wave Development Site, Princeton, San Mateo County, California prepared by Wetlands Research Associates, Inc. in 2003; 6 = Review of the San Mateo County Rare Plant Report, Big Wave Development Site, Princeton, San Mateo County, California prepared by Wetlands Research Associates, Inc. in 2004; 7 = Review of Fitzgerald Marine Reserve Master Plan, Part Two: Environmental Setting - Draft prepared by Brady/LSA in 2002, 8 = Review of the Biological Resources of the Proposed Big Wave Wellness Center and Office Park Project Site, San Mateo County, California, prepared by WSP Ecosystem Science &amp; Restoration in 2008.</i></p> <p><i><sup>c</sup> Recognized by the Local Coastal Commission Program (a locally unique species).</i></p> <p><i><sup>d</sup> Peck, Jeff. Peninsula Builders, Inc. San Francisco, CA. January 3, 2007 - email to Aindrea Jensen.</i></p> <p><i><sup>e</sup> California Native Plant Society. 2009. Inventory of Rare and Endangered Plants (online edition, v7-07a). California Native Plant Society, Sacramento. Accessed on May 4, 2009, from <a href="http://cnps.org/inventory">http://cnps.org/inventory</a>.</i></p> <p><i><sup>f</sup> Wetland Research Associates, Inc. (WRA). 2004. San Mateo County Rare Plant Report, Big Wave Development Site, Princeton, San Mateo County, California.</i></p> <p><i><sup>g</sup> Brady/LSA. 2002. Fitzgerald Marine Reserve Master Plan, Part Two: Environmental Setting - Draft.</i></p>														

**Table IV.D-2  
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>					General Habitat	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status		CDFG Sensitivity Rank						
		CDFG	FESA	CESA	Global	State				
<b>Invertebrates</b>										
Banksula incredula	Incredible harvestman	-	-	-	G1	S1	Restricted to the type locality, on the north slope of San Bruno Mountain ridge, just south of San Francisco. The type locality site is a trailside talus slope consisting of Franciscan sandstone with a dense chaparral canopy. Apparently the talus slope was artificially formed during construction of a pipeline several decades ago. No Banksula were collected along other sections of the pipeline where talus was present. Last seen 1992.	Not Present	The project site does not support habitat this species typically inhabits.	1
Caecidotea tomalensis	Tomales isopod	-	-	-	G2	S2	Inhabits localized fresh-water ponds or streams with still or near-still water in several bay area counties. Occurs in water among cattails. Last seen 1984.	Not Present	The project site does not support suitable aquatic habitat for this species.	1
Calicina minor	Edgewood blind harvestman	-	-	-	G1	S1	Open grassland in areas of serpentine bedrock. Found on the underside of moist serpentine rocks near	Not Present	The project site does not support habitat this species typically inhabits such as	1

**Table IV.D-2  
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>					General Habitat	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status		CDFG Sensitivity Rank						
		CDFG	FESA	CESA	Global	State				
							permanent springs. Recorded occurrences were at elevations above 400 ft.	serpentine soils/rocks. Site is below elevation range where species is known to occur.		
<i>Callophrys mossii bayensis</i>	San Bruno elfin butterfly	-	FE	-	G4 T1	S1	Coastal mountains near San Francisco Bay, in the fog-belt of steep north facing slopes that receive little direct sunlight. Found near prolific growths of the larval food plant, stonecrop ( <i>Sedum spathulifolium</i> ), which is a low growing succulent. Stonecrop is associated with rocky outcrops that occur at 900 to 1,075 foot elevation. Adult food plants not fully determined; Montara Mountain colonies are suspected to use Montara Mountain manzanita ( <i>Arctostaphylos montaraensis</i> ) and huckleberry ( <i>Vaccinium ovatum</i> ).	The project site does not support habitat this species typically inhabits. The site does not support this species larval food plant and it is below the elevation range occupied by the species.	1, 3, 4, 5, 8	
<i>Cicindela hirticollis gravida</i>	Sandy beach tiger beetle	-	-	-	G5T2	S1	Inhabits areas adjacent to non-brackish water along the coast of California from	The project site does not support habitat this species typically	1	



**Table IV.D-2  
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>					General Habitat	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status		CDFG Sensitivity Rank						
		CDFG	FESA	CESA	Global	State				
							San Francisco Bay to Northern Mexico. Clean, dry, light-colored sand in the upper zone. Subterranean larvae prefer moist sand not affected by wave action. Last seen 1922.	inhabits such as fresh, non-brackish water and sandy soils.		
Danaus plexippus	Monarch butterfly	-	-	-	G5	S3	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	Although the species was observed on November 20, 2001 in tall pines at Pillar Point Marsh, the project site does not support habitat this species typically inhabits/requires.	1, 3, 7	
Dufourea stagei	Stage's dufourine bee	-	-	-	G1?	S1?	Restricted range; San Bruno Mountain, south to Santa Cruz Mountains. Species is a ground-nesting bee. Last recorded occurrence in 1962 on San Bruno Mountain at 700ft. elevation. Habitat requirements unknown.	Due to active agricultural nature of the site, ground nesters are discouraged. Site occurs well below elevations typical for the species. Habitat types found on San Bruno Mountain are not found on the project site.	1	

**Table IV.D-2  
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Wildlife						Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Sensitivity/Regulatory Status <sup>a</sup>			CDFG Sensitivity Rank					
		Regulatory Status			Global	State	State			
		CDFG	FESA	CESA						
<i>Euphydryas editha bayensis</i>	Bay checkerspot butterfly	FT	-	-	G5T1	S1	Restricted to native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay. <i>Plantago erecta</i> is the primary host plant; <i>orthocarpus sinsiglorus</i> & <i>o. Purpurens</i> are the secondary host plants.	The project site does not support habitat this species typically inhabits (e.g. grassland and serpentine soils). The site does not support this species host food plants and it is below the elevation range occupied by the species.	1, 8	
<i>Hydrochara ricksecheri</i>	Richsecher's water scavenger beetle	-	-	-	G1G2	S1S2	Aquatic. Known only from pond habitats scattered around the San Francisco Bay Area. Last seen 1954. Presumed extant.	The project site does not support habitat this species typically inhabits.	1	
<i>Hydroporus leechi</i>	Leech's skyline diving beetle	-	-	-	G1?	S1?	Aquatic. Last recorded occurrence elevation 680ft	This site does not support the habitat this species typically inhabits and is below the elevation range occupied by the species.	1	
<i>Icaricia icarioides missionensis</i> (Plebejus icarioides missionensis)	mission blue butterfly	-	FE	-	G5T1	S1	Majority of remaining colonies are found on San Bruno Mountain, San Mateo County. Colonies are located at sites ranging from 690 to 1,180-feet	The project site does not support habitat this species typically inhabits. The site does not support this species larval food	1, 3, 4, 5, 7, 8	

**Table IV.D-2  
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>					General Habitat	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status		CDFG Sensitivity Rank						
		CDFG	FESA	CESA	Global	State				
Ischnura gemina	San Francisco forktail damselfly	-	-	-	G2	S2	elevation. Coastal chaparral and coastal grasslands dominate the vegetation type where colonies area found. Adults do not wander far from lupine (Lupinus albiifrons, L. formosus, and L. varicolor), the larval food plant. Adults feed on golden aster (Chrysopsis villosa), bluebirds (Brodiaea pulchella). Ithuriel's spear (Brodiaea laxa), and coast buckwheat (Eriogonum latifolium).	Although suitable habitat occurs along the drainage separating the project parcels and along the parcels' western boundary in and around Pillar Point Marsh. This species was not observed during reconnaissance-level surveys completed in November 1997 in	1	
							plant and it is below the elevation range occupied by the species. However, Lupinus varicolor does occur within Northern Coastal Bluff Scrub communities on the Fitzgerald Marine Reserve property and has the potential to support the species.			

**Table IV.D-2  
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Wildlife						General Habitat	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Sensitivity/Regulatory Status <sup>a</sup>			CDFG Sensitivity Rank						
		Regulatory Status			Global		State				
		CDFG	FESA	CESA	CNDDDB	State					
Lichnanthe ursina	bumblebee scarab beetle	-	-	-					and around Pillar Point Marsh, <sup>g</sup> nor was it observed during surveys conducted in 2003 on the northern parcel. <sup>f</sup> The nearest recorded extant occurrence in the CNDDDB is approximately 20mi NE of the site.	1, 4, 5, 7	
Microcina edgewoodensis	Edgewood Park micro-blind harvestman	-	-	-			Inhabits coastal sand dunes from Sonoma County south to San Mateo County. Usually flies close to sand surface near the crest of the dunes.	The project site does not support habitat this species typically inhabits.	1		
Nothochrysa californica	San Francisco lacewing	-	-	-			Open grassland in xeric environments. Found beneath serpentine rocks in grassland adjacent to scrub oaks.	The project site does not support habitat this species typically inhabits.	1		
Speyeria callippe callippe	Callippe silverspot butterfly	-	-	-			Habitat requirements unknown. Last seen 1959 in San Mateo.	The species was not observed during any of the onsite surveys or surveys in Pillar Point Marsh.	1, 7		
		FE	-	-			Restricted to the northern coastal scrub of the San Francisco Peninsula. Host	The project site does not support habitat this species typically	1		

**Table IV.D-2  
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>					General Habitat	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status		CDFG Sensitivity Rank						
		CDFG	FESA	CESA	Global	State				
Speyeria zerene myrtleae	Myrtle's silverspot butterfly	-	FE	-	G5T1	S1	plant is viola pedunculata. Most adults found on E-facing slopes; males congregate on hilltops in search of females. CNDDB occurrences documented on San Bruno Mountain above 400ft. elevation. Coastal dune or prairie habitat. Populations were formerly found in dunes and bluffs from San Mateo County north to the mouth of the Russian River in Sonoma County. Populations south of the Golden Gate apparently have been extirpated by urban development. Four populations are known to inhabit coastal terrace prairie, coastal bluff scrub, and associated non-native habitats in western Marin County and southwestern Sonoma County. Adults typically found in areas that are sheltered from the wind, below 820 feet elevation, and within 3	Not Present	Although the project site is within 3 miles of the coast, the site does not support habitat this species typically inhabits.	1, 3, 7

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Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>				General Habitat	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status		CDFG Sensitivity Rank					
		CDFG	FESA	CESA	Global				
						miles of the coast.			
Trachusa gumifera	A leaf-cutter bee	-	-	-	G1	Habitat requirements unknown. Last seen 1957 in San Francisco.	Not Present	The species was not observed during any of the onsite surveys or surveys in Pillar Point Marsh.	1
Tryonia imitator <sup>c</sup>	brackish water snail	-	-	-	G2G3	Brackish salt marshes.	Not Present	The project site does not support habitat this species typically inhabits.	1, 7
<b>Fishes</b>									
Euyclogobius newberryi	tidewater goby	CSC	FE	-	G3	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego Co. to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels. Prefer a sand substrate component for breeding, but also found on rocky, mud, and silt substrates as well. Found in waters with salinity levels from 0 to 42 ppt, temperature levels from 8 to 25 degrees Celsius, and water depths	Not Present	The project site does not support suitable aquatic habitat for this species.	1, 3, 7, 8

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Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>					General Habitat	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status		Sensitivity Rank						
		CDFG	FESA	CESA	Global	State				
							from 25 to 200 centimeters.			
Hypomesus transpacificus	delta smelt	-	FT	CT	G1	S1	Suisun Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano, and Yolo counties. Delta smelt seldom found at salinities > 10 ppt. Most often at salinities < 2 ppt.	Not Present	The project site is outside of the delta smelt's distribution (delta smelt are endemic to the upper San Francisco Estuary) and it does not support habitat this species typically inhabits.	3
Oncorhynchus kisutch	coho salmon - Central California coast ESU	CSC	FE	CE <sup>d</sup>	G4	S2?	Naturally spawned populations from Punta Gorda in northern California south to and including the San Lorenzo River in central California, as well as populations in tributaries to San Francisco Bay, excluding the Sacramento-San Joaquin River system, as well as four artificial propagation programs: the Don Clausen fish Hatchery Captive Broodstock Program, Scott Creek/King Fisher Flats Conservation Program, Scott Creek Captive Broodstock Program, and	Not Present	The project site does not support suitable aquatic habitat for this species	3, 7

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Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Wildlife						Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Sensitivity/Regulatory Status <sup>a</sup>			CDFG Sensitivity Rank					
		Regulatory Status		CESA	Sensitivity Rank		State			
		CDFG	FESA		Global	CNDDDB				
Oncorhynchus mykiss	steelhead - Central Valley	-	FT	-	G5T2Q	S2	Not Present	The project site is outside of the Central Valley steelhead's distribution and it does not support habitat this species typically inhabits.	3	
Oncorhynchus	steelhead -	-	FT	-	G5T2Q	S2	Not Present	The project site does	1, 3, 5, 8	



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Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site**

Wildlife								
Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>			General Habitat	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status		CDFG Sensitivity Rank				
		CDFG	FESA					
mykiss irideus	Central California coast ESU				<p>populations below natural and manmade impassable barriers in California streams from the Russian River (inclusive) to Aptos Creek (inclusive), and the drainages of San Francisco, San Pablo, and Suisun Bays eastward to Chipps Island at the confluence of the Sacramento and San Joaquin Rivers; tributary streams to Suisun Marsh including Suisun Creek, Green Valley Creek, and an unnamed tributary to Cordelia Slough (commonly referred to as Red Top Creek), excluding the Sacramento-San Joaquin River Basin, as well as two artificial propagation programs: the Don Clausen Fish Hatchery, and Kingfisher Flat Hatchery/ Scott Creek (Monterey Bay Salmon and Trout Project) Steelhead Program. Spawn in cool, clear streams featuring</p>		not support suitable aquatic habitat for this species	

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Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site**

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		Regulatory Status		CDFG Sensitivity Rank						
		CDFG	FESA	CESA	Global					State
						suitable gravel size, depth, and current velocity. Streamside vegetation and cover area essential for steelhead fry survival.				
<b>Amphibians</b>										
Ambystoma californiense	California tiger salamander	CSC	FT	Candidate Endangered	G2G3	S2S3	Need underground refuges, especially ground squirrel burrows and vernal pools or other seasonal water sources for breeding. Prime habitat in California is annual grassland, but seasonal ponds or vernal pools are crucial to breeding. Permanent ponds or reservoirs are sometimes used as well; streams are rarely used for reproduction.	Low	The project site does not support suitable habitat for the California tiger salamander (CTS); This species is known from vernal pool habitats in Sonoma and Santa Barbara counties as well as the Central Valley. The closest CNDDDB occurrence on record is from 1962 near Woodside, approximately 21 miles to the SW. Pillar Point Marsh could potentially provide suitable CTS habitat, however, there are no known occurrences in Pillar Point Marsh to date.	1, 8

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Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>					Wildlife		Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status		Sensitivity Rank		General Habitat	CDFG				
		CDFG	FESA	CESA	Global			State			
Rana aurora draytonii	California red-legged frog	CSC	FT	-	G4T2T <sub>3</sub>	S2S3	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to aestivation habitat.	Likely	Two occurrences of California red-legged frog (CRLF) are recorded within 1 mi of the project site. The nearest occurrence is within Pillar Point Marsh, south of West Point Road. The other occurrence is along Denniston Creek. Although suitable breeding habitat is not present on the site, CRLF may use the site for foraging or dispersing.	1, 3, 4, 5, 7, 8	
<b>Reptiles</b>											
Actinemys marmorata	western pond turtle	CSC	-	-	G3G4	S3	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Need basking sites (partially submerged logs, rocks, mats of floating vegetation, or open mud banks) and suitable (sandy banks or grassy open fields) upland habitat for	Moderate	The project site does not support suitable aquatic habitat for western pond turtle (WPT); however, Pillar Point Marsh supports suitable habitat for turtles. <sup>c</sup> If present within Pillar Point Marsh, turtles could use the site for	1, 4, 5, 7, 8	

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Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>					General Habitat	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status		CDFG Sensitivity Rank						
		CDFG	FESA	CESA	Global	State				
Thamnophis sirtalis tetrataenis	San Francisco garter snake	FP	FE	CE	G5T2	S2	egg-laying. Females move up to 100m in the spring for nesting. Home range is normally quite restricted where adequate aquatic habitat exists. Prefers densely vegetated ponds near open hillsides where snakes can sun themselves, feed, and find cover in rodent burrows. Temporary ponds and other seasonal freshwater bodies are also used. Snakes avoid brackish marsh areas because their preferred prey (California red-legged frogs) cannot survive in saline water. Emergent and bankside vegetation such as cattails (Typha spp.), bulrushes (Scirpus spp.), and spike rushes (Juncus spp. and Eleocharis spp.) apparently are preferred and used for cover. The area between stream and pond habitats and grasslands or bank sides is used for basking, while	Likely	Although San Francisco garter snake were not found during extensive searches of Pillar Point Marsh during the 1970s <sup>c</sup> , suitable habitat occurs along the drainage separating the project parcels and along the parcels' western boundary. Additionally, there is a known occurrence of the garter snake along Denniston Creek <sup>h</sup> .	1, 3, 4, 5, 7, 8

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Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site**

Wildlife										
Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>				General Habitat	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>	
		Regulatory Status		CDFG Sensitivity Rank						
		CDFG	FESA	CESA	Global					State
						nearby dense vegetation or water often provide escape cover.				
<b>Birds</b>										
Athene cunicularia	Burrowing owl	CSC	-	-	G4	S2	Open, dry annual or perennial grasslands, deserts & scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Low	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003 <sup>d</sup> . Burrowing owl is a yearlong resident of California <sup>1</sup> , and occurrence of this species in San Mateo County is rare in the fall and winter and rare and restricted to a small portion of the county or to a few locations in the spring and summer <sup>1</sup> . The project site does not support suitable nesting habitat for this species; no burrowing mammals currently inhabit the site. The site does	1

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Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Wildlife						General Habitat	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Sensitivity/Regulatory Status <sup>a</sup>			CDFG Sensitivity Rank						
		CDFG	FESA	CESA	Global	State					
									support suitable foraging habitat.		
Brachyramphus marmoratus	marbled murrelet	-	FT (nesting)	CE (nesting)	G3G4	S1	Feeds near-shore; nests inland along coast from Eureka to Oregon Boarder and from Half Moon Bay to Santa Cruz. Generally nests in old-growth forests, characterized by large trees, multiple canopy layers, and moderate to high canopy closure. In California, nests are typically found in coastal redwood and Douglas-fir forest. Forest are located close enough to the marine environment for the birds to fly to and from nest sites.	Not Present	The project site does not support habitat this species typically inhabits.	3	
Charadrius alexandrinus nivosus	western snowy plover	CSC (nesting)	FT	-	G4T3	S2	Pacific coast population breeds primarily on coastal beaches from southern Washington to southern Baja California, Mexico. Breeds primarily above the high tide line on coastal beaches, sand spits, dune-backed beaches, sparsely-vegetated dunes, beaches at creek and river mouths, and	Not Present	The project site does not support habitat this species typically inhabits.	1, 3, 7, 8	

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Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Wildlife						Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>	
		Sensitivity/Regulatory Status <sup>a</sup>			CDFG Sensitivity Rank						
		Regulatory Status		CESA	Global	State	Rank				State
		CDFG	FESA								
Circus cyaneus	northern harrier	CSC (nesting)	-	-	G5	S3	Present	Occurrence of northern harrier in San Mateo County is uncommon in the fall, winter, and spring, and uncommon and restricted to a small portion of the county or to a few locations in the summer <sup>1</sup> . Although the project site does not support suitable nesting habitat, the site does support suitable foraging habitat. Additionally, this species was observed during surveys conducted in 2003 on the northern parcel <sup>1</sup> . Suitable foraging and	4, 5, 7		

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Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Wildlife						General Habitat	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Sensitivity/Regulatory Status <sup>a</sup>			CDFG Sensitivity Rank						
		Regulatory Status		CESA	Global		State				
		CDFG	FESA		Global	State					
									nesting habitat occurs along the drainage separating the project parcels and the parcels' western boundary in and around Pillar Point Marsh. Northern harrier is also known to occur in Pillar Point Marsh.		
Diomedea albatrus	Short-tailed albatross	FP	FE	-	G1	S1	Short-tailed albatrosses require remote islands for breeding habitat. They nest in open, treeless areas with low, or no, vegetation. The species also requires nutrient-rich areas of ocean upwelling for their foraging habitat.	Not Present	The project site does not support habitat this species commonly inhabits. Known to occur in Mendocino, Del Norte and Humboldt counties. Only two known breeding colonies in the Isu Shoto and Ryukyu Islands.	3	
Elanus leucurus	white-tailed kite	FP (nesting)	-	-	G5	S3	Savanna, open woodland, marshes, partially cleared lands and cultivated fields, mostly in lowland situations. Nests in trees, usually often near a marsh, usually 6-15 meters above the	Present	White-tailed kite is a common to uncommon yearlong resident of California, and occurrence of this species in San Mateo	4, 5	



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Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site**

Wildlife								
Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>			General Habitat	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status		CDFG Sensitivity Rank				
		CDFG	FESA	CESA				
					ground in branches near the top of a tree.		County is uncommon <sup>1</sup> . Although the project site does not support suitable nesting habitat for this species, the site does support suitable foraging habitat. Additionally, this species was observed during surveys conducted in 2003 on the northern parcel <sup>1</sup> . Suitable foraging and nesting habitat occurs along the drainage separating the project parcels and the parcels' western boundary in and around Pillar Point Marsh. White tailed is also known to occur in Pillar Point Marsh <sup>2</sup> ; this species observed perched and foraging over Pillar Point Marsh during surveys conducted in	

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Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>					General Habitat	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status		CDFG Sensitivity Rank						
		CDFG	FESA	CESA	Global	State				
Falco columbarius	Merlin	CSC (wintering)	-	-	G5	S3	A wide variety of habitats including marshes, deserts, seacoast, near coastal lakes and lagoons, open woodlands, fields, etc. May roost in conifers in winter.	Low	Merlin is an uncommon winter migrant of California <sup>b</sup> , and occurrence of this species in San Mateo County is rare. The project site supports limited foraging habitat for this species; Merlin frequents shorelines in winter and catches shorebirds (this species feeds primarily on small birds) <sup>h</sup> .	2007 <sup>m</sup> . 1, 7
Falco peregrinus anatum	American peregrine falcon	Delisted	FD	CE (nesting)	G4T3	S2	Various open habitats from tundra, moorlands, steppe, and seacoast, especially where there are suitable nesting cliffs, to mountains, open forested regions, and human population centers. When not breeding, occurs in areas where prey (primarily birds from medium-sized passerines up to small waterfowl)	Low	Peregrine falcon is an uncommon migrant along the coast of California <sup>b</sup> , and occurrence of this species in San Mateo County is rare <sup>i</sup> . The project site does not support suitable nesting habitat and supports limited foraging habitat for	1, 7, 8

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Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site**

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		Regulatory Status		CDFG Sensitivity Rank						
		CDFG	FESA	CESA	Global	State				
							concentrate, including farmlands, marshes, lakeshores, rivers mouths, tidal flats, dunes and beaches, broad river valleys, cities, and airports. Often nests on ledge or hole on face of rock cliff or crag. River banks, tundra mounds, open bogs, large stick nests of other species, tree hollows, and man-made structures are used locally.	this species.		
<i>Geothlypis trichas sinuosa</i>	saltmarsh common yellowthroat	CSC	-	-	G5T2	S2	Requires dense growth of vegetation associated with moist environments. Inhabits freshwater marshes, coastal swales, swampy riparian thickets, brackish marshes, salt marshes, and edges of disturbed weed fields and grasslands that border soggy habitats.	Likely	Occurrence of common yellowthroat is fairly common in San Mateo County <sup>1</sup> . This species is known to occur in Pillar Point Marsh <sup>2, m</sup> . The project site does not support suitable nesting habitat, but the site does support marginal foraging habitat.	1, 4, 5, 7, 8
<i>Lateralus jamaicensis coturniculus</i>	California black rail	FP	-	CT	G4T1	S1	Marshlands with unrestricted tidal influence (estuarine, intertidal,	Low	The project site does not support habitat this species typically	1, 7, 8

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Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Wildlife						General Habitat	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Sensitivity/Regulatory Status <sup>a</sup>			CDFG Sensitivity Rank						
		CDFG	FESA	CESA	Global	State	CNDDDB				
Melospiza melodia pusillula	Alameda song sparrow	CSC	-	-	G5T2?	S2?	emergent, regularly flooded). Favors areas dominated by pickleweed, bulrushes, and matted salt grass and other marsh vegetation.	Low	inhabits. Additionally, occurrence of black rail in San Mateo County is extremely rare'. The southern portion of Pillar Point Marsh supports areas of coastal salt marsh dominated by pickleweed (salicornia). The project site does not support habitat this species typically inhabits. The southern portion of Pillar Point Marsh supports areas of coastal salt marsh dominated by pickleweed (salicornia).	1, 8	
Phalacrocorax auritus	Double-crested cormorant	FP	-	-	G5	S3	Resident of salt marshes bordering south arm of San Francisco Bay. Inhabits salicornia marshes; nests low in grindelia bushes (high enough to escape high tides) and in salicornia. Colonial nester on coastal cliffs, offshore islands, & along lake margins in the interior of the state. Nests along coast on sequestered islets, usually on ground with sloping surface, or in	Low	The project site does not support habitat this species typically inhabits. Tall trees as well as coastal lagoon and seasonal freshwater marsh	1, 8	

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		Sensitivity/Regulatory Status <sup>a</sup>			CDFG Sensitivity Rank		General Habitat	Potential for Occurrence			
		Regulatory Status		Global	State						
		CDFG	FESA			CESA					
									tall trees along lake margins. Requires considerable length of water or elevated perch for labored take-off	areas at Pillar Point Marsh may provide marginal habitat.	
<i>Pelecanus occidentalis californicus</i>	California brown pelican	FP	FE (nesting colony and communal roosts)	CE (nesting colony and communal roosts)	G4T3	S1S2		Not Present	Nesting restricted to islands in the Gulf of California and along the outer coast from Baja California to West Anacapa and Santa Barbara Island in Southern California. Non-breeding brown pelicans range northward along the Pacific Coast from the Gulf of California to Washington and southern British Columbia. Breed in nesting colonies on islands without mammal predators. Roosting and loafing sites include offshore rocks and islands, river mouths with sand bars, breakwaters, pilings, and jetties along the Pacific Coast and San Francisco Bay.	Although occurrence of brown pelican in San Mateo County is common the spring and summer, and fairly common in the fall, the project site does not support habitat this species typically inhabits.	3
<i>Rallus longirostris obsoletus</i>	California clapper rail	FP	FE	CE	G5T1	S1		Low	Saltwater and brackish marshes traversed by tidal sloughs in the vicinity of	The project site does not support habitat this species typically	1, 3, 8

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		Sensitivity/Regulatory Status <sup>a</sup>			CDFG Sensitivity Rank					
		Regulatory Status		CESA	Global		State			
		CDFG	FESA		CNDDDB					
Riparia riparia	bank swallow	-	-	CT (nesting)	G5	S2S3	Moderate	Bank swallow is a neotropical migrant <sup>h</sup> and occurrence of this species in San Mateo County is rare in the fall, extremely rare in the winter, and fairly common and restricted to a small portion of the county or to a few locations in the summer <sup>i</sup> . Although the project	1, 7, 8	
								inhabits. Additionally, occurrence of clapper rail in San Mateo County is uncommon and restricted to a small portion of the county or to a few locations. Coastal salt marsh portions of Pillar Point Marsh provide some habitat for this species.		

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Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Wildlife						Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>	
		Sensitivity/Regulatory Status <sup>a</sup>			General Habitat						
		Regulatory Status		CDFG Sensitivity Rank	General Habitat	Potential for Occurrence	Discussion of Potential				Source <sup>b</sup>
		CDFG	CESA								
								site does not support suitable nesting habitat for this species, the site does support suitable foraging habitat. Additionally, suitable foraging habitat occurs along the drainage separating the project parcels and along the parcels' western boundary in and around Pillar Point Marsh. Bank swallow are known to occur in Pillar Point Marsh <sup>e</sup> .			
<i>Sterna antillarum browni</i>	California least tern	FP	FE (nesting colony)	CE (nesting colony)	G4T2T <sub>3</sub>	S2S3	Inhabits bays and lagoons, nesting on the adjacent open sandy beaches, dunes, or disturbed sites. Nesting is limited to colonies in the San Francisco Bay, Sacramento River delta, and areas along the coast from San Luis Obispo County to San Diego County.	Least tern is migratory in California, and occurrence of this species in San Mateo County is rare. Additionally, the project site does not support habitat this species typically inhabits.	3		

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Scientific Name	Common Name	Wildlife						General Habitat	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Sensitivity/Regulatory Status <sup>a</sup>			CDFG Sensitivity Rank						
		Regulatory Status		CESA	Global		State				
		CDFG	FESA		CNDDDB						
<b>Mammals</b>											
<i>Antrozous pallidus</i>	pallid bat	CSC	-	-	G5	S3	Arid deserts and grasslands, shrublands, woodlands and forests, often near rocky outcrops and water. Usually roosts in rock crevice or building, less often in cave, tree hollow, mine, etc. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites. Prefers narrow crevices in caves as hibernation sites.	Low	Although the project site does not support suitable roosting habitat for pallid bat, the site does support suitable foraging habitat for this species.	1, 4, 5, 8	
<i>Dipodomys venustus venustus</i>	Santa Cruz kangaroo rat	-	-	-	G4T1	S1	Silverleaf Manzanita mixed chaparral in the Zayante Sand Hills ecosystem of the Santa Cruz Mountains. Needs soft, well-drained sand	Not Present	The project site does not support habitat this species typically inhabits.	1	
<i>Lasiurus cinereus</i>	Hoary bat	-	-	-	G5	S4?	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roost in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	Low	The project site does not support suitable roost habitat for hoary bat. However, the site does support suitable foraging habitat for this species and suitable roost habitat occurs	1	



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		Regulatory Status		Sensitivity Rank			General Habitat					
		CDFG	FESA	CESA	Global	State						
Myotis thysanodes	Fringed myotis	-	-	-	G4G5	S4	Found in a wide variety of habitats. Optimal habitats are pinyon-juniper, valley foothill hardwood and hardwood-conifer, generally at 1300-2200m (4000-7000 ft.). Requires water. Roosts in caves, mines, buildings and crevices. Requires water. Uses open habitats, early successional stages, streams, lakes and ponds as foraging area.	Low	adjacent to the site at Pillar Point Marsh. The project site does not support suitable roosting or maternity roost habitat for the fringed myotis. The site is located below the typical elevation range for the species. Typical habitat types do not occur in close proximity to the site. The site could potentially be used for foraging.	1, 4, 5, 7		
Neotoma fuscipes annectens	San Francisco dusky-footed woodrat	CSC	-	-	G5T2T 3	S2S3	Forest habitats of moderate canopy and moderate to dense understory. May prefer chaparral and redwood habitats. Constructs houses and nests of sticks, shredded grasses and leaves at the base of, or in a tree, around a shrub, or at the base of a hill. Nests included other misc. materials (e.g. bird feathers). May be limited by availability of nest	Low	The project site does support suitable nesting (forest) habitat for dusky-footed woodrat, but it does support marginal woody vegetation for foraging. Additionally, marginal suitable nesting and foraging habitat for this species occurs along the drainage	1, 4, 5, 7, 8		

**Table IV.D-2  
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Wildlife						General Habitat	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Sensitivity/Regulatory Status <sup>a</sup>			CDFG Sensitivity Rank						
		CDFG	FESA	CESA	Global	CNDDDB	State				
								building materials.	separating the project parcels and along the parcels' western boundary.		
Nyctinomops macrootis	Big free-tailed bat	CSC	-	-	G5	S2		Rare in California, this species prefers low lying areas in Southern California. They need high cliffs or rocky outcrops for roosting sites. Feed principally on large moths. Forages over water sources. Roosts in buildings, cave, and occasionally in holes in trees. Also roosts in crevices in high cliffs or rock. Probably does not breed in California. Prefers rugged, rocky canyons.	The project site does not support habitat this species typically inhabits. Big free-tailed bats are not known to breed in California. Last known CNDDDB occurrence in Pacifica (1984) approximately 8.7 miles north of the project site.	1, 8	
Reithrodontomys raviventris	salt-marsh harvest mouse	FP	FE	CE	G1G2	S1S2		Found only around the San Francisco, San Pablo, and Suisun Bays. Critically dependent on dense cover and preferred habitat is pickleweed. Seldom found in cordgrass or alkali brush (Scirpus robustus). In marshes with an upper zone of peripheral halophytes (salt-tolerant plants), mice	The project site does not support habitat this species typically inhabits. The southern portion of Pillar Point Marsh provides some habitat for this species.	1, 3, 8	

**Table IV.D-2  
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Sensitivity/Regulatory Status <sup>a</sup>					Wildlife			Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Regulatory Status		Sensitivity Rank			General Habitat					
		CDFG	FESA	CESA	Global	State						
Taxidea taxus	American badger	CSC	-	-	G5	S4	use this vegetation to escape the higher tides, and may even spend a considerable portion of their lives there. Mice also move into the adjoining grasslands during the highest winter tides.		Low	Although there is a recorded occurrence in the California Natural Diversity Database approximately 3 miles north of the project site, no badger burrows were observed on the site <sup>m</sup> . Additionally, the intensity of the agricultural practices on the site likely discourages the use of the habitat on the site by this species.	1, 7, 8	

<sup>a</sup> Sensitivity/Regulatory Status Codes:  
 FESA: Federal Endangered Species Act of 1972, as amended  
 FE = Federally listed as Endangered; FT = Federally listed as Threatened; FD = Federally delisted (monitored for 5 years)  
 CESA: California Endangered Species Act  
 CE = State listed as Endangered; CT = State listed as Threatened; CR = State listed as Rare

**Table IV.D-2  
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site**

Scientific Name	Common Name	Wildlife						Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
		Sensitivity/Regulatory Status <sup>a</sup>		CDFG Sensitivity Rank		General Habitat				
		Regulatory Status		CNDDDB	State					
		CDFG	FESA				CESA			
<p>CNDDDB: California Natural Diversity Database                      G1/S1 = Extremely endangered; less than 6 viable element occurrences (EOs) OR less than 1,000 individuals OR less than 2,000 acres; G2/S2 = Endangered: 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres; G3/S3 = Restricted range, rare: 21-80 EOs OR 3,000-10,000 individuals OR 10,000-50,000 acres; G4/S4 = Apparently secure; some factors exist to cause some concern such as narrow habitat or continued threats; G5/S5 = Demonstrably secure; commonly found throughout its historic range; Gn/Tn = Subspecies receive a T-rank attached to the G-rank. G-rank reflects the condition of the entire species and T-rank reflects the global situation of just the subspecies; GH/SH = All sites historical, the element has not been seen for at least 20 year, but suitable habitat exists; GX/SX = All site extirpated, this element is extinct in the wild (0.1 = very threatened, 0.2 = threatened, 0.3 = no current threats known)                      CDFG: California Department of Fish and Game                      CSC = Species of Special Concern; FP = Fully Protected  <sup>b</sup> Source: 1 = Search of the California Natural Diversity Database (Biogeographic Data Branch, California Department of Fish and Game 2007) occurrences within a five mile radius of project site; 2 = Search of the California Native Plant Society's On-line Inventory (CNPS 2007) of the Montara Mountain (448C) USGS 7.5-Minute Quad and the five surrounding quads; 3 = Review of the U.S. Fish and Wildlife Service Sacramento Office's list of Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Montara Mountain (448C) USGS 7.5-Minute Quad; 4 = Review of the San Mateo County Biological Impact Report, Big Wave Development Site, Princeton, San Mateo County, California prepared by Wetlands Research Associates, Inc. in 2001; 5 = Review of the Biological Impact Report, Big Wave Development Site, Princeton, San Mateo County, California prepared by Wetlands Research Associates, Inc. in 2003; 6 = Review of the San Mateo County Rare Plant Report, Big Wave Development Site, Princeton, San Mateo County, California prepared by Wetlands Research Associates, Inc. in 2004; 7 = Review of Fitz-gerald Marine Reserve Master Plan, Part Two: Environmental Setting - Draft prepared by Brady/LSA in 2002. . 8= Review of the Biological Resources of the Proposed Big Wave Wellness Center and Office Park Project Site, San Mateo County, California, prepared by WSP Ecosystem Science &amp; Restoration in 2008.</p>										

<sup>e</sup> Recognized by the Local Coastal Commission Program.

<sup>d</sup> CESA listing is limited to coho salmon south of San Francisco Bay

<sup>e</sup> Brady/LSA. 2002. Fitzgerald Marine Reserve Master Plan, Part Two: Environmental Setting - Draft.

<sup>f</sup> Jennings, M. R. and M. P. Hayes. 1994. Amphibian and Reptile Species of Special Concern in California. Final report submitted to the California Department of Fish and Game, Inland Fisheries Division. Rancho Cordova, Calif. Under Contract No. 8023.

<sup>g</sup> Barry, S. J. 1994. The distribution, habitat, and evolution of the San Francisco garter snake, *Thamnophis sirtalis tetrataenia*. Mater's Thesis, University of California, Davis, California. 140 pp.

<sup>h</sup> Personal Communication. David Johnston, California Department of Fish and Game. December 14, 2006 - phone conversation.

<sup>i</sup> California Department of Fish and Game. California Inter-agency Wildlife Task Group. 2005. California Wildlife Habitat Relationships version 8.1 personal computer program. Sacramento, California.

**Table IV.D-2  
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site**

Wildlife												
Scientific Name	Common Name			Sensitivity/Regulatory Status <sup>a</sup>			CDFG Sensitivity Rank		General Habitat	Potential for Occurrence	Discussion of Potential	Source <sup>b</sup>
				Regulatory Status		CNDDB						
	CDFG	FESA	CESA	Global	State							
<sup>j</sup> Metropulos, P. J. 2006. <i>A Checklist of the Birds of San Mateo County, California</i> . Sequoia Audubon Society. April 2006. <sup>k</sup> NatureServe. 2006. <i>NatureServe Explorer: An online encyclopedia of life [web application]</i> . Version 6.1. NatureServe, Arlington, Virginia. Available <a href="http://www.natureserve.org/explorer">http://www.natureserve.org/explorer</a> . (Accessed: April 17, 2009). <sup>l</sup> Wetland Research Associates, Inc. 2003. <i>San Mateo County Biological Impact Report, Big Wave Development Site, Princeton, San Mateo County, California</i> . <sup>m</sup> Surveys conducted by Christopher A. Joseph & Associates in January and February 2007.												

## ***Plants***

Based upon a review of the resources and databases available, 59 special-status plants have been documented to occur in the vicinity of the project site. Of these, 43 species are “not present” on the project site, 14 have a “low” potential to occur on the project site and 4 have a “moderate” potential to occur on the project site. There are no special-status plants identified as “likely to occur” or “present” on the project site. The four species with a “moderate” potential for occurrence are discussed in more detail below, including coastal marsh milk-vetch (*Astragalus pycnostachyus* var. *pycnostachyus*), Bristly sedge (*Carex comosa*), marsh horsetail (*Equisetum palustre*), and Hickman’s cinquefoil (*Potentilla hickmanii*). These special-status plant species have the potential to occur along the drainage separating the project parcels and the parcels’ western boundary in and around Pillar Point Marsh.

### *Moderate Potential*

#### Coastal Marsh Milk-Vetch

Coastal marsh milk-vetch is a CNPS List 1B.2 species. It is a perennial herb of the legume family (Fabaceae) that occurs in mesic coastal dune and coastal scrub communities, and along streams or coastal salt marshes and swamps at elevations ranging from 0 to 100 feet (0 – 30 meters). Coastal marsh milk-vetch has only been found in Humboldt, Mendocino, Marin and San Mateo counties in California. The blooming season for this species extends from April through October. Although coastal marsh milk-vetch was not observed during focused plant surveys conducted in 2003 on the northern project parcel,<sup>61</sup> suitable habitat occurs along the drainage separating the project parcels and the parcels’ western boundary in and around Pillar Point Marsh. Additionally, there is an occurrence of coastal marsh milk-vetch recorded in the CNDDDB from Pillar Point Marsh.<sup>62</sup> This occurrence is from a 1902 collection; however, while this species was not found during plant surveys of the marsh in 2004, coastal marsh milk-vetch is presumed extant, as suitable habitat exists at this location. Because of the presence of suitable habitat on and immediately adjacent to the project site, and the proximity of a known occurrence, this species has a moderate potential to occur on the project site.

#### Bristly sedge

Bristly sedge is a CNPS List 2.1 species. It is a rhizomatous herb of the sedge family (Cyperaceae) that occurs in marshes and swamps in elevations ranging from 0 - 625 feet (-5 – 1005meters). Bristly sedge can also occur along lake margins and in valley and foothill grassland. The plant is closely associated with coastal prairie. Bristly sedge is fairly widely distributed, but apparently rarely collected. In California Bristly sedge is known from Contra Costa, Lake, Mendocino, Sacramento, San Bernardino, Santa Cruz, San Francisco, San Mateo, Shasta, San Joaquin, and Sonoma counties. It has also been found in Oregon, Washington, Idaho, and elsewhere. The blooming season for Bristly sedge is from May -

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<sup>61</sup> *Wetland Research Associates (WRA). 2004. Ibid.*

<sup>62</sup> *California Department of Fish and Game (CDFG). 2007. Ibid.*

September. The only known source of information for this occurrence is from an 1866 collection of this species and is estimated to be in a “swamp near San Francisco”.<sup>63</sup> This species has not been found in San Mateo County nor was it observed during onsite reconnaissance-level surveys as well as those conducted in and around Pillar Point Marsh in November 1997.<sup>64</sup> However, suitable habitat for Bristly sedge occurs along the drainage separating the project parcels and the parcel’s western boundary in and around Pillar Point Marsh. This species has a moderate potential to occur on the project site because of the presence of suitable habitat on and immediately adjacent to the site and the lapse of time since the previous surveys were conducted in and around Pillar Point Marsh (ten years).

#### Marsh Horsetail

Marsh horsetail is a CNPS List 3 species. It is a perennial rhizomatous herb of the horsetail family (Equisetaceae) that occurs in marshes and swamps at elevations from 150 to 3,280 feet (45 to 1,000 meters). In California, marsh horsetail has been found in Lake, Napa, San Francisco, and San Mateo counties. It has also been found in Idaho, Oregon, and Washington. Although the project site is slightly below the elevation occupied by this species and this species was not observed during focused surveys conducted in 2003 on the northern project parcel,<sup>65</sup> suitable habitat occurs along the drainage separating the project parcels and the parcels’ western boundary in and around Pillar Point Marsh.<sup>66</sup> Marsh horsetail has a moderate potential to occur on the project site because of the presence of suitable habitat on and immediately adjacent to the site, as well as the lapse of time since the previous surveys for this species were conducted (four years).

#### Hickman’s Cinquefoil

Hickman’s cinquefoil is listed as endangered by both the USFWS and CDFG and is a CNPS List 1B.1 species. It is a perennial herb of the rose family (Rosaceae) that occurs in coastal bluff scrub, closed-cone coniferous forest, vernal mesic meadows and seeps, and freshwater marshes and swamps in elevations ranging from 30 to 440 feet (10 to 149 meters). This plant is closely associated with coastal bluff scrub. Hickman’s cinquefoil has only been found in Monterey, San Mateo, and Sonoma counties in California. The blooming season for this species extends from April through August. Although Hickman’s cinquefoil was not observed during reconnaissance-level surveys conducted in and around Pillar Point Marsh in November 1997<sup>67</sup> or during focused surveys conducted in 2003 on the northern project parcel,<sup>68</sup> suitable habitat occurs along the drainage separating the project parcels and the parcels’ western boundary in and around Pillar Point Marsh. Additionally, there are two occurrences of Hickman’s cinquefoil

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<sup>63</sup> California Department of Fish and Game (CDFG). 2007. *Ibid.*

<sup>64</sup> Brady/LSA. 2002. *Ibid.*

<sup>65</sup> Wetland Research Associates (WRA). 2004. *Ibid.*

<sup>66</sup> Brady/LSA. 2002. *Ibid.*

<sup>67</sup> Brady/LSA. 2002. *Ibid.*

<sup>68</sup> Wetland Research Associates (WRA). 2004. *Ibid.*

recorded in the CNDDDB within five miles of the project site.<sup>69</sup> The closest occurrence is approximately two miles northwest of the project site. Both occurrences occur in coastal bluff associations above 25ft. However, due to the presence of suitable habitat on and immediately adjacent to the site, the proximity of known occurrences, and the lapse of time since the previous surveys (ten for the surveys in and around Pillar Point Marsh and four years for the survey on the project parcel), this species has a moderate potential to occur on the project site.

### ***Sensitive Natural Communities/Habitats***

Four Sensitive Natural Communities have been documented by CNDDDB and CNPS to occur in the vicinity of the project site. In addition, the San Mateo County LCP requires evaluation of additional categories and designations of Sensitive Habitats. Of the four Sensitive Natural Communities documented by CNDDDB and CNPS, 3 are “not present” and 1, Northern Coastal Salt Marsh, has a “moderate” potential to occur on the project site. In addition, “Riparian Corridors” are a designated Sensitive Habitat under the San Mateo County LCP. Riparian habitat and its associated corridor are “present” on the project site along the drainage that separates the northern and southern parcels and flows to Pillar Point Marsh. These two habitat types are discussed in more detail below. “Wetlands” are also designated as a Sensitive Habitat by the San Mateo County LCP and will be discussed under Jurisdictional Waters and Wetlands.

#### Northern Coastal Salt Marsh

Northern Coastal Salt Marsh is a type of Saline Emergent Wetland that occurs above intertidal sand and mud flats (Küchler 1977) and below upland communities not subject to tidal action (Macdonald 1977a). The upper part of estuaries grade into brackish and freshwater marshes (Chetham and Haller 1975, Macdonald 1977a, Josselyn 1983). This wetland type occurs along the margins of bays, lagoons, and estuaries sheltered from excessive wave action (Macdonald and Barbour 1974). Northern Coastal Salt Marsh provides food, cover, nesting and roosting habitat for a variety of birds, mammals, reptiles, and amphibians (Macdonald 1977b, Zedler 1982). Endemic subspecies of birds include the endangered California and light-footed clapper rails, California black rail, salt marsh yellowthroat, Belding’s Savannah sparrow and three subspecies of the song sparrow at San Francisco Bay (CDFG 1980, USFWS 1983a, Josselyn 1983). Other bird species that feed or roost in these wetlands are herons, egrets, ducks, hawks (including the northern harrier), Virginia rail, American coot, shorebirds, swallows, and marsh wren. Species include residents, migrants and winter visitants (Macdonald 1977b, Springer 1982, Zedler 1982, Josselyn 1983). Mammals include species of shrews, bats, and mice, including the endangered salt marsh harvest mouse endemic at San Francisco Bay, as well as the raccoon, mink river otter, and harbor seal. Species from adjacent uplands, including several species of lizards and snakes, frequent the edge of

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<sup>69</sup> California Department of Fish and Game (CDFG). 2007. *Ibid.*



the high marsh. Pacific tree frog and western toad occur in slightly brackish marsh or after heavy rains (Macdonald 1977b, Zedler 1982).<sup>70</sup>

Three occurrences of Northern Coastal Salt Marsh have been recorded in San Mateo County, two in San Francisco Bay and one east of Pillar Point next to Princeton. The latter occurrence, in the immediate vicinity of the project site, was dominated by salicornia, jamuea carnososa, and frankenia grandiflora, and was associated with both brackish and freshwater marsh habitats.<sup>71</sup> None of the characteristic plants or hydrologic regimes currently occurs on the project site, potentially due to continuous agricultural practices. However, due to the occurrence of Northern Coastal Salt Marsh in the immediate vicinity of the project site as well as suitable habitat in Pillar Point Marsh, this sensitive natural community has a moderate potential to occur on the project site.

### ***Animals***

Fifty-two special-status wildlife species have been documented in the vicinity of the project site. Of these species, 28 are “not present” on the project site, 17 have a “low” potential, four have a “moderate” potential, and one is “likely” to occur on the project site. Further, two species have been identified as “present” on the project site. Western pond turtle (*Actinemys marmorata*), California red-legged frog (*Rana aurora draytonii*), bank swallow (*Riparia riparia*), and San Francisco garter snake (*Thamnophis sirtalis tetrataenis*) have a “moderate” potential to occur. Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*) is “likely” to occur. Northern harrier (*Circus cyaneus*) and white-tailed kite (*Elanus leucurus*) are “present” on the project site. These species, as well as other migratory bird and raptor species, are discussed in more detail below.

#### *Moderate Potential – Reptiles and Amphibians*

##### Western Pond Turtle (*Actinemys marmorata*)

The western pond turtle (WPT) is designated a species of concern by CDFG and is uncommon to common in suitable aquatic habitats throughout California, west of the Sierra-Cascade crest and absent from desert regions, except in the Mojave Desert along the Mojave River and its tributaries.<sup>72</sup> WPTs are associated with a variety of aquatic habitats, both permanent and intermittent, including rivers, creeks, small lakes and ponds, marshes, irrigation ditches, and reservoirs. They may also occur in brackish to salt

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<sup>70</sup> Springer, Paul F. California Department of Fish and Game (CDFG). California Interagency Wildlife Task Group (pdf – 2008-12-23). California Wildlife Habitat Relationships System online version. Sacramento, California.

<sup>71</sup> California Department of Fish and Game (CDFG). 2009. *Ibid.*

<sup>72</sup> California Department of Fish and Game (CDFG). California Interagency Wildlife Task Group. 2005. California Wildlife Habitat Relationships version 8.1 personal computer program. Sacramento, California.

water.<sup>73</sup> WPTs are found from sea level to approximately 6,700 feet (2,040 meters), but mostly below 4,980 feet (1,370 meters).<sup>74</sup>

Although WTPs spend much of their lives in water, they require terrestrial habitats for nesting. They also may overwinter (meaning periods of reduced or no activity during the winter which may include periods of a hibernation-like state of reduced physiological activity) on land and may spend part of the warmest months in aestivation (meaning an inactive state that individuals enter in the hottest weeks of the year) on land. Use of terrestrial habitats for overwintering and aestivation may vary considerably with latitude and habitat type, as some turtles do not leave aquatic habitat.<sup>75</sup> WPTs spend a considerable amount of time engaged in thermo-regulatory behavior. They frequently seek warmth from the sun in an activity referred to as emergent basking when water temperatures are low and air temperatures are greater than water temperatures. When air temperatures become too warm, as they may later in the day and later in the season, WTPs engage in aquatic basking, an activity where turtles conceal themselves in or under masses of floating vegetation or algae, or in shallow water relatively close to shore. WPTs can be seen basking out of the water on emergent or floating vegetation, logs, rocks, and occasionally mud or sand banks.

In general, nesting occurs between late April and early August.<sup>76</sup> Females typically leave the water in late afternoon or early evening and travel to an upland location that may be a considerable distance (1,300 feet [400 meters] or more) from aquatic habitat.<sup>77</sup> One to 13 eggs are deposited in the flask-shaped nest excavated by the female. Because digging the nest may require several hours, the female commonly remains on or near the nest site overnight. The young hatch (the incubation period for eggs maintained in a laboratory setting ranged from 73 to 80 days<sup>78</sup>) and may overwinter in the nest, emerging from the nest site and moving to the aquatic habitat in the spring. Hatchlings spend much of their time feeding in shallow water that typically has a relatively dense vegetation of submergents or short emergents. In California, reproductive maturity occurs at between seven and 11 years of age; WPTs are thought to be long-lived since the minimum age of a recaptured individual was 42 years old.<sup>79</sup>

The project site does not support suitable aquatic habitat for WPTs. In addition, all occurrences of WPT in San Mateo County have been recorded at sites with an elevation above 250ft. However, wetland communities (e.g. northern coastal salt marsh and coastal freshwater marsh) in Pillar Point Marsh may provide suitable habitat for WPT. If turtles were to use aquatic communities in Pillar Point Marsh, they might use the project site for nesting, overwintering, and/aestivation. Because the majority of the site is in

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<sup>73</sup> Stebbins, R. C. 2003. *A field guide to western reptiles and amphibians*. Third edition. Houghton Mifflin Company, Boston Massachusetts. vii + 533.

<sup>74</sup> Stebbins, R. C. 2003. *Ibid*.

<sup>75</sup> Jennings, M. R. and M. P. Hayes. 1994. *Amphibian and reptile species of special concern in California*. Final Report submitted to the California Department of Fish and Game, Inland Fisheries Division. Contract No. 8023. 225 pp.

<sup>76</sup> Jennings, M. R. and M. P. Hayes. 1994. *Ibid*.

<sup>77</sup> Jennings, M. R. and M. P. Hayes. 1994. *Ibid*.

<sup>78</sup> California Department of Fish and Game (CDFG). *California Interagency Wildlife Task Group*. 2005. *Ibid*.

<sup>79</sup> Jennings, M. R. and M. P. Hayes. 1994. *Ibid*.

agricultural production, the extent of usage would most likely be limited to the drainage separating the project parcels and suitable habitats along the parcels' western boundary. WPT might also use the site during overland movements to and from nesting sites and aquatic habitats, such as Denniston Creek located less than a half of a mile east of the site. Although current use of the site by turtles is limited due to ongoing agricultural activities, WPTs have a moderate potential to occur on the project site due to the presence of suitable aquatic (e.g., Pillar Point Marsh and Denniston Creek) and terrestrial habitat (undisturbed upland communities) in the immediate vicinity of the project site.

#### San Francisco Garter Snake (*Thamnophis sirtalis tetrataenia*)

The San Francisco Garter Snake (SFGS) is a federally and state-listed endangered species. It is also considered a fully protected species by CDFG. The historic range of the SFGS extended from just north of the San Francisco – San Mateo County line near Merced Lake south along the eastern and western bases of the Santa Cruz Mountains at least to the upper Crystal Springs Reservoir, and along the coast to Ano Nuevo Point, San Mateo County and Waddell Creek, Santa Cruz County.<sup>80</sup> Recent surveys indicate that there has likely been very little decrease in the overall historic range of the SFGS, but SFGS have been extirpated from individual locales.<sup>81</sup> Snakes have disappeared from portions of their range due to habitat loss from agriculture and urbanization.

Within its range SFGS are found in the vicinity of various aquatic habitats including ponds, lakes, reservoirs, creeks, and drainage ditches that are bordered at least partially by dense emergent vegetation, such as cattails, spike rush (*Eleocharis* spp.), and water plantain (*Alisma* spp.), and riparian vegetation, such as willows (*Salix* spp.) and various members of *Rubus* spp. SFGS are most easily found in marshlands and along the edge of riparian vegetation.<sup>82</sup> In addition to aquatic habitats, SFGS use upland habitats (e.g., grasslands with scattered coyote brush [*Baccharis pillularis*] or similar brush) to sun themselves and to retreat to protective cover. Within upland habitats the SFGS may prefer slopes with southern or western facing exposures, which receive increased levels of solar radiation, due to the enhanced ability for thermoregulations at these sites. Sometimes during the summer months adult snakes aestivate within upland habitat refugia. Also, for much of the winter, SFGS along the coast retreat to hibernacula (meaning shelters where snakes spend their dormant time during the winter). Often rodent burrows and thick mats of grass near aquatic habitats are chosen for refugia.

SFGS are livebearers that mate during the spring (March –April) and also during the fall (September – November), the latter is thought to be due to the increased likelihood of encountering a mate as individuals emerge from hibernacula and concentrate near aquatic foraging sites.<sup>83</sup> Neonates are normally

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<sup>80</sup> U.S. Fish and Wildlife Service (USFWS). 1985. *Recovery plan for the San Francisco garter snake (*Thamnophis sirtalis tetrataenia*)*. U.S. Fish and Wildlife Service, Portland, Oregon. 77 pp.

<sup>81</sup> U.S. Fish and Wildlife Service (USFWS). 2006. *5-year review San Francisco garter snake (*Thamnophis sirtalis tetrataenia*)*. U.S. Fish and Wildlife Service, Sacramento, California. 40 pp.

<sup>82</sup> Barry, S. J. 1994. *The distribution, habitat, and evolution of the San Francisco garter snake, *Thamnophis sirtalis tetrataenia**. Master's Thesis, University of California, Davis, California. 140 pp.

<sup>83</sup> U.S. Fish and Wildlife Service (USFWS). 2006. *Ibid.*

born in litters of 1 to 35 (average 16) during late July to early August, although a few litters are born as late as early September.<sup>84</sup> SFGS are most active from March to September although they may be observed during any month of the year. Juveniles grow rapidly during their year, spending much of their time feeding in riparian zones or aquatic habitats. Males and females probably reach sexual maturity in two years (at about 46 centimeters and 55 centimeters total length, respectively), although some slower growing snakes reach sexual maturity in three years.<sup>85</sup> Subadult and adult SFGS feed largely on larvae and post-metamorphic life stages of Pacific treefrogs (*Hyla regilla*) and California red-legged frogs. California toads (*Bufo boreas halophilus*), bullfrogs (*Rana catesbeiana*), mosquitofish (*Gambusia affinis*), and three-spine sticklebacks (*Gasterosteus aculeatus*) are also taken.<sup>86,87</sup> Juvenile snakes feed largely on newts (*Taricha* spp.), earthworms and Pacific treefrogs. SFGS were not found during extensive searches of Pillar Point Marsh during the 1970's. There is one known occurrence of SFGS recorded along Denniston Creek as extirpated in 1977 and has remained so. Because the majority of the site is in agricultural production, the extent of usage would most likely be limited to the drainage separating the project parcels and suitable habitats along the parcels' western boundary. Like WPT, SFGS might also use the site during overland movements to and from nesting sites and aquatic habitats, such as Denniston Creek located less than a half of a mile east of the site. Although current use of the site is limited due to ongoing agricultural activities, SFGSs have a moderate potential to occur on the project site due to the presence of suitable aquatic (e.g., Pillar Point Marsh and Denniston Creek) and terrestrial habitat (undisturbed upland communities) in the immediate vicinity of the project site.

#### California Red-legged Frog (*Rana aurora draytonii*)

The California red-legged frog (CRLF) formerly occurred from Shasta County to Baja California, west of the mountains. It also occurred historically on a few desert slopes in the western Mojave and Colorado deserts. According to the USFWS (61 FR 25813–25833), the species has been extirpated from 70 percent of its former range and is now found primarily in wetlands and streams in coastal drainages of central California from Marin County to Ventura County. It has been all but eradicated from California's inland regions, including the foothills of the Sierra Nevada and coastal areas south of Ventura County (Jennings and Hayes 1994). The species occurs, or once occurred, at elevations ranging from sea level to 4,900 feet (1,500 meters). The CRLF species is listed as threatened by the USFWS and is recognized as a California Species of Concern (CSC) by CDFG. It typically occurs in aquatic habitat of streams and ponds, but can disperse considerable distances in search of breeding and aestivation sites. Continued loss of upland dispersal habitat, fragmentation of remaining breeding locations, competition and predation by bullfrog, and degradation of aquatic habitat are primary concerns regarding protection and recovery of this species.

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<sup>84</sup> Larson, S. S. 1994. *Life history aspects of the San Francisco garter snake at the Millbrae habitat site. Master's Thesis. California State University, Hayward, California. 105 pp.*

<sup>85</sup> Barry, S. J. 1994. *Ibid.*

<sup>86</sup> Barry, S. J. 1994. *Ibid.*

<sup>87</sup> U.S. Fish and Wildlife Service (USFWS). 2006. *Ibid.*

Common habitats of the CRLF include stream borders, moist woods, forest clearings, and grasslands (Stebbins 1985). CRLF feeds on insects, mammals, and other amphibians along shorelines. A permanent water source and structurally complex vegetation are habitat requirements of the CRLF. The habitats found to contain the largest densities of CRLF are usually associated with deep-water pools (>2 ft. deep) with dense stands of overhanging willows (*Salix spp.*) and an intermixed fringe of cattails (*Typha latifolia*), tules (*Scirpus spp.*), or sedges (*Carex spp.*) (Hayes and Jennings 1988). However, CRLF have also been observed to inhabit stock ponds and artificial (e.g., concrete) pools completely devoid of vegetation (Storer 1925). CRLF cannot successfully reproduce at salinities  $a > 4.5\%$  (Jennings and Hayes 1990) and are thus largely restricted to freshwater and slightly brackish water habitats. For lagoon habitats such as Pescadero Marsh in Santa Cruz County, CRLF will be present only during periods when the salinities of the lagoons are within the range tolerated by the species (Padgett-Flohr and Jennings 2002).

The project site occurs outside of the designated critical habitat areas for CRLF, which were recently approved by the USFWS. Critical Habitat for CRLF in San Mateo County occurs within the Pilarcitas Lake and Lower Crystal Springs drainage basins. Two occurrences of CRLF are recorded within 1 mile of the project site. The nearest occurrence is within Pillar Point Marsh, south of West Point Rd. (May 1999). The other occurrence is along Denniston Creek (June 1989). As noted above, CRLF require both permanent water and complex vegetation structure to complete their life cycle. The project site does not contain any areas of permanent water. In addition, due to continual ongoing agricultural practices on the site, suitable vegetation is limited to the wetland interface and pockets of exotics near power pole lines where plowing and disking are not practicable (WSP 2009). Although there is no suitable breeding or foraging habitat onsite, CRLF have a moderate potential to occur onsite due to known occurrences in the immediate vicinity of the site and potential breeding habitat within Pillar Point Marsh and Denniston Creek.

### *Bird Species*

#### Bank Swallow (*riparia riparia*)

The bank swallow is a colonial nester, nesting primarily in riparian and other lowland habitats west of the desert. Bank swallow utilize open and partly open habitats, frequently near flowing water. This bird species nests in steep sand, dirt, or gravel banks, in a burrow dug near the top of the bank, along the edge of inland water or along the coast, or in gravel pits, road embankments, etc. (CDFG 2006). Bank swallow is a neotropical migrant and occurrence of this species in San Mateo County is rare in the fall, extremely rare in the winter, and fairly common and restricted to a small portion of the county or to a few locations in the summer (Metropulos 2006). Although the project site does not support suitable nesting habitat for this species, the site does support suitable foraging habitat. Additionally, suitable foraging habitat occurs along the drainage separating the project parcels and along the parcels' western boundary in and around Pillar Point Marsh. Bank swallow are known to occur in Pillar Point Marsh (Brady/LSA 2002). Therefore, the bank swallow has a moderate potential to occur onsite.

Salt Marsh Common Yellow Throat (*Geothlypis trichas sinuosa*)

The salt marsh common yellow throat requires dense growth of vegetation associated with moist environments. The species inhabits freshwater marshes, coastal swales, swampy riparian thickets, brackish marshes, salt marshes, and edges of disturbed weed fields and grasslands that border soggy habitats. Breeding populations have been documented in wetlands along the San Mateo County coast. Occurrence of common yellowthroat is fairly common in San Mateo County (CDFG 2005). This species is known to occur in Pillar Point Marsh (Brady/LSA 2002). The project site does not support suitable nesting habitat, however, the site does support marginal foraging habitat. The salt marsh common yellow throat is likely to occur onsite due to the known presence of the species in Pillar Point Marsh as well as suitable breeding, foraging and nesting habitat in the preserve. In addition, during the February 25, 2008 field surveys, WSP observed one common yellow throat perched in willows in the wetlands adjacent to and to the southwest of the project site.

Northern Harrier (*Circus cyaneus*)

The northern harrier uses a variety of habitats ranging from sea level to alpine meadows. The harrier frequents marshes, meadows, grasslands, and cultivated fields. Northern harrier perches on the ground, on stumps, or posts. The species nests on the ground, commonly near low shrubs, in tall weeds or reeds, sometimes in bogs or on top of low bushes above water. Harriers also nest on knolls of high ground, on higher shrubby ground near water, or on dry marsh vegetation. Occurrence of northern harrier in San Mateo County is uncommon in the fall, winter, and spring, and uncommon and restricted to a small portion of the county or to a few locations in the summer (Metropulos 2006). Although the project site does not support suitable nesting habitat, the site does provide suitable foraging habitat. Additionally, this species was observed foraging during surveys conducted in 2003 on the northern parcel (WRA 2003).

White-Tailed Kite (*Elanus leucurus*)

The white-tailed kite is a resident of coastal and valley grassland habitats throughout California and is often found in savanna, open woodland, marshes, partially cleared lands and cultivated fields, mostly in lowland situations. Nests are located in trees, often near a marsh, usually 6-15 meters above the ground in branches near the top of a tree. White-tailed kite is a common to uncommon yearlong resident of California (CDFG 2005). Occurrence of this species in San Mateo County is uncommon (Metropulos 2006). Although the project site does not support suitable nesting habitat for this species, the site does support suitable foraging habitat. Additionally, this species was observed during surveys conducted in 2003 on the northern parcel (WRA 2003). Suitable foraging and nesting habitat occurs along the drainage separating the project parcels and the parcels' western boundary in and around Pillar Point Marsh (Brady/LSA 2002). This species was observed perched and foraging over Pillar Point Marsh during surveys conducted in 2007 (CAJA).

No nests have been reported on the project site in previous surveys or were observed during the field reconnaissance surveys by the applicant's biologist. Pre-construction surveys would be necessary to confirm presence or absence of any nesting activity that could potentially occur on the site.

It should be noted that there remains a potential for occasional use of the site vicinity by other bird species, including special-status species. Species usage would be limited to occasional wintering activity by migratory bird species or possible occasional foraging activity by species for which essential breeding habitat is absent from the site. Sharp-shinned hawk (*Accipiter striatus*) was observed flying over the site and a great blue heron (*Ardea herodias*) was observed on the southwestern portion of the project site during 2008 surveys (WSP).

### ***Jurisdictional Waters***

Preliminary wetland assessments were conducted on the northern parcel by WRA in 2001 and again in 2003.<sup>88</sup> An updated delineation was conducted on both subject parcels by WSP in 2008. The WSP report provides a description of the site and information on regulatory background, summarizes methodology, and describes the results of the delineation. Field surveys were conducted, and observed potential wetlands and water bodies were mapped, as shown in Figure IV.D-2. A subsequent addendum to the delineation was filed in March 2008. The 2008 WSP delineation was verified by the Corps in June 2008.

Based on the 2008 delineation by WSP, a total of 0.45 acres of “other waters” (Type 3 waters of the U.S.) occur on the project site. This includes Type 3 waters of the U.S. that occur in four regions across the project site. An additional 0.29 acres (12,604 sq. ft.) of single-parameter (vegetation) wetlands conforming to the California Coastal Act Public Code occurs on the project site, for a total of 0.74 acres (32,180 sq. ft.) of California Coastal wetlands. This additional acreage of one parameter wetlands is located in the western portion of the southwestern parcel and along the extreme western corner of the property. Wetland delineation results are discussed in detail in the delineation report and addendum.<sup>89</sup>

### ***Local - County of San Mateo General Plan***

As detailed in the Regulatory Setting at the beginning of this section, the County’s General Plan defines certain goals and objectives, and general policies for protecting vegetative, water, fish and wildlife resources. The County has adopted various ordinances that provide protection to natural resources within the County’s limits. Consistent with the goals and policies of the CCA the County’s Local Coastal Program (LCP) provides protection of the coastal resources.

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<sup>88</sup> WRA, 2001 and 2003 Ibid.

<sup>89</sup> WSP, 2008a and 2008b Ibid.



Source: HJW GeoSpatial, Inc., MacLeod and Associates and Christopher A. Joseph & Associates, May 2007; WSP, March 17, 2008.



## ENVIRONMENTAL IMPACTS

### Thresholds of Significance

Based on Appendix G of the CEQA Guidelines and the Regulatory Setting requirements, the proposed project would have a significant environmental impact if it would:

- a) have a substantial adverse effect, either directly or 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 the U.S. Fish and Wildlife Service. Those special-status species with the potential to occur within the project site are outlined in the Environmental Setting (Special-Status Species) discussion as well as in Tables IV.D-1 and IV.D-2 of this section.
- b) have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service such as, northern coastal salt marsh, and riparian corridors, as identified in the Environmental Setting (Sensitive Natural Communities) discussion of this section;
- c) have a substantial adverse effect on federally-protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means, which includes the estimated 0.74 acres of jurisdictional waters and wetlands delineated onsite. Refer to the Regulatory Setting discussion for additional water requirements outlined in the Section 1602 Lake and Streambed Alteration Agreement and the Porter-Cologne Water Quality Control Act;
- d) interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery site. Refer to the Environmental Setting discussion for an outline of the wildlife species anticipated and known to occur within or in the vicinity of the site;
- e) conflict with any local policies or ordinances protecting biological resources, such as those outlined within the Regulatory Setting (Local) discussion of this section (i.e., San Mateo County General Plan Policies, and the San Mateo County Local Coastal Program Policies).
- f) conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

As discussed in Section V.C (Impacts Found to be Less Than Significant) of this DEIR, potential impacts associated with Threshold (f) above were determined to have no impact because the project site and its vicinity are not located within an area covered by a Habitat Conservation Plan, Natural Community Conservation Plan, or other approved conservation plan. Therefore, only Thresholds (a), (b), (c), (d), and (e) listed above are addressed in the following discussion.

## Project Impacts and Mitigation Measures

### ***Impact BIO-1 Special-Status Species***

#### *Special-Status Plant Species*

Proposed development would not directly affect any known occurrences of special-status plant species on the site. Based on the extensive surveys conducted as part of the previous development application on the northern parcel (WRA), and again in 2008 as part of the current application on both parcels (WSP), there are no known special-status plant species known from the vicinity of proposed development on the site. Development on the site is limited to areas of continuous and ongoing agricultural activities. In addition, no habitat for any of the special-status plant species with a potential to occur on the site exists on the project site. Impacts would be ***less than significant***.

#### *Special-Status Wildlife Species*

No direct impact or take of special-status species is expected as a result of the proposed project due to the lack of habitat suitable onsite to support those species with a potential to occur or known to occur in the project vicinity. However, development on the project site has the potential to indirectly impact special-status species such as western pond turtle, San Francisco garter snake and California red-legged frog due to the availability of suitable habitat in the immediate vicinity of the project as well as documented occurrences of the species in the project vicinity. Therefore, impacts would be ***potentially significant***.

The following mitigation measures would reduce the potential impact described above to a less-than-significant level:

#### ***Mitigation Measure BIO-1a Special-Status Species***

A qualified biologist (hereafter, biological monitor), capable of monitoring projects with potential habitat for Western pond turtle (WPT), San Francisco garter snakes (SFGS), and California red-legged frogs (CRLF) shall be present at the site as follows:

1. Prior to and within 3 days of installation of exclusion fencing (type to be determined through consultation with CDFG and USFWS), the monitor shall survey the location for the installation for the presence of WPT, SFGS and CRLF. In addition, should any burrows be observed, the burrows shall be inspected by the biologist to determine if it is being used by any of the species. Should any of these species be observed, the area shall be vacated and re-inspected in one week. If no animal use is noted, the burrows shall be carefully excavated using a small trowel or shovel. Careful prodding using a blunt object will aid in determining the course of the tunnel such that the tunnel is excavated from the sides rather than the top, reducing the potential for any injury should an animal be present. Excavated burrows with no WPT, CRLF or SFGS shall be left open so they cannot be re-occupied. If any non-listed species are located, they shall be translocated outside of the construction zone. Should any individual WPT, CRLF or SFGS be found during the field survey or excavation, the area where that individual has been found shall remain

undisturbed. If any life stage of the WPT, SFGS or CRLF is found during these surveys or excavations, the Department of Fish and Game and the US Fish and Wildlife Service shall be contacted immediately, and activities that could result in take shall be postponed until appropriate actions are taken to allow project activities to continue.

2. During installation of construction zone exclusion fencing, the biological monitor shall be present and will oversee the installation of all construction fencing. The exclusionary fencing shall be installed on one parcel site first so that if any animals are within the construction zone, they will have the opportunity to move out of the area freely.

Immediately following installation of exclusion fencing, the biological monitor shall survey the enclosed construction zone for the presence of WPT, SFGS and CRLF. If any life stage of the SFGS or CRLF is found during these surveys, the Department of Fish and Game and the U.S. Fish and Wildlife Service shall be contacted immediately, and activities that could result in take shall be postponed until appropriate actions are taken to allow project activities to continue.

The biological monitor shall be present at all times during restoration area planting activities outside the construction zone and within the buffer area, to monitor for the presence of WPT, SFGS and CRLF.

The biological monitor shall prepare a training document in both English and Spanish about the animals of concern, their identification, and the methods of avoidance and reporting requirements and procedures, should the species be observed. The document shall provide photographs of the species and notification numbers for the monitor, the Department of Fish and Game, and the U.S. Fish and Wildlife Service. The training document and contact information for the monitor shall be posted at the construction zone and maintained in the monitoring log. Every contractor, sub-contractor and construction worker shall be provided a copy of the training document in advance of their respective construction activities and shall be required to adhere to its contents.

A highly visible warning sign shall be installed along the project perimeter. The warning sign shall be in English and Spanish and shall state: "Stay Out - Habitat Area of Federally Protected Species." A document drop shall be attached to several warning signs and stocked with a supply of training documents.

The biological monitor shall conduct weekly site visits when construction is occurring to verify that all construction zone exclusionary fencing is in place and functioning as intended. Any repair or maintenance to the fencing deemed necessary by the biological monitor shall be completed under the monitor's supervision. Such maintenance activities include adequate removal of vegetation at the construction fence line to ensure that vegetation "ladders" for species access are not allowed to establish.

Once restoration activities are complete, the exclusion fencing shall be removed under the supervision of the biological monitor. Prior to the removal of the buffer area/restoration area fencing, permanent exclusionary measures shall be put in place to prevent special-status species

movement beyond the buffer areas. Wildlife movement through the site shall be facilitated via a buffer zone on either side of the drainage that bisects the parcels.

The general contractor shall assign a crew member that will be responsible for conducting site inspections, monitoring gate opening and closing, and assuring that other species protection measures are in place and being enforced when the Biological Monitor is not present. The crew member shall adhere to the procedures contained in the training document and shall be able to contact the biological monitor should any violations be noted or listed species observed onsite.

The biological monitor has the authority to halt all or some construction activities and or modify all or some construction methods as necessary to protect habitat and individual sensitive species. The monitor shall be responsible for contacting USFWS should any endangered or threatened species be observed within the construction zones.

The biological monitor shall complete daily monitoring reports for each day present, to be maintained in a monitoring log-book kept onsite. Reports must contain the date and time of work, weather conditions, biological monitor's name, construction or project activity and progress performed that day, any listed species observed, any measures taken to repair and or maintain fencing, and any construction modifications required to protect habitat. The monitoring log-book with compiled reports shall be submitted to the Executive Director upon cessation of construction as part of a construction monitoring report.

### Bird Species

The project site does not provide suitable nesting habitat for any of the special-status bird species with the potential to occur or known to occur in the vicinity of the project site. Although the site currently provides some suitable foraging habitat, the proposed project proposes 32 acres of farming, 12 in row crop production in the immediate vicinity of the project site. A 5-acre native plant nursery will also occur onsite as part of the project. In addition, the project will provide 9 acres of riverine wetland and riparian ecosystem restoration. The restored wetlands will extend both foraging and breeding habitat currently available in Pillar Point Marsh for project area special-status species as well as provide a wider, protected movement corridor through the site. No special-status bird species will be substantially affected as a result of the proposed project.

While no nests were observed on the site during the surveys conducted by the applicant's biologist, there is a potential for new nests to be established prior to project implementation, or during later phases of construction. Tree removal, vegetation clearing, or disturbance in the immediate vicinity of a nest in active use could result in abandonment of the nest or loss of eggs and young, which would be a violation of the Migratory Bird Treaty Act. Preconstruction surveys would be necessary in advance of construction during the nesting season (March through August) to confirm presence or absence of any new nests. This is considered a *potentially significant* impact.

The following mitigation measure would reduce the impact described above to a less-than-significant level:

***Mitigation Measure BIO-1b Special-Status Species***

Any active bird nests in the vicinity of proposed grading shall be avoided until young birds are able to leave the nest (i.e., fledged) and forage on their own. Avoidance may be accomplished either by scheduling grading and tree removal during the non-nesting period (September through February), or if this is not feasible, by conducting a pre-construction nesting bird survey. Provisions of the pre-construction survey and nest avoidance, if necessary, shall include the following:

If grading is scheduled during the active nesting period (March through August), a qualified wildlife biologist shall conduct a pre-construction nesting survey no more than 30 days prior to initiation of grading to provide confirmation on presence or absence of active nests in the vicinity.

If active nests are encountered, species-specific measures shall be prepared by a qualified biologist in consultation with CDFG and implemented to prevent nest abandonment. At a minimum, grading in the vicinity of the nest shall be deferred until the young birds have fledged. A nest-setback zone shall be established via consultation with CDFG and USFWS, within which all construction-related disturbances shall be prohibited. The perimeter of the nest-setback zone shall be fenced or adequately demarcated, and construction personnel restricted from the area.

If permanent avoidance of the nest is not feasible, impacts shall be minimized by prohibiting disturbance within the nest-setback zone until a qualified biologist verifies that the birds have either a) not begun egg-laying and incubation, or b) that the juveniles from the nest are foraging independently and capable of independent survival at an earlier date. A survey report by the qualified biologist verifying that the young have fledged shall be submitted to CDFG and USFWS prior to initiation of grading in the nest-setback zone.

The following mitigation measures would reduce impacts to both special-status plant and wildlife species and their associated habitat to a less-than-significant level:

***Mitigation Measure BIO-1c Special-Status Species***

Proposed project construction activities will not result in impacts to project area wetlands and/or habitat for special-status species known to occur in the vicinity of the site. The applicant's biologist has obtained a verified wetland delineation and has consulted with the regulatory agencies regarding special-status species. The applicant shall continue to coordinate all project activities potentially regulated by State, Federal, and local agencies and shall obtain all necessary permits from CDFG, Corps, USFWS, and the RWQCB as required by federal and State law to avoid, minimize or offset impacts to any species listed under either the State or federal Endangered Species Acts or protected under any other State or federal law.

Evidence that the applicant has secured any required authorization from these agencies shall be submitted to San Mateo County prior to issuance of any grading or building permits for the project.

***Mitigation Measure BIO-1d Special-Status Species***

Sensitive and general habitat features outside the limits of approved grading and development shall be protected by identifying a construction and development boundary on all project plans and prohibiting construction equipment operation within this boundary. The boundary shall be staked and flagged in the field with a highly visible color coded system and all construction and equipment operators shall be instructed to remain outside this no-disturbance boundary for the duration of construction. This measure is in addition to the wildlife exclusion fencing described in Mitigation Measure Bio-1a and applies to the protection of all habitat features outside of the project limits.

***Impact BIO-2 Sensitive Natural Communities***

Proposed grading and development would not result in impacts to northern salt marsh scrub or riparian habitat on the site, both of which are considered sensitive natural community types. There is no northern salt marsh scrub on or in the immediate vicinity of the project site. Existing riparian habitat onsite will be protected by a buffer and will undergo habitat restoration to enhance the functional value of this sensitive habitat type. Riparian habitat onsite occurs along the drainage that divides the project parcels. Impacts would be *less than significant*.

***Impact BIO-3 Federally Protected Wetlands***

No direct impacts to wetlands will occur from the proposed project. A 100-foot buffer required by the San Mateo County LCP is indicated on the site plan. Under the proposed alternative, this buffer will be restored to a native riparian forest (WSP 2009). In addition to the riparian area, a buffer has been established to protect wetlands in adjacent Pillar Point Marsh. The project areas adjacent to the marsh are proposed for an additional wetland creation/restoration area. Impacts would be *less than significant*.

***Impact BIO-4 Wildlife Movement and Habitat Connectivity***

Sensitive wildlife habitats are located south of the project site within the adjacent Pillar Point Marsh. Due to the continuous and ongoing agricultural activities on the project site, special-status and common wildlife species movement across the site is limited. The drainage that bisects the project parcels contains the only sensitive habitat onsite. This area will be restored and protected by a 100-foot buffer on either side, enhancing its habitat value and availability for use as a protected movement corridor through the site. No wildlife corridors or sensitive habitats will be affected as a result of the proposed project. Impacts would be *less than significant*.

***Mitigation Measure BIO-4a Wildlife Movement and Habitat Connectivity***

Measures recommended in Mitigation Measures BIO-1a through BIO-1d would serve to protect important natural habitat on the site for wildlife, avoid the potential loss of bird nests, and protect sensitive natural

areas. Although wildlife movement and habitat connectivity impacts were found to be less than significant, the following additional provisions shall be implemented to further protect wildlife habitat resources:

Fencing that obstructs wildlife movement shall be restricted to building envelopes and wildlife exclusionary fencing along special-status species protection corridors and shall not be allowed elsewhere on the site. Fencing that obstructs wildlife movement contains one or more of the following conditions: lowest horizontal is within 1.5 feet of the ground OR highest horizontal is over 6 feet OR top or bottom wire is barbed OR distance between top wires is less than 10 inches OR it combines with existing structures or fences, even on neighboring parcels, to create an obstacle to wildlife movement.

Lighting shall be carefully designed and controlled to prevent unnecessary illumination of natural habitat on the site. Lighting shall be restricted to building envelopes, at the minimum level necessary to illuminate roadways and other outdoor areas. Lighting shall generally be kept low to the ground, directed downward, and shielded to prevent illumination into adjacent natural areas.

Dogs and cats shall be confined to individual residences and the fenced portion of the building envelopes to minimize harassment and loss of wildlife.

All garbage, recycling, and composting shall be kept in closed containers and latched or locked to prevent wildlife from using the waste as a food source.

#### ***Impact BIO-5 Conformance with Local Policies and Ordinances***

In general the proposed project would conform to local policies and ordinances related to protection of vegetative, water, fish and wildlife resources. Mitigation measures proposed as part of the project or recommended as part of this DEIR would ensure sensitive resources are adequately protected or mitigated in compliance with the goals and objectives set forth in both the San Mateo County General Plan Policies and Local Coastal Program Policies, as detailed in the Regulatory Setting subsection of this DEIR section. In particular, the project goals include the protection of all project area sensitive habitats, vegetation resources, water resources, and fish and wildlife resources. The project incorporates a restoration and enhancement plan that enhances onsite habitat in order to expand habitat to sensitive species that may inhabit Pillar Point Marsh. The project designates buffers along the drainage and associated riparian corridor that bisects the property as well as from sensitive resources occurring on the adjacent Pillar Point Marsh property, and wetland resources on and offsite. The project does not propose any impacts to special-status species or their habitats and provides BMP's to insure that these species will not be negatively impacted by project development.

In summary, when completed, the project site will have enhanced existing habitat and created additional habitat for wildlife occurring in the project vicinity. In addition, by providing a buffer along the riparian drainage onsite, the project provides a movement corridor for species potentially dispersing from Pillar Point Marsh and/or other habitats to the east of the project site. Therefore, project impacts would be ***less than significant***.

## CUMULATIVE IMPACTS

The overall cumulative effect of development is dependent on the degree to which significant vegetation and wildlife resources are protected or mitigated as part of individual developments. This includes preservation of areas of sensitive natural communities, protection of essential habitat for special-status plant and animal species, and avoidance of wetlands. Further environmental review of any specific development proposals in the vicinity of the site should generally serve to ensure that important biological and wetland resources are identified, protected and properly managed, and should serve to prevent any significant adverse development-related impacts. However, there may be significant impacts of an individual development cannot be fully mitigated and could contribute to significant cumulative impacts on biological and wetland resources as well.

Cumulative development contributes to an incremental reduction in the amount and connectivity of existing natural communities and wildlife habitat. Proposed development on the Big Wave Wellness Center and Office Park site would not result in the loss of any sensitive biological or wetland habitat. Measures recommended to mitigate potential impacts on sensitive natural resources would serve to address much of the project contribution to cumulative impacts. Although conversion of agricultural production area to commercial development would diminish the existing wildlife foraging habitat onsite, creation of additional wetland nesting and foraging habitat in addition to agricultural foraging areas in the immediate vicinity of the site offsets the temporary loss of foraging habitat. The proposed project does not contribute to significant cumulative impacts to area biological or wetland resources. Therefore, cumulative impacts would be *less than significant*.

## LEVEL OF SIGNIFICANCE AFTER MITIGATION

Potential impacts to special-status species, sensitive natural communities, wetlands, and wildlife habitat and movement opportunities would be *less than significant* with implementation of the above mitigation.



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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### E. CULTURAL RESOURCES

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#### INTRODUCTION

This section of the Draft Environmental Impact Report (DEIR) evaluates potential cultural resources impacts associated with development of the proposed Big Wave Wellness Center and Office Park project (“proposed project”), including the construction and operational phases of the proposed project. The cultural resource evaluation includes an analysis of impacts to historical resources, archaeological resources, paleontological resources, and human remains.

#### METHODOLOGY

Incorporated into this section is information and analysis contained in the following document:

- *A Cultural Resources Survey for the Big Wave Project, San Mateo, California* (Cultural Resources Survey), prepared by Tom Origer & Associates, February 28, 2007.
- *Additional Cultural Resources Investigation*, prepared by Tom Origer & Associates, July 16, 2009.

The Cultural Resources Survey is designed to satisfy environmental issues specified in the CEQA Guidelines (Title 14 CCR Section 15064.5) by: (1) identifying all cultural resources within the project area; (2) offering a preliminary significance evaluation of the identified cultural resources; (3) assessing resource vulnerability to effects that could arise from project activities; and (4) offering suggestions designed to protect resource integrity, as warranted.

The abovementioned survey conducted on February 28, 2007 included (1) archival research at the Northwest Information Center (NWIC) at Sonoma State University in Rohnert Park (NWIC File No. 06-334), (2) examination of the library and files of Tom Origer & Associates, and (3) a field inspection by Tom Origer & Associates of the project area. The purpose of the Additional Cultural Resources Investigation conducted on July 16, 2009 was to establish the presence of the archaeological site and its boundary within the project site. This was accomplished by examining the ground surface at the recorded location of site CA-SMS-151 (discussed further under “Archaeological Resources”) and excavating nine shovel test pits to ascertain whether buried archaeological specimens extend beyond the surface distribution of archaeological materials. Additionally, pursuant to the requirements of Senate Bill 18 (SB-18; Tribal Consultation, Government Code Section 65352.3), Tom Origer & Associates contacted the Native American Heritage Commission (NAHC) on October 26, 2006 to request a Tribal Consultation List with contact information for the tribes identified by the NAHC as having traditional lands or cultural resources within the project vicinity.

Sources of information included, but were not limited to: current listings of properties on the National Register of Historical Places (National Register), California Historical Landmarks, California Register of

Historical Resources (California Register), and the California Points of Historical Interest as listed in the Office of Historic Preservation's Historic Property Directory. Archival research included an examination of historical maps to gain insight into the nature and extent of historical development in the general vicinity, especially within the study area. Additionally, ethnographic literature which describes appropriate Native American groups, county histories, and other primary and secondary sources were reviewed.

The project area field survey was completed on February 13, 2007. The two parcels comprising the project site were intensely examined by walking in a zigzag pattern within corridors no more than 20 meters wide. The banks of the drainage swale separating the two adjacent parcels were examined where breaks in the dense vegetation allowed. Surface visibility of the site was very good and vegetation was sparse due to recent disking. When necessary, a hoe was used to clear small patches of vegetation to improve visibility.

## **ENVIRONMENTAL SETTING**

### **Local Setting**

The study area is located in northwestern unincorporated San Mateo County along the coast of the Pacific Ocean at the north end of Half Moon Bay and adjacent to the community of Princeton by the Sea. The approximately 19.4-acre project site is divided into two adjacent irregularly shaped parcels, a northern parcel and a southern parcel, separated by a swale that drains to the Pillar Point Marsh, which lies along the southwestern edge of the project site. The nearest year-round source of fresh water is Dennison Creek, which is approximately 0.3 miles east of the study area. The parcels that comprise the project site are currently utilized as agricultural fields, which are part of a larger ongoing and continuous farming operation. The site is characterized by generally flat terrain with sparse vegetation due to extensive site farming activities. In those areas where normal farming activities have not occurred recently (e.g., along the Airport Street verge and in very small, scattered patches within the agricultural fields), non-native annual grasses and herbs occur. Additionally, dense riparian vegetation is located on the banks of the swale that divides the two parcels which comprise the project site.

Soils of the project site consist of two types of Denison series clay loams, which differ only by their ability to drain. The northern parcel consists of soil that drains moderately well, while the southern parcel is more poorly drained. Denison soils are associated with low marine terraces of alluvium from sedimentary rocks or mixed sources. The presence of soils that drain, located nearby fresh water, and marsh and coastal resources make the project area a location that would have been suitable for early inhabitants to live or gather resources.

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## Prehistoric and Historic Background

From the times of the earliest Indian inhabitants to today's era of high technology development, the County of San Mateo has had a legacy rich in historical, archaeological and architectural resources.<sup>1</sup>

Archaeological evidence indicates that human occupation of California began at least 10,000 to 15,000 years ago. Early occupants appear to have had an economy based largely on hunting, with limited exchange, and social structures based on the extended family unit. Later, milling technology and an inferred acorn economy were introduced. This diversification of economy appears to be concurrent with the development of sedentism (transition from nomadic to permanent, year-round settlement) and population growth and expansion.

Sociopolitical complexity and status distinctions based on wealth are also observable in the archaeological record, as evidenced by an increased range and distribution of trade goods (e.g., shell beads, obsidian tool stone), which are possible indicators of both status and increasingly complex exchange systems.

At the time of European settlement, the study area was included in the territory controlled by Ohlone, who are also referred to as the Costanoan. The Ohlone were hunter-gatherers who lived in rich environments that allowed for dense populations with complex social structures. They settled in large, permanent villages about which were distributed seasonal camps and task-specific sites. Primary village sites were occupied continually throughout the year and other sites were visited in order to procure particular resources that were especially abundant or available only during certain seasons. Sites were often situated near fresh water sources and in ecotones where plant life and animal life were diverse and abundant. Based on baptismal records from the early 19th century, ethnographer Randall Milliken ascribes the Chiquan tribe to the area from Point Montara south to Pilarcitos Creek, which includes the present study area.

Historically, the study area is situated within part of the Rancho Corral de Tierra confirmed to the heirs of Francisco Guerrero Palomares in 1859. The 1859 plat map shows that James Dennison resided on the broad coastal terrace where the study area is located. Dennison's house was farther north near the base of the hills, and at present-day Pillar Point he had a wharf and two warehouses. An 1878 map of the County shows that Dennison still owned the property.

## Historical Resources

Archival research included examination of the library and project files of Tom Origer & Associates and a records search of files held at the NWIC at Sonoma State University. A project area field survey was completed by Tom Origer & Associates on February 13, 2007 to confirm the above research. Review of historical maps revealed no indication of historical buildings within or adjacent to the project area. The

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<sup>1</sup> *San Mateo County, Environmental Services Agency, Planning and Building Division, County of San Mateo General Plan, Chapter 5 - Historical and Archaeological Resources, Historical and Archaeological Resources Background, November 1986, page 5.1.*

discovery of historic-period resources was considered less likely. The indicators for historical sites generally include the following: fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits, such as wells, privy pits, and dumps. The field survey confirmed that there are no historical buildings or structures within the study area.

### **Archaeological Resources**

As described above, archival research included examination of the library and project files of Tom Origer & Associates and a records search of files held at the NWIC at Sonoma State University. Review of the archaeological site base maps and records, survey reports, and other materials in their files indicated that one archaeological investigation previously occurred in the project vicinity in 1987.<sup>2</sup> Findings indicated that three recorded archaeological sites are located within a half-mile radius of the project area, including the site CA-SMA-151, a prehistoric habitation site known to contain human burials, which extends into a portion of the project site. Research also found that the 1987 study observed fire-affected rock, stone chipping debris, dietary remains, culturally altered soils (midden), and stone and shell artifacts within the study area examined, which generally corresponds to the present study area. The site was remapped and limited subsurface investigations were conducted in 2004.<sup>3</sup>

State and federal inventories reviewed at NWIC included the National Register of Historic Places (National Register), the California Register of Historic Resources (California Register), the California Historical Landmarks, and the California Points of Historical Interest as listed in the Office of Historic Preservation's Historic Property Directory. Site CA-SMA-151 was listed on the National Register in 1978 based on studies conducted within the project area in 1976.<sup>4</sup> The National Register's assessment of site CA-SMA-151's data potential concluded that its potential is strong, with the ability to "yield considerable information on prehistoric coastal habitation."<sup>5</sup> The National Register nomination also noted that site CA-SMA-151 is "one of the last relatively undisturbed prehistoric habitation sites in the area." Considering that the observation was made 30 years ago, it is likely that the rarity of sites has increased. Site CA-SMA-151 was also listed on the California Register. Furthermore, site CA-SMA-151 meets criteria 1 and 2 for a "unique archaeological resource" pursuant to Section 15064.5 of the State CEQA Guidelines.<sup>6</sup>

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<sup>2</sup> *Archeological Resource Management, Robert Cartier, Cultural Resource Evaluation of the Half Moon Bay Industrial Park on Airport Street in Half Moon Bay, County of San Mateo, July 1987. On file at the Northwest Information Center, Rohnert Park.*

<sup>3</sup> *Applied Earthworks, Inc., Flint, Sandra S., Barry A. Price, Randy Baloian, Mary Clark Baloian, and Kathleen Jemigan, Archaeological Investigations at CA-SMA-109H, CA-SMA-151, and CA-SMA-347, Pillar Point Air Force Station, San Mateo County, California, 2005. On file at the Northwest Information Center, Rohnert Park.*

<sup>4</sup> *Nissen and Swezey, Archaeological Site Survey Record for CA-SMA-151, 1976. On file at the Northwest Information Center, Rohnert Park.*

<sup>5</sup> *Tom Origer & Associates, Tom Origer, Registered Professional Archaeologist #10333, electronic correspondence, August 12, 2009.*

<sup>6</sup> *Ibid.*

In addition, ethnographic literature that describes appropriate Native American groups, county histories, and other primary and secondary sources were reviewed. There are no reported ethnographic camps or villages within the study area.

Based on the above archival research results, it was anticipated by Tom Origer & Associates that prehistoric cultural resources could be found within the study area. Prehistoric archaeological site indicators expected to be found in the region include, but are not limited to: obsidian and chert flakes and chipped stone tools; grinding and mashing implements such as slabs and handstones, and mortars and pestles; and locally darkened midden soils containing some of the previously listed items plus fragments of bone, shellfish, and fire affected stones.

The 2007 field survey conducted by Tom Origer & Associates confirmed that the prehistoric site CA-SMA-151 extends into the project area and presented additional materials outside the previously mapped areas (based on 1976, 1987 and 2004 studies).<sup>7</sup> While prehistoric site CA-SMA-151 extends into a portion of the project site, the main portion of the prehistoric site is on an adjoining parcel offsite. Shell-laden midden soils with fire-affected rock, chert flakes, and bone fragments were observed. Occasional pieces of chert were noted in the field north of the midden deposit. No other prehistoric archaeological deposits were found. The Additional Cultural Resources Investigation conducted in 2009 by Tom Origer & Associates determined the boundary of site CA-SMA-151 within the project site.

### **Paleontological Resources**

Paleontological resources are mineralized or fossilized remains of prehistoric plants and animals, as well as mineralized impressions or trace fossils that provide indirect evidence of the form and activity of ancient organisms. Paleontological resources or prehistoric fossils have been discovered in exposed bluffs above the ocean bench along the coast in San Mateo County. These sites contained molluscan fossils from the Pleistocene Period.<sup>8</sup>

Subsurface investigations were performed for the southern parcel in June 2000 and for the northern parcel in May 2002 by Bay Area Geotechnical Group (refer to Section IV.F (Geology & Soils) and Appendix F of the DEIR). Soils at the southern parcel generally consist of clay and sand.<sup>9</sup> The northern parcel is also underlain by a wide variety of soils, including clay, sand, and gravel.<sup>10</sup> The finer soils would not typically support mineralized or fossilized remains, whereas the larger gravel could.

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<sup>7</sup> *Specific location of the pre-historic site has not been described or mapped in this document to protect the integrity of the site, as is standard in CEQA documents.*

<sup>8</sup> *San Mateo County, Environmental Services Agency, Planning and Building Division, County of San Mateo General Plan, Chapter 5 - Historical and Archaeological Resources, November 1986, page 5.5.*

<sup>9</sup> *Bay Area Geotechnical Group, Geotechnical Investigation, Proposed 5-Acre Commercial Development West Corner of Airport Street and Stanford Avenue, Princeton by the Sea, California, June 13, 2000, page 8.*

<sup>10</sup> *Bay Area Geotechnical Group, Preliminary Geotechnical Engineering Investigation, Proposed 10-Acre Commercial Development South of Airport Street, APN 047-311-060, Princeton by the Sea, California, May 7, 2002, page 9.*

## **Human Remains**

As discussed previously, human remains have been identified within recorded resources located in the vicinity of the project site. Prehistoric archaeological site CA-SMA-151 extends into the project site. The archaeological site is listed on the National Register and is considered to be an important Native American site, known to contain human burials.

## **Native American Consultation**

Tom Origer & Associates sent a letter on October 23, 2006 to the State of California's NAHC seeking information from the sacred lands files, which track Native American cultural resources, and the names of Native American individuals and groups that would be appropriate to contact regarding the project. The NAHC responded by letter on October 26, 2006, in which they indicated a record search of the sacred lands file failed to indicate the presence of Native American cultural resources in the study area, and provided a list of seven Native American individuals/organizations that may have knowledge of cultural resources in the project area. Follow-up telephone calls were made to individuals who were contacted by letter on October 26, 2006, to confirm the receipt of project information and to solicit comments. Only one of the six tribes contacted provided comment. The Ohlone tribe expressed concern because of the proposed project's proximity to a known cultural resource within the project area.

## **REGULATORY SETTING**

Federal, state, and local governments have developed laws and regulations designed to protect significant cultural resources that may be affected by actions that they undertake or regulate. The National Historic Preservation Act (NHPA) and the California Environmental Quality Act (CEQA) are the basic federal and state laws governing preservation of historic and archaeological resources of national, regional, state and local significance.

### **Federal**

Primarily Section 106 of the NHPA of 1966 governs federal regulations for cultural resources. Section 106 of NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and affords the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The Council's implementing regulations, "Protection of Historic Properties," are found in 36 Code of Federal Regulations (CFR) Part 800. The goal of the Section 106 review process is to offer a measure of protection to sites, which are determined eligible for listing on the National Register of Historic Places (National Register). The criteria for determining National Register eligibility are found in 36 CFR Part 60. Amendments to the Act (1986 and 1992) and subsequent revisions to the implementing regulations have, among other things, strengthened the provisions for Native American consultation and participation in the Section 106 review process. While federal agencies must follow federal regulations, most projects by private developers and landowners do not require this level of compliance. Federal regulations only come into play in the private sector if a project requires a federal permit or if it uses federal money.

**State**

State historic preservation regulations affecting this project include the statutes and guidelines contained in the California Environmental Quality Act (CEQA; Public Resources Code Sections 20183.2 and 21084.1 and Section 15064.5 of the CEQA Guidelines). CEQA requires lead agencies to carefully consider the potential effects of a project on historical resources (see the Historical Resources description below for criteria specifications).

Advice on procedures to identify such resources, evaluate their importance, and estimate potential effects is given in several agency publications such as the series produced by the Governor's Office of Planning and Research (OPR). The technical advice series produced by OPR strongly recommends that Native American concerns and the concerns of other interested persons and corporate entities, including, but not limited to, museums, historical commissions, associates and societies be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains and associated grave goods regardless of the antiquity and provides for the sensitive treatment and disposition of those remains.

***California Historic Register***

The State Historic Preservation Office (SHPO) also maintains the California State Register of Historic Resources (CRHR). Properties that are listed on the National Register of Historic Properties (NRHP) are automatically listed on the CRHR, along with State Landmark and Points of Interest. The CRHR can also include properties designated under local ordinances or identified through local historical resource surveys.

***Native American Consultation***

SB-18 Tribal Consultation; Government Code Section 65352.3 (Senate Bill [SB] 18) requires local governments to consult with California Native American Tribes identified by the California NAHC regarding proposed local land use planning decisions and prior to the adoption or amendment of a general plan or specific plan. The purpose of this consultation is to preserve or mitigate impacts to cultural places.

***California Health and Safety Code***

Section 7050.5 of the California Health and Safety Code states that it is a misdemeanor to knowingly disturb a human grave. In the event that human graves are encountered, work should halt in the vicinity and the County Coroner should be notified immediately. At the same time, an archaeologist should be contacted to evaluate the situation. If human remains are of Native American origin, the Coroner must notify the NAHC within 24 hours of this identification.

According to Section 15064.5 of the CEQA Guidelines, all human remains are a significant resource. Section 15064.5 of the CEQA Guidelines also assigns special importance to human remains and specifies

procedures to be used when Native American remains are discovered. These procedures are spelled out under Public Resources Code Section 5097.

## **Local**

### ***San Mateo County General Plan***

The General Plan contains the following policies related to historical and archaeological resources that would be applicable to the proposed project:

#### *Historical and Archaeological Resources*

##### 5.15 Character of New Development

- Encourage the preservation and protection of historic resources, districts and landmarks on sites which are proposed for new development.

##### 5.20 Site Survey

- Determine if sites proposed for new development contain archaeological/paleontological resources. Prior to approval of development for these sites, require that a mitigation plan, adequate to protect the resource and prepared by a qualified professional, be reviewed and implemented as a part of the project.

##### 5.21 Site Treatment

- Encourage the protection and preservation of archaeological sites.
- Temporarily suspend construction work when archaeological / paleontological sites are discovered. Establish procedures which allow for the timely investigation and / or excavation of such sites by qualified professionals as may be appropriate.
- Cooperate with institutions of higher learning and interested organizations to record, preserve, and excavate sites.

### ***San Mateo County Local Coastal Program***

The Local Coastal Program (LCP) contains the following policies relating to cultural resources which would be applicable to the proposed project:

#### *Locating and Planning New Development*

##### 1.24 Protection of Archaeological/Paleontological Resources:

- Based on County Archaeology/Paleontology Sensitive Maps, determine whether or not sites proposed for new development are located within areas containing potential



archaeological/paleontological resources. Prior to approval of development proposed in sensitive areas, require that a mitigation plan, adequate to protect the resource and prepared by a qualified archaeologist/paleontologist be submitted for review and approval and implemented as part of the project.

## **ENVIRONMENTAL IMPACTS**

### **Thresholds of Significance**

Based on Appendix G to the State CEQA Guidelines, the proposed project would result in a significant environmental impact on cultural resources if it would:

- a) Cause a substantial adverse change in the significance of an historical resource as defined in Section 15064.5;
- b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;
- c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or
- d) Disturb any human remains, including those interred outside of formal cemeteries.

For purposes of CEQA, to determine whether cultural resources could be significantly affected, the significance of the resource itself must first be determined. Section 15065 of the CEQA Guidelines mandates a finding of significance if a project would eliminate important examples of major periods of California history or prehistory.

Pursuant to Section 15064.5 of the CEQA Guidelines, a project would have a significant effect on the environment if it would “cause a substantial adverse change in the significance of an historical resource.” A “substantial adverse change” means “physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.” Material impairment means altering “...in an adverse manner those characteristics of an historical resource that convey its historical significance and its eligibility for inclusion in the California Register of Historical Resources.”

### ***Historical Resources***

A lead agency must consider a property an historic resource under CEQA if it is eligible for listing in the California Register of Historical Resources (California Register). The California Register is modeled after the National Register of Historic Places (National Register). Furthermore, a property is presumed to be historically significant if it is listed in a local register of historic resources or has been identified as historically significant in an historic resources survey (provided certain criteria and requirements are satisfied) unless a preponderance of evidence demonstrates that the property is not historically or culturally significant.

### *National Register of Historic Places*

The National Register of Historic Places (National Register) is “an authoritative guide to be used by federal, State, and local governments, private groups and citizens to identify the nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment.”<sup>11</sup>

To be eligible for listing in the National Register, a property must be at least 50 years of age and possess significance in American history and culture, architecture, or archaeology. A property of potential significance must meet one or more of four established criteria:<sup>12</sup>

- a. Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
- b. Is associated with the lives of persons important in our past;
- c. 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 values; or
- d. Has yielded, or may be likely to yield, information important in prehistory or history.

### Historic Districts

The National Register includes significant properties, which are classified as buildings, sites, districts, structures, or objects. A historic district “derives its importance from being a unified entity, even though it is often composed of a variety of resources. The identity of a district results from the interrelationship of its resources, which can be an arrangement of historically or functionally related properties.”<sup>13</sup>

A district is defined as a geographically definable area of land containing a significant concentration of buildings, sites, structures, or objects united by past events or aesthetically by plan or physical development.<sup>14</sup> A district’s significance and historic integrity should help determine the boundaries. Other factors include:

- Visual barriers that mark a change in historic character of the area or that break the continuity of the district, such as new construction, highways, or development of a different character;
- Visual changes in the character of the area due to different architectural styles, types, or periods, or to a decline in the concentration of contributing resources;

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<sup>11</sup> Title 36 Code of Federal Regulations Part 60.2.

<sup>12</sup> Title 36 Code of Federal Regulations Part 60.4.

<sup>13</sup> National Register Bulletin #15, page 5.

<sup>14</sup> Title 36 Code of Federal Regulations Part 60.3(d).

- Boundaries at a specific time in history, such as the original city limits or the legally recorded boundaries of a housing subdivision, estate, or ranch; and
- Clearly differentiated patterns of historical development, such as commercial versus residential or industrial.<sup>15</sup>

Within historic districts, properties are identified as contributing and noncontributing. A contributing building, site, structure, or object adds to the historic associations, historic architectural qualities, or archeological values for which a district is significant because:

- It was present during the period of significance, relates to the significance of the district, and retains its physical integrity; or
- It independently meets the criterion for listing as a National Historic Landmark, or as a historic unit of the National Park system.<sup>16</sup>

A non-contributing resource is a building, site, structure, or object that does not add to the historic significance of a property. Non-contributing resources receive no further consideration under CEQA.

According to National Register Bulletin 15, “to be eligible for listing in the National Register, a property must not only be shown to be significant under National Register criteria, but it also must have integrity.” Integrity is defined in National Register Bulletin 15 as “the ability of a property to convey its significance.” Within the concept of integrity, the National Register recognizes seven aspects or qualities that in various combinations define integrity. They are feeling, association, workmanship, location, design, setting, and materials.<sup>17</sup>

In addition to meeting one of the four criteria and retaining physical integrity, a property must be significant within a historic context. National Register Bulletin 15 states that the significance of a historic property can be judged only when it is evaluated within its historic context. Historic contexts are “those patterns, themes, or trends in history by which a specific . . . property or site is understood and its meaning . . . is made clear.”<sup>18</sup> A property must represent an important aspect of the area’s history or prehistory and possess the requisite integrity to qualify for the National Register.

#### *California Register of Historical Resources*

In 1992, Governor Wilson signed Assembly Bill 2881 into law establishing the California Register. The California Register is an authoritative guide used by State and local agencies, private groups and citizens to identify historic resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change.

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<sup>15</sup> National Register Bulletin #21, page 12.

<sup>16</sup> Instructions for Completing National Register Registration Forms

<sup>17</sup> National Register Bulletin #15, pages 44-45.

<sup>18</sup> National Register Bulletin #15, page 7.

The criteria for eligibility of listing in the California Register are based upon National Register criteria. The California Register consists of properties that are listed automatically as well as those that must be nominated through an application and public hearing process. The California Register automatically includes the following:<sup>19</sup>

- California properties listed in the National Register and those formally Determined Eligible for the National Register.
- California Registered Historical Landmarks from No. 0770 onward.
- Those California Points of Historical Interest that have been evaluated by the Office of Historic Preservation (OHP) and have been recommended to the State Historical Resources Commission for inclusion on the California Register.

Historic resources eligible for listing in the California Register may include buildings, sites, structures, objects, and historic districts. The criteria for eligibility of listing in the California Register are based upon National Register criteria, but are identified as 1-4 instead of A-D. To be eligible for listing in the California Register, a property must be at least 50 years of age and possess significance at the local, state, or national level, under one or more of the following four criteria:

1. The resource is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. The resource is associated with lives of persons important to local, California, or national history;
3. The resource 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 values; or
4. The resource has yielded, or may be likely to yield, information important in prehistory or history of the local area, California, or the nation.

A resource less than 50 years of age may be eligible if it can be demonstrated that sufficient time has passed to understand its historical importance.<sup>20</sup> While the enabling legislation for the California Register is less rigorous with regard to the issue of integrity, there is the expectation that properties reflect their appearance during their period of significance.<sup>21</sup>

Impacts to those cultural resources not determined to be significant according to the significance criteria described above are not considered significant for the purposes of CEQA.

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<sup>19</sup> California Public Resources Code (PRC) Section 5024.1.

<sup>20</sup> California Code of Regulations (CCR) Section 4852.

<sup>21</sup> Public Resources Code Section 4852.

### ***Archaeological Resources***

Pursuant to Section 15064.5 of the State CEQA Guidelines, a project would have a significant effect on the environment if it would “cause a substantial adverse change in the significance of an archaeological resource.” Additionally, pursuant to Section 15064.5, archaeological resources, not otherwise determined to be historical resources, may be significant if they are unique. Furthermore, under Public Resources Code Section 21083.2g, a unique archaeological resource is defined as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets one of the following criteria:

1. The resource contains information needed to answer important scientific questions and there is a demonstrable public interest in that information;
2. The resource has a special and particular quality, such as being the oldest of its type or the best available example of its type; or
3. The resource is directly associated with a scientifically recognized important prehistoric or historic event or person.

A non-unique archaeological resource means an archaeological artifact, object, or site that does not meet the above criteria. Non-unique archaeological resources receive no further consideration under CEQA.

### ***Paleontological Resources***

Pursuant to Appendix G of the State CEQA Guidelines, a project would have a significant effect on the environment if it would “directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.”

A paleontological resource may be significant if the resource:

- Provides important information on the evolutionary trends among organisms, relating living organisms to extinct organisms;
- Provides important information regarding development of biological communities or interaction between botanical and zoological biota;
- Demonstrates unusual circumstances in biotic history; or
- Is in short supply and in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and is not found in other geographic localities.

### ***Human Remains***

According to Section 15064.5 of the State CEQA Guidelines, a project would have a significant effect on the environment if it would “disturb any human remains, including those interred outside of formal

cemeteries.” According to Section 15064.5, all human remains are a significant resource and special importance is assigned to human remains where specific procedures are to be used when Native American remains are discovered. These procedures are spelled out under Public Resources Code Section 5097.

### **Project Impacts and Mitigation Measures**

#### ***Impact CULT-1 Historical Resources***

As discussed above and in more detail in Section III (Project Description) of the DEIR, the project site consists of two adjacent parcels separated by a drainage. These parcels are currently utilized as agricultural fields, which are part of a larger ongoing and continuous farming operation; however, the site is not currently developed with any buildings or structures. Review of historical maps revealed no indication of historical buildings within or adjacent to the project area. The discovery of historic-period resources was considered less likely based on studies by Tom Origer & Associates. The indicators for historical sites generally include the following: fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits, such as wells, privy pits, dumps, etc. The field survey confirmed that there are no historical buildings or structures within the study area. As such, there are no known historic or potentially historic resources on the project site. Therefore, the proposed project would have *less-than-significant* impacts to historical resources and no mitigation measures are required.

#### ***Impact CULT-2 Archaeological Resources***

A number of archaeological sites have been discovered throughout the County of San Mateo. Maps of these archaeological sites are kept on file with the San Mateo County Planning and Building Department. The exact locations, however, of these sites have been kept confidential in an effort to protect the areas from both vandalism and artifact hunters.<sup>22</sup>

##### *Site CA-SMA-151*

As stated previously, prehistoric archaeological site CA-SMA-151 extends into the project site. The archaeological site is listed on the National Register, California Register, meets criteria 1 and 2 for a “unique archaeological resource,”<sup>23</sup> and is considered to be an important Native American site, known to contain human burials. As currently proposed, development on the proposed project would occur within the mapped boundaries of archaeological site CA-SMA-151.

The majority of the project site is utilized for agricultural uses. The deepest soil penetration is approximately 18 inches with a ripper for irrigation piping, while normal depth is approximately 12 inches. Although the project site has been slightly disturbed from past agricultural activities, prehistoric

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<sup>22</sup> San Mateo County, Environmental Services Agency, Planning and Building Department, County of San Mateo General Plan, Chapter 5 - Historical and Archaeological Resources, November 1986, page 5.5.

<sup>23</sup> Tom Origer & Associates, Tom Origer, Registered Professional Archaeologist #10333, electronic correspondence, August 12, 2009.

archaeological site CA-SMA-151 is still intact and would be impacted by development of the proposed project. Possible indirect impacts that could occur include unauthorized artifact collection by construction workers and people drawn to this location through development. Therefore, without mitigation, project impacts to archaeological site CA-SMA-151 would be *significant*.

The following mitigation measures would reduce direct and indirect impacts to archaeological site CA-SMA-151 to a *less-than-significant* level:

***Mitigation Measure CULT-2a Archaeological Resources***

All final improvements for the proposed project shall be designed and approved by County staff, as well as a County-approved qualified archaeologist, to avoid impacts to prehistoric archaeological site CA-SMA-151 due to the proposed development. To avoid impacts to CA-SMA-151, the archaeological site shall be excluded from disruption during project construction. Avoidance shall be assured by fencing the site perimeter (to be confirmed by a County-approved qualified archaeologist or licensed surveyor prior to any start of grading) to exclude construction equipment, particularly for grading activities. Fencing shall be removed when all construction activities are finished to avoid drawing attention to the site. Additionally, identified site CA-SMA-151 shall be included in a deed restriction recorded with the County Recorder's Office to further protect this archaeological resource. The deed restriction shall limit uses within the site perimeter of CA-SMA-151 to farming within the existing plow zone and require any ground disturbing activity or development within the cultural site perimeter to be subject to a Coastal Development Permit and meet California Environmental Quality Act (CEQA) requirements for disturbance of a mapped cultural resource.

**OR**

If avoidance of site CA-SMA-151 is impractical or infeasible, a County-approved archaeologist shall be retained to conduct test excavations at the site to determine the integrity of its subsurface deposit. Additionally, a mitigation plan shall be developed by a County-approved archaeologist that addresses specific project impacts and outlines appropriate mitigation measures. At a minimum, the mitigation plan shall include the following:

- Preparation of a research design that outlines regional issues and how they can be addressed through recovery of materials at CA-SMA-151;
- Discussion of field, laboratory, and analytical methods;
- Expected involvement of the Native American community;
- Actions to be taken in the event that human remains are discovered;
- Expected schedule for completing mitigation, including submittal of technical report; and
- Curation plan for recovered materials.

The site may continue to be used for growing crops, provided that no ground disturbing activity such as ripping, plowing, disking, etc. is allowed to extend deeper than the existing plow zone (approximately six inches from the existing grade). However, building on the flake scatter portion of the site would also be allowed as long as the improvements would require no ground disturbing activity below the plow zone. Prior to placing fill materials on top of the area being covered, an archaeological investigation shall be conducted to gather baseline data about the nature of the site.

***Mitigation Measure CULT-2b Archaeological Resources***

A qualified archaeologist, as determined by the County, and a Native American shall monitor future ground-disturbing activities in the monitoring area north of site CA-SMA-151.

***Unrecorded Archaeological Deposits***

There is a possibility of accidental discovery and disturbance to unrecorded archaeological deposits found during excavation and grading of the project, including areas where offsite construction is necessary for infrastructure implementation. Without mitigation, project impacts on previously unidentified archaeological deposits would be ***potentially significant***.

However, with implementation of the following mitigation measure, impacts to unrecorded archaeological resources would be reduced to a ***less-than-significant*** level:

***Mitigation Measure CULT-2c Archaeological Resources***

In the event that additional subsurface archaeological resources are encountered during the course of grading and/or excavation, all development shall temporarily cease in these areas until the County Planning Department is contacted and agrees upon a qualified archaeologist to be brought onto the project site to properly assess the resources and make recommendations for their disposition. Construction activities could continue in other areas. If any findings are determined to be significant by the archeologist, they shall be subject to scientific analysis; duration/disposition of archaeological specimens as agreed to by the Native American community, land owner, and the County; and a report prepared according to current professional standards.

***Impact CULT-3 Paleontological Resources***

A significant adverse effect could occur if grading or excavation activities associated with the proposed project would disturb paleontological resources or geologic features which presently exist within the project site. Although no known paleontological resources have been identified on the project site, it is possible that the subsurface sediments could contain fossil-bearing or undiscovered paleontological resources. There is still the potential for these resources to be encountered during the grading and construction phases of the project, including areas where any offsite construction is necessary for implementation of infrastructure. Without proper care during the grading and excavation phases of the proposed project, unknown paleontological resources could be damaged or destroyed. Without mitigation, project impacts to unknown paleontological resources would be ***potentially significant***.



The following mitigation measure would reduce impacts to unknown paleontological resources to a ***less-than-significant*** level.

***Mitigation Measure CULT-3 Paleontological Resources***

A qualified paleontologist, as determined by the County, shall monitor future ground-disturbing activities in native soil both onsite and offsite as related to the project. In the event that paleontological resources are discovered during grading and/or excavation, the monitor shall be empowered to temporarily halt or divert construction in the immediate vicinity of the discovery while it is evaluated for significance. Construction activities could continue in other areas. If any findings are determined to be significant by the paleontologist, they shall be subject to scientific analysis, professional museum curation, and a report prepared according to current professional standards.

***Impact CULT-4 Human Remains***

A significant impact would occur if the project disturbed any human remains, including those interred outside of formal cemeteries. Human remains have been identified within recorded resources located in the vicinity of the project site. Mitigation measures have been included under Impact CULT-2 (Archaeological Resources) outlined above to reduce project impacts to CA-SMA-151 to a less-than-significant level. It is possible that additional unknown human remains could occur on the project site or in areas where any offsite construction is necessary for implementation of infrastructure. If proper care is not taken during the project's grading and excavating phases, damage to or destruction of these unknown remains could occur. Procedures of conduct following the discovery of human remains have been mandated by Health and Safety Code Section 7050.5, Public Resources Code Section 5097.98 and the California Code of Regulations Section 15064.5(e) (CEQA). According to the provisions in CEQA, if human remains are encountered at the site, all work in the immediate vicinity of the discovery shall cease and necessary steps to ensure the integrity of the immediate area shall be taken. The County Coroner shall be notified immediately. The Coroner shall then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner shall notify the NAHC within 24 hours, who will, in turn, notify the person the NAHC identifies as the most likely descendent (MLD) of any human remains. Further actions shall be determined, in part, by the desires of the MLD. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, the owner shall, with appropriate dignity, re-intern the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by the NAHC. The proposed project is required to comply with these procedures of conduct following the discovery of human remains and, therefore, project impacts on human remains would be ***less than significant*** and no mitigation measures are required.

## CUMULATIVE IMPACTS

Implementation of the project in combination with the related projects (see Table III-1, Related Projects List) would result in the development of mixed-use, residential, commercial, industrial, and park land uses in unincorporated County of San Mateo, City of Pacifica, City of San Bruno, City of Half Moon Bay, and the Town of Hillsborough. Impacts to cultural resources tend to be site-specific and are assessed on a site-by-site basis. The extent of the cultural resources (if any) that occur at the sites of the related projects is unknown, and thus, it is not known whether any of the related projects would result in significant impacts to cultural resources. However, similar to the proposed project, such determinations would be made on a case-by-case basis and, if necessary, the applicants of the related project would be required to implement the appropriate mitigation measures. Thus, given the project's cultural resources impacts can be completely mitigated, the proposed project's impacts to cultural resources would not be cumulatively considerable. Therefore, cumulative impacts to cultural resources would be *less than significant*.

## LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project-specific impacts to cultural resources would be mitigated to a level of *less than significant*.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### F. GEOLOGY & SOILS

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#### INTRODUCTION

This section of the Draft Environmental Impact Report (DEIR) addresses the subject of geology and soils with respect to the proposed Big Wave Wellness Center and Office Park project (“proposed project”) and includes an assessment of potential impacts associated with the development of the proposed project on the geology and soils of the project site. The following discussion is based, in part, on the findings and conclusions of a third party geotechnical/geological peer review conducted by Treadwell & Rollo, Inc. (T&R). This section is based on the following reports (refer to Appendix F of the DEIR):

- *Geotechnical Investigation, Proposed 5-Acre Commercial Development West Corner of Airport Street and Stanford Avenue, Princeton by the Sea, California*, prepared by Bay Area Geotechnical Group (BAGG), June 13, 2000;
- *Preliminary Geotechnical Engineering Investigation, Proposed 10-Acre<sup>1</sup> Commercial Development South of Airport Street, APN 047-311-060, Princeton by the Sea, California*, prepared by BAGG, May 7, 2002;
- *Third Party Geotechnical Review, Big Wave Office Park and Wellness Center, Princeton by the Sea, California*, prepared by T&R, April 3, 2007;
- *Proposal, Final Geotechnical Investigation, Proposed Big Wave Office Park and Wellness Center Airport Street Northwest of Stanford Avenue, APN 047-311-060 (Office Park) and APN 047-312-040 (Wellness Center), Princeton-By-The-Sea, California*, prepared BAGG, July 10, 2008;
- *Geotechnical Consultation, Proposed Big Wave Office Park and Wellness Center, Airport Street Northwest of Stanford Avenue, APN 047-311-060 (Office Park) and APN 047-312-040 (Wellness Center), Princeton-By-The-Sea, California*, prepared by BAGG, July 11, 2008 (in response to T&R’s April 3, 2007 Third Party Geotechnical Review);
- *Third Party Geotechnical Review, Big Wave Office Park and Wellness Center, Princeton by the Sea, California*, prepared by T&R, April 22, 2009; and
- *Third Party Geotechnical Review, Big Wave Office Park and Wellness Center, Princeton by the Sea, California*, prepared by T&R, May 19, 2009.

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<sup>1</sup> *At the time the preliminary investigation was performed, 100-foot-wide set backs from the existing wetlands had been specified, reducing the available building space from 14 acres to approximately 10 acres.*

T&R reviewed the above-listed BAGG reports to verify their adequacy, completeness, and accuracy for use in this EIR. T&R did not perform any additional onsite geologic mapping, drilling borings, laboratory testing, or any type of subsurface exploration for this analysis.

## METHODOLOGY

The methodology used to determine the environmental setting and impacts of the proposed project to geology and soils included the following:

- review of previous geologic and geotechnical reports prepared for the site;
- review of local geologic and seismicity data for the site vicinity;
- completion of limited exploration of the subsurface soil and bedrock conditions by excavating 23 test pits on the project site (fourteen on the northern parcel [twelve borings to depths ranging from 17 to 25 feet, and two deep borings to depths of 50 feet] and nine on the southern parcel [to depths ranging from 17.5 to 41.5 feet]);
- evaluation of the engineering characteristics of the subsurface soils by performing laboratory tests and engineering analyses; and
- preparation of report as a summary of findings and to present preliminary conclusions and recommendations.

## ENVIRONMENTAL SETTING

### Regional and Local Setting

The project site is within the Coast Ranges geomorphic province<sup>2</sup>, which is characterized by northwest trending valleys and ridges. These are controlled by a series of folds and faults that resulted from the collision of the Farallon and North American tectonic plates and subsequent strike-slip faulting along the San Andreas Fault zone. The Coast Ranges can be further divided into the northern and southern ranges, which are separated by the San Francisco Bay. The Southern Coast Ranges run north and south between San Francisco Bay to the north, the Central Valley to the east, Transverse Ranges to the south, and the Pacific Ocean to the west.

The project area is situated on a structural block west of the San Andreas and Pilarcitos faults.<sup>3</sup> The Half Moon Bay Terrace Formation underlies the Half Moon Bay Airport, as well as the agricultural fields to the east and west of State Route 1 (SR 1; Cabrillo Highway). This formation consists of unconsolidated deposits of sand, silt, and clay and serves as the principal water-bearing zone in the Moss Beach and El Granada area.

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<sup>2</sup> *A geomorphic province is an area that possesses similar bedrock, structure, history, and age.*

<sup>3</sup> *Brady/LSA, 2002, Fitzgerald Marine Reserve Master Plan. Part Two: Environmental Setting. May 2002. Woyshner, M., Hedlund, C., and Hecht, B., 2002, Ibid.*

Soils within the project area include coarse-grained, older alluvial fan and stream terrace deposits (Qof) of the Pleistocene Age, consisting of poorly consolidated gravel, sand, and silt, coarser grained at heads of old fans and in narrow canyons, and younger (outer) alluvial fan deposits (Qyfo) of the Holocene age, consisting of unconsolidated fine sand, silt, and clayey silt (refer to Figure IV.F-1).

The project site, which is currently used for agricultural purposes, is located to the west of Airport Street, north of the Princeton/Pillar Point Harbor area. The project site encompasses a total of 19.4 acres on two parcels, including: a northern parcel (14.25 acres) and a southern parcel (5.28 acres). A natural drainage swale (intermittent stream) is at a low point between the two parcels and leads to the Pillar Point Marsh, a salt marsh habitat influenced by both tidal action and freshwater runoff from its tributary drainage area. Both portions of the site have a relatively steep topography change at their western edges, which approach the marsh. Steeper topographic changes also exist along the northern edge of the southern parcel and the southern edge of the northern parcel, where the parcels respectively border the drainage swale. Elevations of the northern parcel range from 11.5 to 27.7 feet National Geodetic Vertical Datum (NGVD),<sup>4</sup> while elevations of the southern parcel range from 8.9 to 18.3 feet NGVD.

### **Project Site Geology**

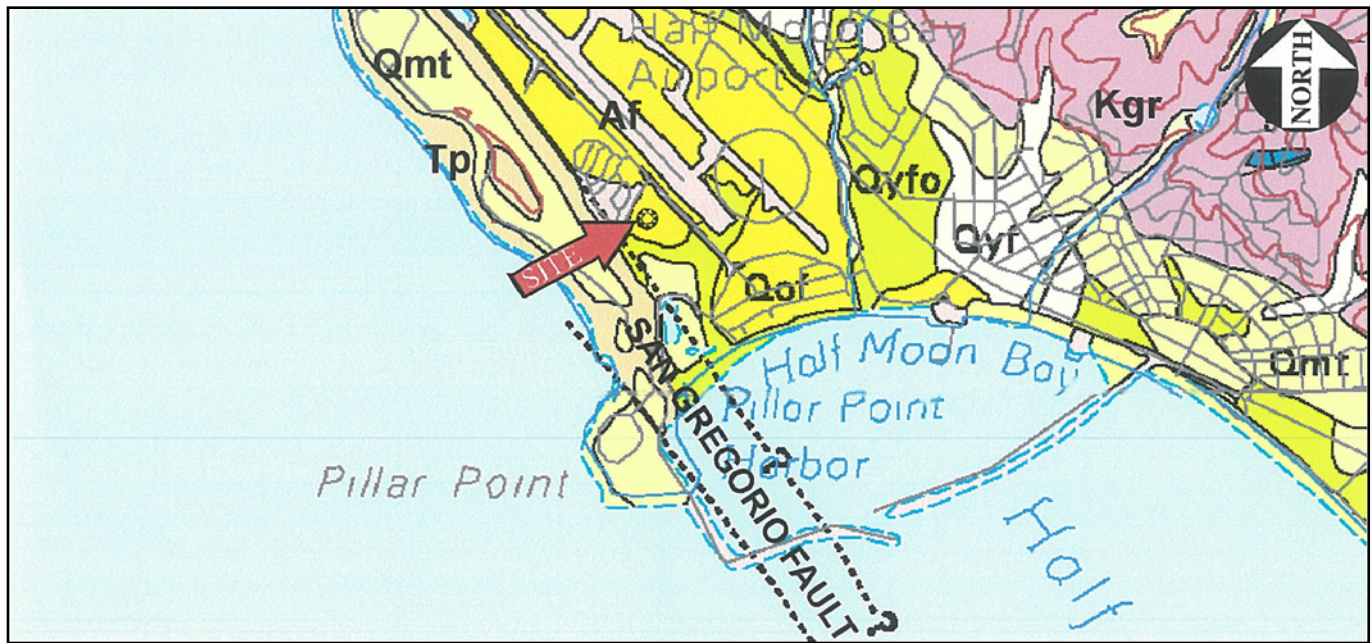
According to the U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Web Soil Survey<sup>5</sup> for the County of San Mateo, two soil types underlay the site (refer to Figure IV.F-2): Denison clay loam, “nearly level” (DcA) and Denison clay loam, “nearly level and imperfectly drained” (DdA). Using the NRCS Web Soil Survey, percentages of each soil type on the project site were estimated. The northern parcel contains 96.7 percent DcA and 3.3 percent DdA, with the DdA portions at the low-lying southwest corner and eastern edges near the drainage swale. The southern parcel contains predominantly DdA soils at 75.9 percent; DcA soils comprise 24.1 percent of the site on the eastern edge of the site.

Field exploration was performed at the southern parcel in 2000 and the northern parcel in 2002. The exploration included performing 23 borings on the project site (fourteen on the northern parcel [to depths ranging from 17 to 50 feet below the existing ground surface (bgs)] and nine on the southern parcel [to depths ranging from 17.5 to 41.5 feet bgs]).

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<sup>4</sup> *The topographic elevations are based on Site Topography by MacLeod & Associates dated October 14, 2005 and are benchmarked to the San Mateo County Datum. San Mateo County Datum is identical to the National Geodetic Vertical Datum of 1929 (NGVD 29).*

<sup>5</sup> *United States Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey, accessed by CAJA Staff at <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm> on April 29, 2009.*



### LEGEND

**Qyfo Younger (outer) alluvial fan deposits (Holocene)**

Unconsolidated fine sand, silt, and clayey silt.

**Qmt Marine terrace deposits (Pleistocene)**

Poorly consolidated and poorly indurated well- to poorly-sorted sand and gravel. Thickness variable but probably less than 30 m.

**af Artificial fill (Historic)**

Loose to very well consolidated gravel, sand, silt, clay, rock fragments, organic matter, and man-made debris in various combinations. Thickness is variable and may exceed 30 m in places. Some is compacted and quite firm, but fill made before 1965 is nearly everywhere not compacted and consists simply of dumped materials.

**Qof Coarse-grained older alluvial fan and stream terrace deposits (Pleistocene)**

Poorly consolidated gravel, sand, and silt, coarser grained at heads of old fans and in narrow canyons.

**Qyf Younger (inner) alluvial fan deposits (Holocene)**

Unconsolidated fine- to coarse grained sand, silt, and gravel, coarser grained at heads of fans and in narrow canyons.

**Tp Purisima Formation (Pliocene and upper Miocene)**

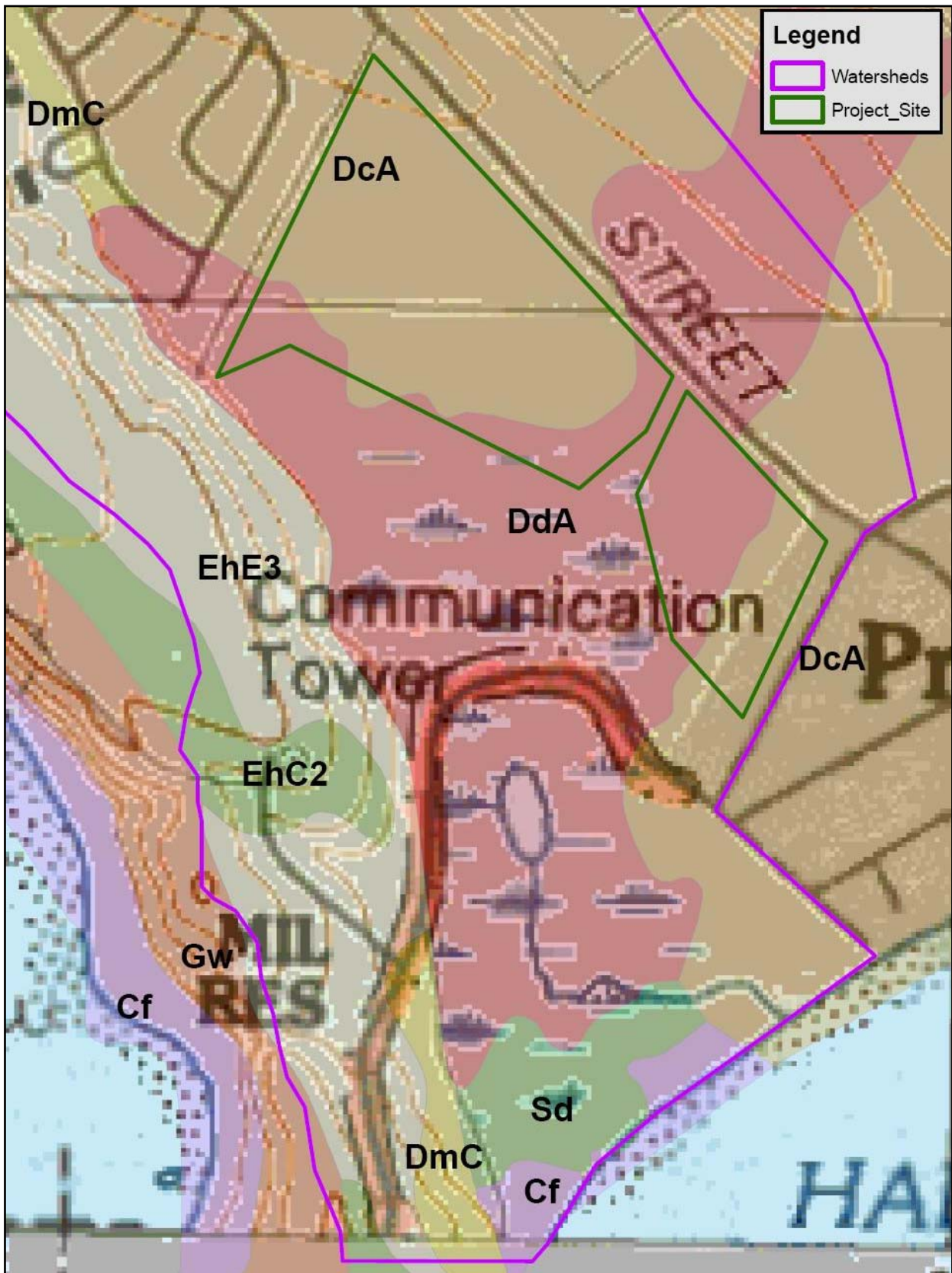
Predominantly gray and greenish-gray to buff finegrained sandstone, siltstone, and mudstone, but also includes some porcelaneous shale and mudstone, chert, silty mudstone, and volcanic ash. West of Portola Valley, this unit consists of fine- to medium-grained silty sandstone.

**Kgr Granitic rocks of Montara Mountain**

Very light gray to light brown, medium- to coarsely crystalline foliated granitic rock, largely quartz diorite with some granite. These rocks are highly fractured and deeply weathered. Foliation is marked by an alignment of dark minerals and dark dioritic inclusions. Tabular bodies of aplite and pegmatite generally parallel foliation.

REFERENCE: *GEOLOGY OF THE ONSHORE PART OF SAN MATEO COUNTY, CALIFORNIA: A DIGITAL DATABASE, PAMPHLET DERIVED FROM DIGITAL OF98-137*, by Brabb, E.E., Gravmer, R.W., And Jones, D.L. U.S. Geological Survey, 1998.





Source: U.S. Department of Agriculture, Natural Resources Conservation Service, 2006, Soil Survey (SSURGO) database for San Mateo Area, California, ca637, December 14, 2006. USGS, 1993, Montara Mountain, CA, 7.5' Quadrangle Sheet.



CHRISTOPHER A. JOSEPH & ASSOCIATES  
Environmental Planning and Research

Figure IV.F-2  
Project Site Soils Map

Test borings indicate that several saturated, medium dense, granular soil layers are present at the site and that the project site is underlain by a wide variety of soils and is blanketed by approximately 12 inches of soft and wet soils. The near-surface soil encountered in the test borings at the northern and southern parcels consisted primarily of medium to high plasticity clay and low to high plasticity clay, respectively.

The northern parcel is generally underlain by clay, sand, and gravel, with a fines content ranging from 4 to 15 percent. Test borings indicate that soils at the northern parcel generally consist of extremely heterogeneous lenses of soft to very stiff lean clays, sandy lean clays, lean to fat clays, and loose to very dense clayey sands, silty sands, clayey gravels, and poorly-to well-graded sands with varying fines content, including clay, silt, and gravel.

Soils at the southern parcel generally consist of clay and sand, with a fines content ranging from 4 to 42 percent. Test borings indicate that soils at the southern parcel consist of extremely heterogeneous lenses of soft to very stiff lean clays, sandy lean clays, fat clays, and loose to very dense clayey sands, silty sands, and poorly graded sands.

### ***Groundwater***

Groundwater was encountered on the project site during subsurface site drilling, at depths ranging from 5.5 to 7.5 and 3 to 10 feet bgs on the northern parcel and southern parcel, respectively. Groundwater levels fluctuate as a result of seasonal changes.

### **Seismicity and Seismic Hazards**

Seismic hazards include ground motion, ground surface fault rupture, liquefaction, settlement, lateral spreading, and seismically-induced slope instabilities. Seismic hazards, including the potential for fault rupture, cyclic densification, liquefaction, lateral spreading, and sand boils are primary geotechnical concerns for the project site.

The project site is located in the seismically active region of the San Francisco Bay Area and active earthquake faults have been recognized within the immediate site area. This region has the highest rate of seismic moment release per square mile of any urban area in the United States. The numerous faults in the region include active, potentially active, and inactive faults. These major groups are based on criteria developed by the California Geological Survey (CGS), formerly known as the California Division of Mines and Geology, for the Alquist-Priolo Earthquake Fault Zoning Program. By definition, an active fault is one that has had surface displacement within the Holocene epoch (about the last 11,000 years). A potentially active fault is a fault that has demonstrated surface displacement during the Quaternary period (the last 1.6 million years). Inactive faults are faults that have not had any movement in the last 1.6 million years. Earthquake Fault Zones, formerly known as Special Studies Zones, have been established along active known faults in California in accordance with the Alquist-Priolo Earthquake Fault Zoning Act passed in 1972.



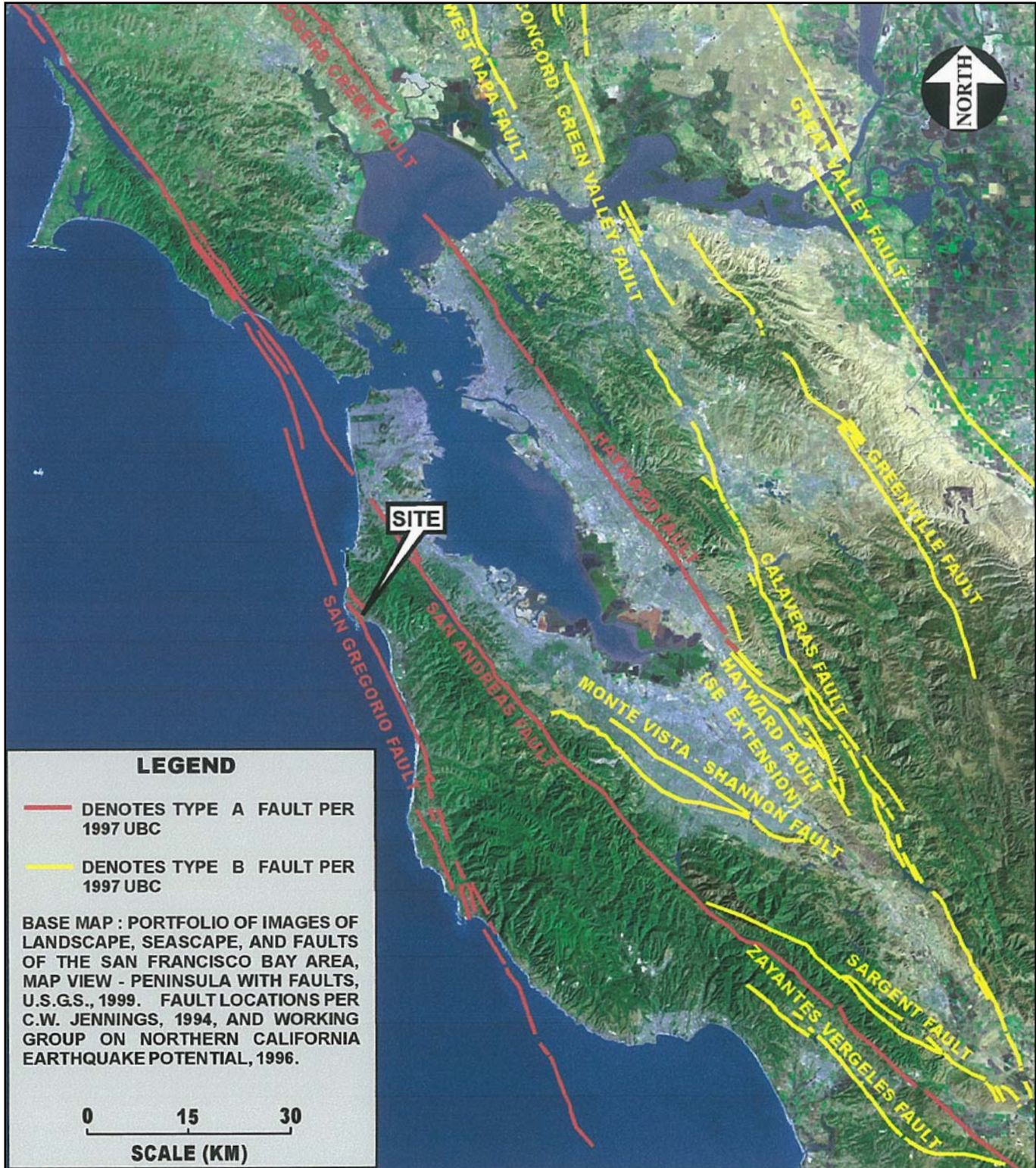
The project site is within a region characterized by the seismically active San Andreas Fault system, which is the principal tectonic element of the North American/Pacific plate boundary in California. Movements along this plate boundary in the Northern California region are primarily translational, resulting in mostly right-lateral strike-slip faulting along the San Andreas Fault system. Seismic and aseismic slip on the San Andreas Fault system is partitioned into subsidiary structures that distribute plate movements across the Coast Ranges province, between the off-shore Continental Shelf areas to the west and the Sacramento Valley to the east.

The nearest major active fault to the project site is the San Gregorio Fault, located approximately 500 feet (0.15 kilometers) to the southwest of the buildable portion of the project site. No subsurface trenching was performed on the project site to locate the San Gregorio fault. Additionally, the San Andreas Fault is located approximately 6.7 miles (10.8 kilometers) northeast of the project site. Many large historical earthquakes have occurred on active faults associated with the regional stress field of the San Andreas Fault Zone. A list of major active faults in the region, including their distances from the project site and maximum moment magnitudes ( $M_w$ ), is provided in Table IV.F-1. Moment Magnitude is an energy-based scale and provides a physically meaningful measure of the size of a faulting event. Moment magnitude is directly related to average slip and fault rupture area. Other faults in the area, which are generally considered inactive, include the Pilarcitos and San Mateo Creek Faults, located approximately 4.2 miles (6.7 kilometers) and 5.5 miles (8.9 kilometers) northeast of the project site, respectively. Refer to Figure IV.F-3.

**Table IV.F-1  
Regional Active Faults and Seismicity**

<b>Fault Name</b>	<b>Distance from Site (km)</b>	<b>Direction from Site</b>	<b>Maximum Moment Magnitude</b>
San Andreas - 1906 Rupture	10.8	Northeast	7.9
San Andreas – Peninsula	10.8	East	7.2
San Gregorio – North	0.15	Southwest	7.3
<i>Source: BAGG 2000, 2002.</i>			

Since 1800, four major earthquakes have been recorded on the San Andreas Fault in the greater San Francisco Bay and Monterey Bay areas. In 1836, an earthquake with an estimated maximum intensity of VII on the Modified Mercalli (MM) scale occurred east of Monterey Bay on the San Andreas Fault. The estimated  $M_w$  for this earthquake is approximately 6.25. In 1838, an earthquake occurred with an estimated MM intensity of about VIII-IX, corresponding to a  $M_w$  of about 7.25. The San Francisco earthquake of 1906 caused the most significant damage in the history of the San Francisco Bay area in terms of loss of lives and property damage. This earthquake created a 400-kilometer surface rupture along the San Andreas fault from Shelter Cove to San Juan Bautista. It had a maximum MM intensity of XI, a  $M_w$  of about 7.9, and was felt 560 kilometers away in Oregon, Nevada, and Los Angeles. The most recent large earthquake to affect the Bay Area was the Loma Prieta earthquake of October 17, 1989 with a  $M_w$  of 6.9. The epicenter of this earthquake was in the Santa Cruz Mountains.



In 1999, the Working Group on California Earthquake Probabilities (WGCEP, 1999) at the U.S. Geologic Survey (USGS) predicted a 70 percent probability of a  $M_w$  of 6.7 or greater earthquake occurring in the San Francisco Bay Area by the year 2030. The WGCEP revised their estimate in 2003 to a 62 percent probability of a  $M_w$  of 6.7 or greater earthquake during the period of 2003 to 2032. WGCEP 2007 was commissioned to develop an updated, statewide forecast, the latest result of which is the Uniform California Earthquake Rupture Forecast (UCERF), Version 2.<sup>6</sup> Organizations sponsoring WGCEP 2007 include the USGS, CGS, and the Southern California Earthquake Center (SCEC). The comprehensive new forecast builds on previous studies and also incorporates abundant new data and improved scientific understanding of earthquakes.<sup>7</sup> The WGCEP 2007 estimate predicts a 63 percent probability of a  $M_w$  of 6.7 or greater earthquake occurring in the San Francisco Bay Area by the year 2037. More specific estimates of the probabilities for select faults in the Bay Area are presented in Table IV.F-2.

**Table IV.F-2**  
**WGCEP Estimates of 30-Year Probability of a**  
**Moment Magnitude ( $M_w$ ) 6.7 or Greater Earthquake for Select Faults**

Fault Segment	Probability (WGCEP, 1999) (percent)	Probability (WGCEP, 2003) (percent)	Probability (WGCEP, 2007) (percent)
San Andreas	21	21	21
San Gregorio	10	10	6

*Source: USGS, CGS, SCEC. The Uniform California Earthquake Rupture Forecast, Version 2 (UCERF 2), prepared by 2007 Working Group on California Earthquake Probabilities. Accessed by CAJA Staff at [http://pubs.usgs.gov/of/2007/1437/of2007-1437\\_text.pdf](http://pubs.usgs.gov/of/2007/1437/of2007-1437_text.pdf).*

### **Ground Motion**

Ground motion is generated during an earthquake as two blocks of the Earth's crust slip past each other. In general, ground motion is greatest near the epicenter, increases with increasing magnitude, and decreases with increasing distance. However, the ground motion measured at a given site is influenced by a number of criteria, including depth of the epicenter, proximity to the projected or actual fault rupture, fault mechanism, duration of shaking, local geologic structure, source direction of the earthquake, underlying earth material, and topography.

Earthquake magnitude is a quantitative measure of the strength of an earthquake or the strain energy released by it, as determined by seismographic or geologic observations. Earthquake intensity is a qualitative measure of the effects a given earthquake has on people, structures, or objects, which varies to place to place within the area affected by the earthquake. Earthquake magnitude is measured on the Richter scale or as  $M_w$ , and intensity is described by the MM intensity scale. A related form of

<sup>6</sup> USGS, CGS, SCEC. *The Uniform California Earthquake Rupture Forecast, Version 2 (UCERF 2), prepared by 2007 Working Group on California Earthquake Probabilities.* 2008. Accessed by CAJA Staff at [http://pubs.usgs.gov/of/2007/1437/of2007-1437\\_text.pdf](http://pubs.usgs.gov/of/2007/1437/of2007-1437_text.pdf).

<sup>7</sup> USGS, CGS, SCEC. *Fact Sheet - Forecasting California's Earthquakes-What Can We Expect in the Next 30 Years?* 2008. Accessed by CAJA Staff at <http://pubs.usgs.gov/fs/2008/3027/fs2008-3027.pdf>.

measurement is peak ground acceleration, which is a measure of ground shaking during an earthquake. Peak ground acceleration values are reported in units of gravity (g). Structures founded on thick soft soil deposits are more likely to experience more destructive shaking, with higher amplitude and lower frequency, than structures founded on bedrock. In addition, thick soft soil deposits at far distances from earthquake epicenters may result in seismic accelerations significantly greater than expected in bedrock at the same distance. As a general rule, the severity of ground shaking increases with proximity to the epicenter of the earthquake. The Probabilistic Seismic Hazard Analysis (PSHA) from CGS estimates a peak horizontal ground acceleration at the project site having a 10 percent probability of exceedance in 50 years to be 0.595g.<sup>8</sup>

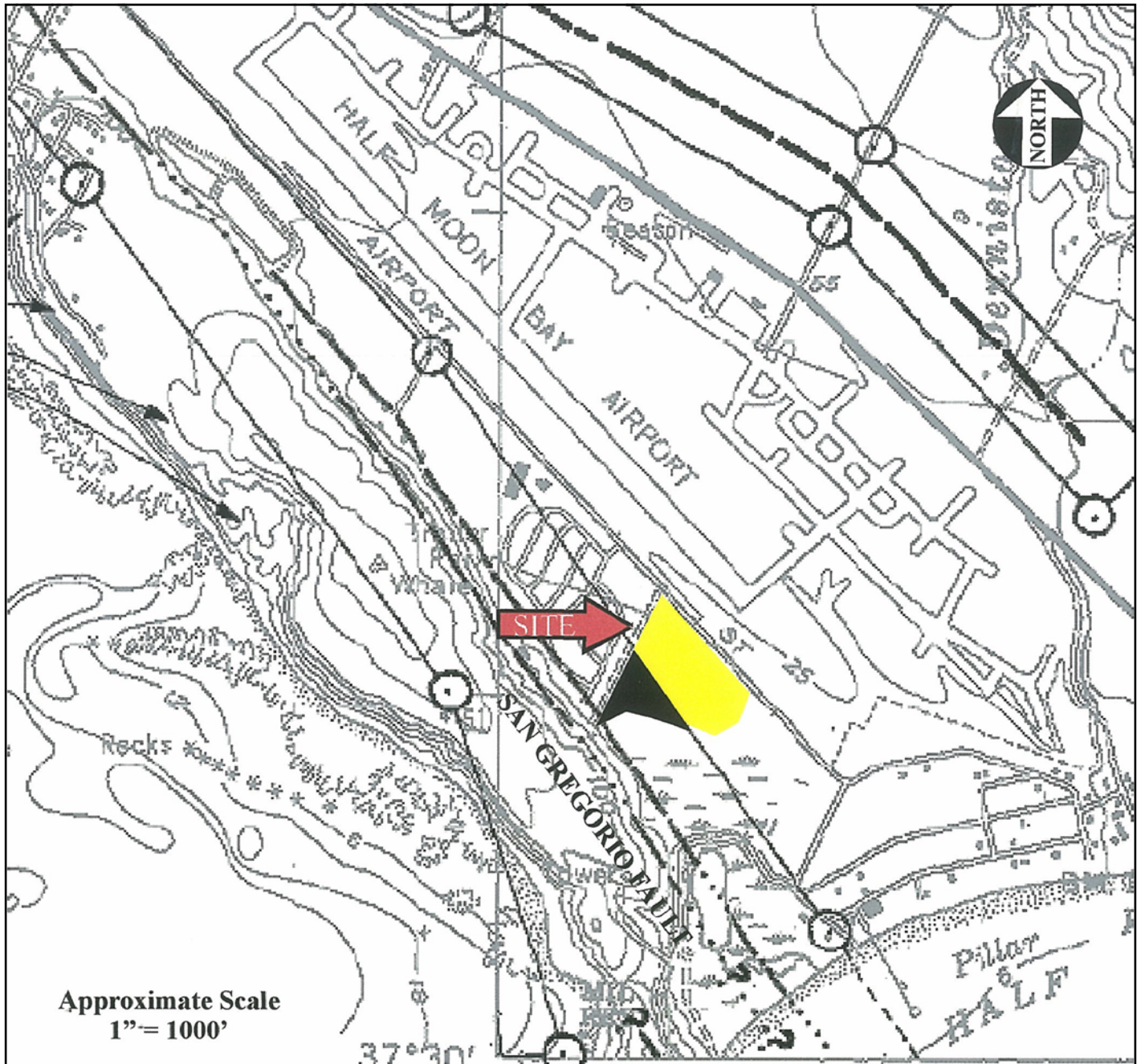
Ground shaking is a seismic hazard that can cause damage to structures. As described above, several faults exist within close proximity of the project site. Maps prepared by Association of Bay Area Governments (ABAG, 2001) indicate the site will experience a MM Intensity of “X”, which could result in “very violent” shaking and “extreme damage” from a  $M_w$  7.3 earthquake on a nearby portion of the San Gregorio fault. The ABAG maps also indicate that during a  $M_w$  7.9 earthquake on a nearby portion of the San Andreas fault, the site could experience “violent” shaking and “heavy damage”. As such, the project site could be subjected to severe ground shaking in the event of a major earthquake on any of the faults referenced above or other faults in northern California. However, the risk of hazard associated with ground shaking at the project site is comparable to the risk experienced in the project area in general. This is common to virtually all developments in the greater San Francisco Bay Area.

### ***Fault Rupture***

Ground surface rupture results when the movement along a fault is sufficient to cause a gap or break along the upper edge of the fault zone on the surface. Damage due to surface rupturing is limited to the actual location of the fault line break, unlike damage from ground shaking, which can occur at great distances from the fault. The northwest corner of the northern parcel is within an Earthquake Fault Zone, as defined by the Alquist-Priolo Earthquake Fault Zoning Act (refer to Figure IV.F-4). No subsurface trenching was performed to locate the San Gregorio fault. The southern parcel is not located within an Earthquake Fault Zone and no known active or potentially active faults exist on this parcel. Since the southern parcel is located within a seismically active area, the remote possibility exists for future faulting in areas where no faults previously existed. However, based on the proximity of the known fault traces, their orientation and trend, and their degree of activity, the potential for fault rupture at the southern parcel is low.

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<sup>8</sup> California Geological Survey. *Probabilistic Seismic Hazards Mapping Ground Motion Page*. Accessed by CAJA Staff at <http://redirect.conservation.ca.gov/cgs/rghm/pshamap/pshamap.asp> on June 15, 2009.



Site shaded black is a wetland zone not to be constructed. In the field wetlands setback line runs very close to the diving line between the black and yellow areas of the site.

**REFERENCE:** Reproduced with permission, California Division of Mines and Geology CD-ROM 2000-004 (2000), Official Map of Alquist-Priolo Earthquake Fault Zones, Montara Mountain Quad, 1982.



### *Seismic-Related Ground Failure*

In addition to triggering landslides, strong ground shaking caused by large earthquakes can induce ground failures, such as cyclic densification and liquefaction. A site's susceptibility to these hazards relates to the site topography, soil conditions, and/or depth of groundwater, which are discussed above. Potential liquefaction-induced hazards include lateral spreading, ground settlement due to post-liquefaction reconsolidation, and surface manifestations such as sand boils and lurch cracking.

#### *Cyclic Densification*

Cyclic densification is a phenomenon in which non-saturated, cohesionless soil is compacted by earthquake vibrations, causing differential settlement. Loose layers of sandy soil above the groundwater table that may densify during a major earthquake are present at the project site. As such, the project site could be subject to differential ground settlement resulting from cycling densification of the loose sandy soils. The settlement analysis performed for the site estimates that differential settlement of the ground surface would be between 0.5 and 3.5 inches at the northern parcel. A preliminary evaluation of cyclic densification at the southern parcel indicates that ground settlement due to cyclic densification would be on the order of approximately 0.25 inches.

#### *Liquefaction*

Liquefaction is a phenomenon in which saturated, cohesionless soil experiences a temporary loss of strength due to the buildup of excess pore water pressure, especially during cyclic loading such as that induced by earthquakes. Soils most susceptible to liquefaction are loose, clean, saturated, uniformly graded, fine-grained sands. Silty sands may also be susceptible to liquefaction during strong ground shaking, although to a lesser extent. As stated previously, both parcels are underlain by layers of saturated loose to medium dense, sandy soil that are susceptible to soil liquefaction and liquefaction is likely to occur at the site. It is preliminarily estimated that up to 6 inches of liquefaction-induced ground surface settlement may occur at the northern parcel with differential settlement of about 3 inches across a 50-foot horizontal distance. At the southern parcel, up to approximately 2.5 inches of liquefaction-induced ground settlement is estimated to occur with differential settlement of about 1.5 inches across a 50-foot horizontal distance.

#### Lateral Spreading

Lateral spreading typically occurs as a form of horizontal displacement of relatively flat-lying alluvial material toward an open or "free" face such as an open body of water, channel, or excavation. Generally in soils, this movement is due to failure along a weak plane, and may often be associated with liquefaction. As cracks develop within the weakened material, blocks of soil displace laterally toward the open face. Cracking and lateral movement may gradually propagate away from the face as blocks continue to break free. Lateral spreading can occur within areas having potential for liquefaction. A preliminary evaluation for the potential for lateral spreading to occur at the site was performed by evaluating the location, thickness, and relative density of the potentially liquefiable soil layers, in addition

to site topography and locations of free-face conditions, such as creek banks. While existing subsurface information indicates liquefaction is likely to occur at the site, based on the thickness and the relative density of the potentially liquefiable soil, the potential for lateral spreading to occur at the project site during seismic events is considered to be low.

### Surface Manifestations

Surface manifestations, including sand boils or lurch cracking, are other types of liquefaction-induced ground failure that could potentially occur at the project site. A sand boil occurs when sand and water come out onto the ground surface during an earthquake as a result of liquefaction at shallow depth. Lurch cracking is the cracking of the ground surface in soft, saturated material as a result of earthquake-induced ground shaking. These types of ground failures are dependent on the thickness of the liquefiable soil layer relative to the thickness of the overlying non-liquefiable material. Because the project site's potentially liquefiable soil is relatively shallow, the potential for surface manifestations as a result of liquefaction in the form of sand boils and lurch cracking is high.

### ***Landslides and Slope Instabilities***

Steep slopes, shallow soil development, excess water, and lack of shear strength in an area can result in slope instabilities and landslides. Ground shaking during an earthquake may lead to seismically induced landslides, but most slides result from the weight of rain saturated soil and rock exceeding the shear strength of the underlying material.

As previously discussed and provided in Section III (Project Description) of the DEIR, the project site is relatively flat with surface elevations ranging from 9.0 to 27.7 feet National Geodetic Vertical Datum (NGVD), with gentle slopes to the south and west. Pursuant to the Natural Hazards Map of the County's General Plan<sup>9</sup>, the project site is not located within the boundaries of an "Area of High Landslide Susceptibility." Additionally, there are no portions of the project site mapped by the CGS in accordance with the Seismic Hazard Mapping Act as a seismically-induced landslide hazard area.<sup>10</sup> As such, the probability of seismically-induced landslides and slope instabilities affecting the project site is considered to be remote, due to the relatively flat nature of the site and surrounding area.

### ***Expansive Soil***

Expansive soil undergoes large volume changes during changes in moisture content (i.e., shrinks when dried and expands when wetted). Clay mineralogy, clay content, and porosity of the soil influence the change in volume. The most common cause of changing soil moisture content is seasonal fluctuation due

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<sup>9</sup> County of San Mateo, Planning & Building Department, *San Mateo County General Plan, General Plan Maps, Natural Hazards*, accessed by CAJA Staff at [http://www.sforoundtable.org/P&B/gp/maps/gp%20natural%20hazards%20\(11x17\).pdf](http://www.sforoundtable.org/P&B/gp/maps/gp%20natural%20hazards%20(11x17).pdf) on June 19, 2009.

<sup>10</sup> State of California, Department of Conservation, *California Geological Survey, Seismic Hazards Zonation Program*, accessed by CAJA Staff at <http://www.conservation.ca.gov/cgs/shzp/Pages/Index.aspx> on June 19, 2009.

to rainfall; however, improper surface drainage or underground water pipe leaks may cause expansive soils to shrink and swell. The shrinking and swelling caused by expansive soil can cause damage to building foundations, concrete slabs, hardscape, pavement, underground utilities, and other surface or near-surface improvements due to differential ground movement induced by changes in soil moisture content.

As previously discussed, the near-surface soil encountered in the test borings at the northern and southern parcels consisted primarily of medium to high plasticity clay and low to high plasticity clay, respectively. The project site is blanketed by about 1.5 to 2.5 feet of potentially expansive clayey soil. The presence of expansive near-surface soil is a primary geotechnical concern for the project site.

### ***Soil Erosion***

As discussed above, two soil types underlay the site: Deninson clay loam, “nearly level” (DcA) and Denison clay loam, “nearly level and imperfectly drained” (DdA). Per Section IV.H (Hydrology & Water Quality), based on the moderate slopes and topography onsite, the erosion potential of the above soils is none to slight.

## **REGULATORY SETTING**

### **Federal**

#### ***Federal Earthquake Hazards Reduction Act***

In 1997, the U.S. Congress passed the Earthquake Hazards Reduction Act to reduce the risks to life and property from future earthquakes through the establishment and maintenance of an effective earthquake hazards and reduction program. To accomplish this, the Act established the National Earthquake Hazards Reduction Program (NEHRP). The agencies responsible for coordinating NEHRP are the Federal Emergency Management Agency (FEMA), the National Institute of Standards and Technology (NIST), the National Science Foundation (NSF); and the United States Geological Survey (USGS). In 1990 NEHRP was amended by the National Earthquake Hazards Reduction Program Act (NEHRPA), which refined the description of the agency responsibilities, program goals, and objectives. The four goals of the NEHRP are as follows:

- Develop effective practices and policies for earthquake loss-reduction and accelerate their implementation,
- Improve techniques to reduce seismic vulnerability of facilities and systems,
- Improve seismic hazards identification and risk-assessment methods and their use, and
- Improve the understanding of earthquakes and their effects.<sup>11</sup>

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<sup>11</sup> *National Earthquakes Hazards Reduction Program, About Us, Background & History. Accessed by CAJA Staff at <http://www.nehrp.gov/about/history.htm> on May 8, 2009.*



## State

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

The Alquist-Priolo Earthquake Fault Zoning Act is the State law that focuses on hazards from earthquake fault zones. The purpose of this law is to mitigate the hazard of surface fault rupture by regulating structures designated for human occupancy near active faults. As required by this Act, the California Geological Survey has delineated Earthquake Fault Zones along known active faults in California. The northwestern portion of the northern parcel of the project site is located within an Earthquake Fault Zone, as defined by the Alquist-Priolo Earthquake Fault Zoning Act.

### ***California Building Standards Code<sup>12</sup>***

Title 24 of the California Code of Regulations (CCR), known as the California Building Standards Codes or “Title 24”, contains the laws and regulations that govern the construction of buildings in California. The California Building Standards Code applies to all occupancies throughout the State. However, cities or counties may establish more restrictive building standards. The 2007 edition of the California Building Standards Code (Title 24) became effective on January 1, 2008.

Part 2 of Title 24 is the California Building Code (CBC), which contains general building design and construction requirements relating to fire and life safety, structural safety, and access compliance. CBC provisions provide minimum standards to safeguard life or limb, health, property and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location and maintenance of all buildings and structures and certain equipment. Chapter 23 of the CBC addresses seismic safety, and includes regulations for earthquake-resistant design and construction.

### ***Seismic Hazards Mapping Act***

The Seismic Hazards Mapping Act (Assembly Bill [AB] 1341) was enacted in 1997 by the California legislature to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and from other hazards caused by earthquakes. This Act requires the State Geologist to map areas subject to seismic hazards, including areas where earthquake-induced liquefaction or landslides could occur. A geotechnical investigation of the site must be conducted and appropriate mitigation measures incorporated into the project design before development permits will be granted. Additionally, this Act requires a Standardized Natural Hazards Disclosure Statement form be completed by real estate sellers if a property is within one of the designated natural hazards areas.

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<sup>12</sup> Department of General Services, State Architect, Title 24 Overview. Accessed by CAJA Staff at <http://www.dsa.dgs.ca.gov/Code/title24.htm> on May 8, 2009.

## Regional and Local

### *San Mateo County General Plan*

The specific General Plan policies related to geology and soils that apply to the proposed project are as follows:

#### *Soil Resources*

##### 2.17 Regulate Development to Minimize Soil Erosion and Sedimentation

- Regulate development to minimize soil erosion and sedimentation; including, but not limited to, measures which consider the effects of slope, minimize removal of vegetative cover, ensure stabilization of disturbed areas and protect and enhance natural plant communities and nesting and feeding areas of fish and wildlife.

##### 2.23 Regulate Excavation, Grading, Filling, and Land Clearing Activities Against Accelerated Soil Erosion

- Regulate excavation, grading, filling, and land clearing activities to protect against accelerated soil erosion and sedimentation.

##### 2.25 Regulate Topsoil Removal Operations Against Accelerated Soil Erosion

- Regulate topsoil removal operations to protect against accelerated soil erosion and sedimentation through measures which ensure slope stabilization and surface drainage control.

#### *Natural Hazards*

##### 15.12 Locating New Development in Areas Which Contain Natural Hazards

- As precisely as possible, determine the areas of the County where development should be avoided or where additional precautions should be undertaken during review of development proposals due to the presence of natural hazards.
- Give preference to land uses that minimize the number of people exposed to hazards in these areas.
- Require detailed analysis of hazard risk and design of appropriate mitigation when development is proposed in these areas.

## *Geotechnical Hazards*

### 15.19 Appropriate Land Uses and Densities in Geotechnical Hazard Areas

- In urban areas, consider higher density land uses that are compatible with the surrounding pattern of development to be appropriate if adequate site-specific review of geotechnical hazards has been undertaken and appropriate mitigation measures can feasibly be incorporated into development projects.

### 15.20 Review Criteria for Locating Development in Geotechnical Hazard Areas

- Avoid the siting of structures in areas where they are jeopardized by geotechnical hazards, where their location could potentially increase the geotechnical hazard, or where they could increase the geotechnical hazard to neighboring properties.
- Wherever possible, avoid construction in steeply sloping areas (generally above 30%).
- Avoid unnecessary construction of roads, trails, and other means of public access into or through geotechnical hazard areas.
- In extraordinary circumstances when there are no alternative building sites available, allow development in geotechnically hazardous and/or steeply sloping areas when appropriate structural design measures to ensure safety and reduce hazardous conditions to an acceptable level are incorporated into the project.

## **ENVIRONMENTAL IMPACTS**

### **Thresholds of Significance**

In accordance with Appendix G of the CEQA Guidelines, the proposed project could have a potentially significant impact relating to geology and soils if it would:

- (a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - (i) 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 (as shown in Table IV.F-1).
  - (ii) Strong seismic ground shaking.
  - (iii) Seismic-related ground failure, including liquefaction.
  - (iv) Landslides.
- (b) Result in substantial soil erosion or the loss of topsoil.

- (c) 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 onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse.
- (d) Be located on expansive soil, as defined in Table 18-1-B of the California Building Code (2001), creating substantial risks to life or property.
- (e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

As discussed in Section V.C (Impacts Found To Be Less Than Significant) of this DEIR, the potential impacts associated with Threshold (a.-iv) listed above were determined to result in a less-than-significant impact. Therefore, only Thresholds (a-i), (a-ii), (a-iii), (b), (c), (d), and (e) listed above are addressed in the following discussion.

## **Project Impacts and Mitigation Measures**

### ***Impact GEO-1 Fault Rupture***

Ground surface rupture results when the movement along a fault is sufficient to cause a gap or break along the upper edge of the fault zone on the surface. Damage due to surface rupturing is limited to the actual location of the fault line break, unlike damage from ground shaking, which can occur at great distances from the fault.

The northwestern portion of the northern parcel of the project site is located within an Earthquake Fault Zone, as defined by the Alquist-Priolo Earthquake Fault Zoning Act. However, only a portion of the Office Park parking lot is proposed within the Earthquake Fault Zone and no habitable structures are proposed within the Earthquake Fault Zone. Therefore, project impacts related to fault rupture on the Office Park property would be *less than significant*.

The southern parcel of the project site is not within an Earthquake Fault Zone and no known or potentially active faults exist on the parcel. Since the project site is located in a seismically active region, the remote possibility exists for future faulting in areas where no faults previously existed; however, based on the proximity of the known fault traces, their orientation and trend, and their degree of activity, the risk of surface faulting and consequent secondary ground failure at the Wellness Center property is considered low. As such, project impacts related to fault rupture on the Wellness Center property would be *less than significant* and no mitigation measures are required.

### ***Impact GEO-2 Strong Seismic Ground Shaking***

As previously discussed, the project site is located in the seismically active region of the San Francisco Bay Area, which has the highest rate of seismic moment release per square mile of any urban area in the United States. Additionally, active earthquake faults have been recognized within the immediate site area. During the service life of the proposed project, the site is likely to experience at least one moderate

to severe earthquake that could produce potentially damaging ground shaking. Therefore, development of the proposed project would expose future users of the project to seismic ground shaking.

As discussed previously, the probabilistic seismic hazard analysis from the CGS estimates a peak horizontal ground acceleration at the site having a 10 percent probability of exceedance in 50 years to be 0.595g. Further, maps prepared by the ABAG (ABAG, 2001) indicate the project site could experience a MM Intensity of X, which could result in “very violent” shaking and “extreme damage” from a  $M_w$  7.3 earthquake on a nearby portion of the San Gregorio fault, and during a  $M_w$  7.9 earthquake on the on a nearby portion of the San Andreas fault, the project site could experience “violent” shaking and “heavy damage.” Seismic ground shaking could damage the proposed development and associated infrastructure.

However, the project applicant would be required to design and construct the project in conformance with the most recently adopted building code (2007 CBC) design parameters. The CBC specifies that all proposed structures on the project site should be able to: (1) resist minor earthquakes without damage; (2) resist moderate earthquakes without structural damage but with some nonstructural damage; and (3) resist major earthquakes without collapse but with some structural as well as nonstructural damage. In addition, the proposed Office Park and Wellness Center buildings shall be designed to prevent collapse and to maintain reasonable ingress and egress for the Office Park tenants, developmentally disabled (DD) inhabitants of the Wellness Center buildings, and potential emergency response workers (if needed). Therefore, conformance with current CBC requirements would reduce the potential for structures on the project site to sustain damage during an earthquake event, and project impacts related to ground shaking would be *less than significant* and no mitigation measures are required.

### ***Impact GEO-3 Seismic-Related Ground Failure***

Strong ground shaking caused by large earthquakes can induce ground failures, such as cyclic densification, liquefaction, lateral spreading, ground settlement due to post-liquefaction reconsolidation, and surface manifestations. A site’s susceptibility to these hazards relates to the site topography, soil conditions, and/or depth of groundwater, as previously discussed.

#### *Cyclic Densification*

As discussed previously, the settlement analysis performed for the project site estimates that differential settlement of the ground surface would be between 0.5 and 3.5 inches at the Office Park property. A preliminary evaluation of cyclic densification at the Wellness Center property indicates that ground settlement due to cyclic densification would be on the order of approximately 0.25 inches. Therefore, loose layers of sandy soil above the groundwater table that may densify during a major earthquake are present at the site. Impacts to the project due to differential ground settlement resulting from cyclic densification of the loose sandy soils would be *potentially significant*.

The following mitigation measure would reduce cyclic densification impacts to a *less-than-significant* level:

***Mitigation Measure GEO-3a Seismic-Related Ground Failure***

The final geotechnical investigation for the project shall evaluate the potential for cyclic densification and develop final mitigation measures, as needed. Potential mitigation measures may include, but are not limited to: (1) overexcavating and replacing loose sandy soil with compacted engineered fill; (2) applying deep soil compaction techniques, such as DDC, RIC, or equivalent soil densification method; and (3) designing building foundations to accommodate total and differential ground settlement resulting from cyclic densification, as well as post-liquefaction settlement and consolidation ground settlement (if applicable).

*Liquefaction and Associated Hazards*

The liquefaction potential and associated hazards at the Office Park and Wellness Center properties, was reviewed, including the impacts associated with extensive surface water recharge and wastewater disposal/infiltration. As discussed previously, existing subsurface information indicate liquefaction is likely to occur at the site. Potential liquefaction-induced hazards include: lateral spreading, ground settlement due to post-liquefaction reconsolidation, and surface manifestations such as sand boils and lurch cracking.

Lateral Spreading

Based on the thickness and the relative density of the potentially liquefiable soil, the potential for lateral spreading to occur at the site is low and therefore project impacts would be *less than significant* and no mitigation measures are required.

Liquefaction-induced Ground Surface Settlement

The estimate for liquefaction-induced ground surface settlement for the Office Park property is between 0 and 6 inches with differential settlement of about 3 inches across a 50-foot horizontal distance; and for the Wellness Center property is between 0 and 2.5 inches with differential settlement of about 1.5 inches across a 50-foot horizontal distance. Therefore, impact to the proposed project due to liquefaction-induced ground surface settlement is *potentially significant*.

Surface Manifestations

As stated previously, because of the potential for soil liquefaction within relatively shallow soil layers, the impact of surface manifestations of the liquefaction, such as sand boils or lurch cracking, is high at the Office Park and Wellness Center properties and therefore project impacts would be *potentially significant*.

The following mitigation measure would reduce the abovementioned potentially significant liquefaction and associated hazards impacts to a *less-than-significant* level:

***Mitigation Measure GEO-3b Seismic-Related Ground Failure***

Additional subsurface exploration using rotary-wash drilling methods and/or CPTs shall be performed to better characterize the subsurface conditions at the sites. Based on the results of subsurface investigation, the potential for soil liquefaction and liquefaction-induced ground failures, such as lateral spreading, post-liquefaction reconsolidation, lurch cracking, and sand boils shall be re-evaluated at the site. The final geotechnical investigation report shall provide mitigation measures for liquefaction-induced hazards. Potential mitigation measures may include: (1) improving the soil with deep soil compaction techniques, such as DDC, RIC, or equivalent method, to reduce the liquefaction potential; (2) buildings supported on stiffened shallow foundations (i.e. footings with interlocking grade beams) bearing on a layer of well-compacted fill; (3) buildings supported on deep foundations such as drilled piers, driven piles or proprietary piles (i.e., torque-down piles and auger cast piles); and (4) constructing a structural slab that spans supported between columns.

***Impact GEO-4 Total and Differential Settlement***

Ground settlement at the project site will include cyclic densification settlement and post-liquefaction reconsolidation settlement (see above discussion), as well as consolidation settlement. Foundation settlement may occur due to the consolidation and compression of weak soil under the weight of new fill and structural loads as a result of the proposed project. The static settlement of soft and loose soil layers due to the placement of fill would range from 0.5 to 3 inches with differential settlement of about 1.25 inches over a 100-foot-distance for the Office Park property; no settlement estimates were provided for the Wellness Center property. There is currently insufficient data available to accurately predict the amount of settlement that would occur at the site due to the weight of new fill and building loads. Therefore, settlement impacts to the proposed project would be *potentially significant*.

The following mitigation measure would reduce total and differential settlement impacts to a *less-than-significant* level:

***Mitigation Measure GEO-4 Total and Differential Settlement***

Additional subsurface exploration using rotary-wash drilling methods and/or CPTs and consolidation laboratory testing shall be performed to better characterize the subsurface conditions and soil properties at the site. Based on the results of subsurface investigation, total and differential ground settlement due to cyclic densification, post-liquefaction reconsolidation, and consolidation settlement due to building loads and fill placement shall be re-evaluated. The final geotechnical investigation report shall provide mitigation measures for ground settlement. Potential mitigation measures may include: (1) improving the soil with deep soil compaction techniques, such as DDC, RIC, or equivalent method, to reduce the potential for total and differential ground settlement; (2) supporting the buildings on stiffened shallow foundations (i.e. footings with interlocking grade beams) bearing on a layer of well-compacted fill; (3)

supporting the buildings on deep foundations such as drilled piers, driven piles or propriety piles (i.e., torque-down piles and auger cast piles); and (4) constructing a structural slab that spans supported between columns. If deep foundations are selected, they shall be designed to accommodate load conditions resulting from post-liquefaction reconsolidation and consolidation due to the placement of new fill (if applicable).

#### ***Impact GEO-5 Soil Erosion or Loss of Topsoil***

As discussed in Section IV.H (Hydrology & Water Quality), the proposed project would increase the amount of imperviousness onsite since the site currently has no impervious development. The increase in imperviousness would increase runoff amounts by 80 percent. The drainage plans (refer to Figure III-25 and III-26) propose rain gardens to mitigate the peak flows from the site. Erosion is of greatest potential concern during the construction-phase. After a project has been built and the landscaping has been installed, erosion from residential and commercial development sites is usually minimal, particularly when they are sited on relatively flat slopes. The existing drainage patterns on the project site, as inferred from the site topography, are dispersed overland flow. Some of the overland flow likely flows into the drainage swale between the two parcels of the project site. These drainage patterns will be somewhat altered by the proposed project. Rooftop runoff will be concentrated on the rooftops, collected into the storm drain system, and released to on-site rainwater gardens for detention and percolation.

Erosion control plan sheets have been prepared by the applicant. These sheets only show short- or mid-term controls, such as fiber rolls and jute mesh at the downstream edges of the development. Clear flow paths of stormwater are not shown. Mitigation Measure HYDRO-3 has been included to require a Stormwater Pollution Prevention Plan (SWPPP) meeting the San Francisco Bay RWQCB requirements in order to reduce runoff related erosion impacts during grading and construction phases to a less-than-significant level. Long-term erosion control measures such as landscaping are described in the proposed landscaping plan (refer to Figures III-23 and 24). Proposed landscaping includes wetland and riparian plantings within restored wetland areas and parking areas on both project sites. Also, proposed walkways, trails, and parking lots will be constructed using durable yet pervious surface materials. As proposed and mitigated, soil erosion on newly graded sites would represent a ***less-than-significant*** impact.

#### ***Impact GEO-6 Expansive Soil***

The near-surface soil encountered in the borings drilled at the Office Park property primarily consisted of medium to high plasticity clay. The near-surface soil encountered in the borings drilled at the Wellness Center property consisted of low to high plasticity clay. The site is blanketed by about 1.5 to 2.5 feet of potentially expansive clayey soil. Therefore, project impacts related to expansive soils would be ***potentially significant***.



The following mitigation measure would reduce expansive soil impacts to a *less-than-significant* level:

***Mitigation Measure GEO-6    Expansive Soil***

The final geotechnical investigation shall provide an estimate of differential movement associated with the shrinking and swelling of the existing onsite expansive soil at the site. Mitigation measures for expansive soils may include designing the buildings to be supported on: (1) shallow foundations that rest on a layer of non-expansive engineered fill<sup>13</sup>; (2) a deepened spread footing system where the proposed footings gain support at or below the depth of significant seasonal moisture fluctuation and the slab-on-grade floor will be supported on a layer non-expansive fill, as described above; (3) a stiffened foundation system, such as a reinforced concrete or post-tensioned mat, that is capable of resisting the differential movement and soil pressures associated with the expansive soil; or (4) a deep foundation system that transfers the building and slab loads to competent soil beneath the near-surface moderately to highly expansive soil layer.

***Impact GEO-7    Pervious Pavements and Other Water/Wastewater Infiltration Systems***

Pervious pavements would be utilized for both the Office Park and Wellness Center properties. Additionally, extensive groundwater recharge and wastewater infiltration are proposed. The anticipated water/wastewater loading rate would be approximately 20,000 gallons per day. The near-surface soil consists of moderately to highly expansive clay and one of the proposed import fill materials is proposed to be fine-grained material with a plasticity index (PI) of less than 25; therefore, special subgrade preparation and pavement design recommendations may be required to prevent the near-surface clayey soil from ponding water, and becoming saturated and weak under the proposed traffic loads. Therefore, impacts to the proposed project would be *potentially significant*.

The following mitigation measure is proposed to reduce impacts associated with the permeable pavement system to a *less-than-significant* level:

***Mitigation Measure GEO-7    Pervious Pavements and Other Water/Wastewater Infiltration Systems***

Considering the near-surface soil may consist of moderately to highly expansive clay, special subgrade preparation, and foundation and pavement design recommendations shall be required to prevent the near-surface clayey soil from ponding water, and becoming saturated and weak under the proposed site loading conditions, such as foundation and traffic loads. Final design recommendations for a pervious pavement system shall allow surface water to percolate through the pavement without causing adverse impacts to new pavements and building foundations due to moisture fluctuations in the near-surface expansive clay. Potential mitigation measures may include: (1) collecting and redirecting surface and subsurface water away from the proposed building foundations; (2) using permeable base material within pavement areas;

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<sup>13</sup> T&R typically defines non-expansive fill as a material with a Plasticity Index (PI) less than 12 and a liquid limit less than 40.

and (3) installing subdrains to collect and redirect water from areas that could adversely impact building foundations and vehicular pavement to a suitable outlet.

***Mitigation Measure GEO-8    Review and Approval of Final Grading, Drainage, and Foundation Plans and Specifications***

To ensure the applicant's geotechnical consultant is given the opportunity to participate in the final design and construction phases of the project, the applicant's consultant (Registered Geotechnical Engineer and Registered Engineering Geologist) shall review and approve the final grading, drainage, and foundation plans and specifications. Also, upon completion of construction activities, the applicant's consultant shall provide a final statement indicating whether the work was performed in accordance with project plans and specifications, and the consultant's recommendations. All mitigations and final design recommendations shall be reviewed and approved by the County prior to issuance of applicable permits and approval of the Final Map.

## **CUMULATIVE IMPACTS**

Implementation of the project in combination with the related projects (see Table III-1, Related Projects List) would result in the development of mixed-use, residential, commercial, industrial, and park land uses in the County of San Mateo. Geotechnical hazards are site-specific and there is little, if any, cumulative relationship between development of the proposed project and the related projects. The impacts on each related project site would be specific to that site and its users and would not be common or contribute to (or shared with, in an additive sense) the impacts on other sites. As such, construction of the related projects is not anticipated to combine with the proposed project to cumulatively expose people, property, or infrastructure to such geologic hazards as earthquakes, ground shaking, liquefaction, landslides, unstable soils, expansion soils, and/or result in substantial soil erosion or the loss of topsoil. In addition, development on each site would be subject to uniform site development and construction standards that are designed to protect public safety. Therefore, the proposed project's contribution to significant cumulative impacts related to geology and soils would be ***less than significant*** and no mitigation measures are required.

## **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

Implementation of the mitigation measures listed above and compliance with applicable regulations would reduce project impacts related to geology and soils to a ***less-than-significant*** level.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### G. HAZARDS & HAZARDOUS MATERIALS

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#### INTRODUCTION

This section of the Draft Environmental Impact Report (DEIR) considers potential risks associated with hazards and hazardous materials resulting from the proposed development of the Big Wave Wellness Center and Office Park Project (“proposed project”), potential existence of hazardous materials sites in the vicinity of the project site, and potential risks to residents and visitors to this area from onsite and offsite sources of hazards and hazardous materials.

#### METHODOLOGY

Information provided in this section is partially based on the Phase I Environmental Site Assessment for the Big Wave Site (Phase I ESA), prepared by Treadwell & Rollo, March 26, 2007 (refer to Appendix G of the DEIR). The Phase I ESA was performed in general conformance with guidelines of the American Society for Testing and Materials (ASTM) E 1527-05, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, November 2005. The purpose of the Phase I ESA is to evaluate the possible presence of recognized environmental conditions at the project site. A recognized environmental condition is the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the project site or into the ground, groundwater, or surface water of the project site. The scope of work for the Phase I ESA included the following tasks:

- Review of historical aerial photographs, historical Sanborn Fire Insurance maps and/or United States Geological Survey (USGS) historical topographic maps for the project site, as appropriate;
- Reconnaissance survey of the project site and interview the current site owner/tenant or representative, and observe the adjacent properties, as accessible, to make visual observations of existing site conditions, activities, types of land-use, and businesses within the search area;
- Review of relevant documents and maps regarding local geologic and hydrogeologic conditions;
- Review of local, state, and federal government database information provided by Environmental Data Resources, Inc. (EDR) pertinent to Phase I ESAs;
- Inquiries by telephone, visit, and /or written correspondence to the following regulatory agencies regarding building or environmental permits, environmental violations, incidents and/or status of enforcement actions at the project site:
  - City of Half Moon Bay Public Works Department

- Half Moon Bay Fire Protection District
- San Mateo County Environmental Health Services Agency
- California Regional Water Quality Control Board (RWQCB)
- Preparation of Phase I ESA report documenting the research performed and identifying recognized environmental conditions; and
- Details of the recognized environmental conditions that could affect the project site.

In addition, an analysis of impacts associated with the project's proximity to the Half Moon Bay Airport (Airport) considers applicable policies of the County of San Mateo 1986 General Plan, and Chapter III of the San Mateo County Comprehensive Airport Land Use Plan (ALUP) for the Half Moon Bay Airport. Regulatory requirements that affect the construction and operation of an onsite wastewater treatment system of the type proposed as part of the project are evaluated as well. This DEIR uses data collected and provided at the project, county, state, and federal level wherever feasible in an effort to provide a comprehensive analysis.

## **ENVIRONMENTAL SETTING**

Hazardous materials can threaten human health and/or the environment through routine emissions and/or accidental releases. Hazardous materials include materials that are toxic, corrosive, flammable, reactive, irritating, and strongly sensitizing. According to the State of California, a hazardous material is defined as a substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either: 1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating irreversible illness; or 2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, or disposed of or otherwise managed. Hazardous waste (a subset of hazardous material) refers to a hazardous material that is to be abandoned, discarded or recycled.

The following section summarizes identified hazards and potentially hazardous materials existing or considered likely to occur on the project site and which could therefore impact the proposed development. This includes a description of the history of hazardous materials at the site; and consideration of the threat to future occupants, workers, and the surrounding environment that would result as the development has been proposed. This includes consideration of risk from exposure to hazards or hazardous materials during earthwork and grading, construction, and during the course of normal operations at the proposed Big Wave Wellness Center and Office Park community.

### **Surrounding Land Uses**

As discussed in Section III (Project Description) of this DEIR, the project site is situated in northwestern unincorporated San Mateo County along the coast of the Pacific Ocean just north of Princeton by the Sea, approximately 25 miles south of San Francisco, 10 miles west of San Mateo, and 45 miles north of Santa

Cruz. The 19.4-acre project site is located on Airport Street, northwest of the Princeton/Pillar Point Harbor area. Surrounding land uses include the Airport across Airport Street to the east, the El Granada Mobile Home Park adjacent and north of the project site, the Pillar Point Marsh to the west, and the Princeton/Pillar Point Harbor industrial/commercial area adjacent and south of the project site. The Fitzgerald Marine Reserve is located approximately one-quarter mile due west from the project site over Pillar Point Ridge along the Pacific Ocean coastline.

### **Existing Project Site**

The project site currently consists of two adjacent agricultural parcels that are part of a larger ongoing and continuous farming operation. An agricultural water supply well is located in a fenced-off area in the northeast corner of the project site. Next to the well are three 500-gallon, above-ground storage tanks (ASTs) for water containment (used for crop irrigation). The undeveloped site is relatively flat with a slight slope to the south toward Half Moon Bay; elevations at the project site ranges from 9.0 to 27.7 feet. Results of a preliminary geotechnical investigation prepared for the northern parcel revealed that the site consists of loose and expansive surface soils with the potential for liquefaction, and the subsurface soils generally consists of heterogeneous lenses of clays and sands interbedded with gravel.<sup>1</sup> According to the County of San Mateo General Plan, the general soil type characteristics of the project site are rated as Class III—moderately and well-drained soils with loamy subsurfaces and very slowly to moderately permeable subsoils on gently sloping to moderately steep terraces.<sup>2</sup> During the preliminary geotechnical investigation, groundwater was encountered at a depth ranging from 5.5 to 7.5 feet below ground surface. The local groundwater flow in the vicinity of the project site is expected to flow in a northeast to southwest direction and groundwater levels will fluctuate as a result of seasonal changes.<sup>3</sup> A natural drainage swale separates the two parcels and leads to the Pillar Point Marsh, a salt marsh habitat influenced by both tidal action and freshwater runoff from its tributary drainage area. An area of wetlands under the protection of the California Coastal Commission, of which a small portion is Federal jurisdictional waters/wetlands, occurs on the project site under the permit authority of the US Army Corps of Engineers. A more detailed description of the topographic setting is provided in Section IV.F (Geology and Soils) of this DEIR.

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<sup>1</sup> Bay Area Geotechnical Group. *Preliminary Geotechnical Engineering Investigation, Proposed 10-Acre Commercial Development South of Airport Street APN 047-311-060, Princeton by the Sea, California*. May 7, 2002.

<sup>2</sup> *San Mateo County General Plan, Soil Resources, page 2.5*. Available at: [http://www.sforoundtable.org/P&B/gp/GP%20Ch%202002\\_Soil%20Resources.pdf](http://www.sforoundtable.org/P&B/gp/GP%20Ch%202002_Soil%20Resources.pdf). Accessed by CAJA staff on February 27, 2009.

<sup>3</sup> Bay Area Geotechnical Group. *Preliminary Geotechnical Engineering Investigation, Proposed 10-Acre Commercial Development South of Airport Street APN 047-311-060, Princeton by the Sea, California*. May 7, 2002.

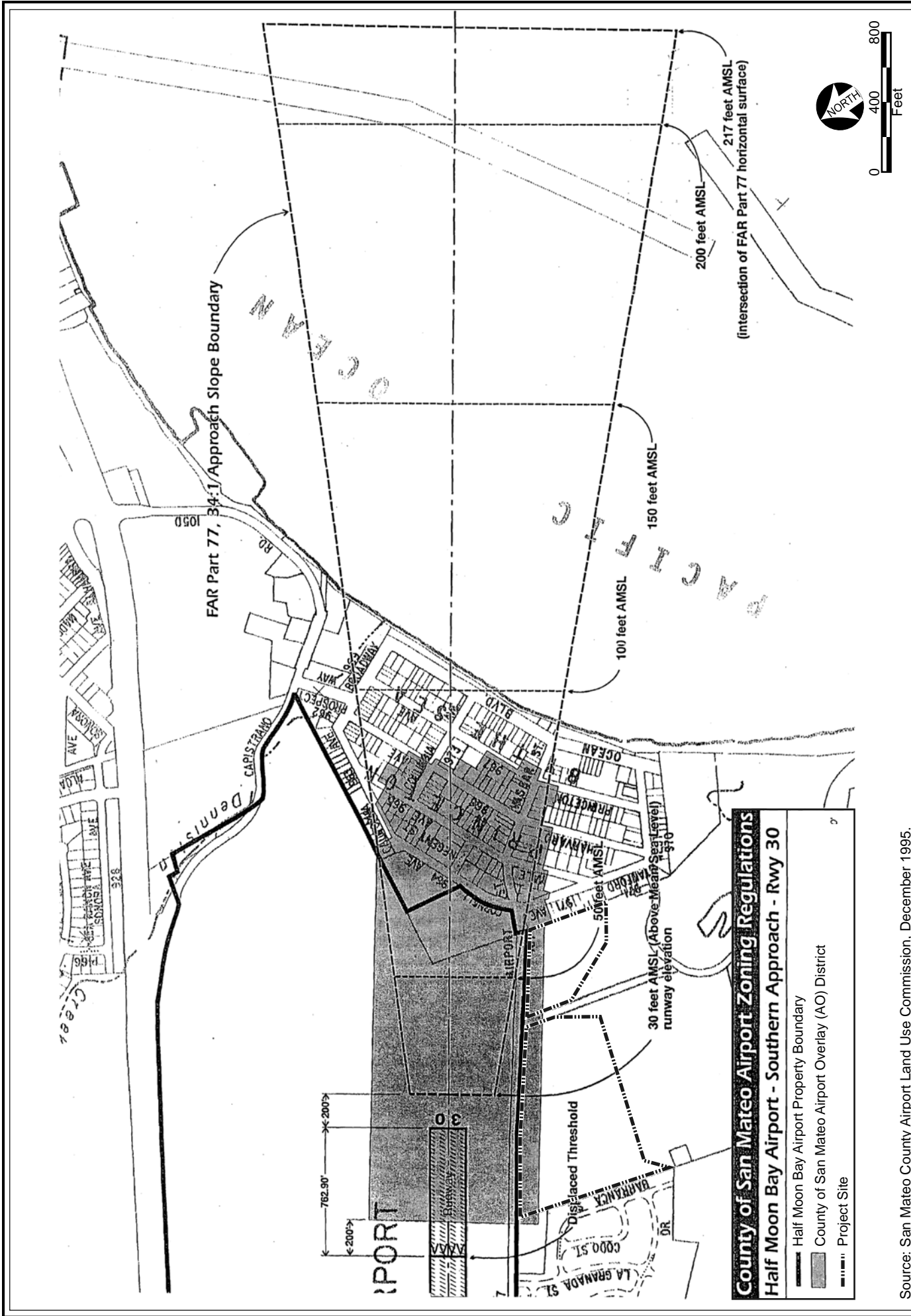
## **Sensitive Receptors**

Sensitive receptors are individuals that may have a significantly increased sensitivity or exposure to contaminants by virtue of their age, health, or proximity to the contamination (e.g. childcare centers, schools, hospitals, nursing or retirement homes, residences, playgrounds, athletic fields, parks, etc.). The location of sensitive receptors must be identified in order to evaluate the potential impact of the contamination on public health and the environment. Appendix G to the State *CEQA Guidelines* considers a significant impact to occur if a project would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. The closest school is the Picasso Preschool, approximately one mile southeast of the project site in the community of El Granada, and no new schools are proposed for development in the vicinity of the project site. For the purpose of this analysis, the nearest offsite sensitive receptors to the project site that could be affected by hazardous materials exposure would include the residential uses located at El Granada Mobile Home Park adjacent and north of the project site. The natural wetland/marsh communities located within one-quarter mile of the project site also have the potential to be exposed to released contaminants. Additionally, the proposed project would develop housing and employment opportunities for low-income developmentally disabled (DD) adults and live-in staff members; these future onsite residents would be considered sensitive receptors as well.

## **Airport-Related Hazards**

The Half Moon Bay Airport is a public airport described in the San Mateo County Comprehensive Airport Land Use Plan and is managed by the San Mateo County Public Works Department. The Airport is located directly east of the project site across Airport Street, and is home to approximately 80 aircraft and several aviation businesses. Areas around airports are continually exposed to the possibility of aircraft accidents, even with well-maintained aircraft and highly trained pilots. The risk of people on the ground being impacted by a falling plane is small; however, an aircraft crash is a high consequence event (when a crash does occur, the result can be catastrophic). Both project parcels are partially located within an Airport Overlay (AO) District, approximately 100 feet into the Approach Protection Zone for the southern approach (Runway 30). Refer to Figure IV.G-1. The intent of the AO District is to provide a margin of safety at the ends of airport runways by limiting the concentration of people where hazards from aircraft are considered to be greatest (Section 6288.1 (Intent) of the Zoning Regulations).

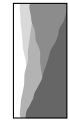
Per the Federal Aviation Regulation (FAR) Part 77 standards, the topography of the coastal mountain range to the east and south of the Airport field is identified as a high terrain obstruction for aircraft operations, where occasional turbulence occurs at low levels. The unique geographic area subjects the Airport field to rapidly changing weather conditions (i.e., coastal stratus and high winds). The Airport



Source: San Mateo County Airport Land Use Commission, December 1995.

Figure IV.G-1  
Airport Overlay District for Runway 30

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Environmental Planning and Research



runways are oriented towards the north and west, the prevailing wind direction. Prevailing winds, generally favor Runway 30,<sup>4</sup> and this southern approach is used 85 percent of the time.<sup>5</sup> The project site's eastern boundary line is located approximately 500 feet from the centerline of Runway 30. The proposed Office Park's closest office building would be located approximately 600 feet southwest of the southern end of Runway 30. The proposed Wellness Center's closest residential unit would be located approximately 900 feet southwest of the southern end of Runway 30. To address safety compatibility issues related to aircraft operations at the Airport, the County of San Mateo has adopted both general plan and zoning provisions related to safety and land use compatibility. These provisions are further discussed below.

Impacts associated with aircraft noise are discussed in Section IV.J (Noise), and impacts associated with potential safety risks of project-related increases in traffic levels near an airport are discussed in Section IV.M (Transportation and Traffic) of this DEIR.

### **Wildland Fire Hazards**

The project site is located in the coastal region of unincorporated San Mateo County, where frequent fog helps to moderate temperatures. The project site and immediate surrounding land uses are not located in a Fire Hazard Severity Zone, as defined by the California Department of Forestry and Fire Protection (CAL FIRE).<sup>6</sup> However, nearby agricultural lands adjacent to the Airport and east of Cabrillo Highway interface with an open space area that extends to Montara Mountain; the open space area is within the identified Very High Fire Hazard Severity Zone of the State Responsibility Area.

The proposed project site is not within a Hazardous Fire Area, as shown on the Natural Hazards Map of the County of San Mateo General Plan.<sup>7</sup> However, the project site is located within a Community at Risk zone according to the County's Wildland Urban Interface Fire Threatened Communities Map, which depicts the general risk within neighborhoods and the relative risk from community to community.<sup>8</sup> The normal fire season conditions of warm, dry summer and fall seasons subject vegetation to prolonged

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<sup>4</sup> San Mateo County Department of Public Works, *Pilot Fly-in Information*, Available on website: <http://www.co.sanmateo.ca.us/portal/site/publicworks/menuitem.a4bfacfl4e50a00d82439054d17332a0/?vgnnextoid=538c4b3a4b71f110VgnVCM1000001d37230aRCRD&vgnnextfmt=DivisionsLanding>. Accessed by CAJA staff on May 5, 2009.

<sup>5</sup> San Mateo County Comprehensive Airport Land Use Plan, Chapter III. *Half Moon Bay Airport Land Use Plan*, page III.-16.

<sup>6</sup> California Department of Forestry and Fire Protection, *San Mateo County Fire Hazard Severity Zone (SRA) Map*, November 7, 2007.

<sup>7</sup> County of San Mateo General Plan, County of San Mateo, Department of Environmental Management, Planning and Development Division, *Natural Hazards*, 15.1M. Available on website: [http://www.sforoundtable.org/P&B/gp/maps/gp%20natural%20hazards%20\(11x17\).pdf](http://www.sforoundtable.org/P&B/gp/maps/gp%20natural%20hazards%20(11x17).pdf). Accessed by CAJA Staff on May 5, 2009.

<sup>8</sup> County of San Mateo, *Wildland Urban Interface - Fire Threatened Communities*. Available on website: [http://www.co.sanmateo.ca.us/vgn/images/portal/cit\\_609/29/16/601017851firethreat\\_wui.pdf](http://www.co.sanmateo.ca.us/vgn/images/portal/cit_609/29/16/601017851firethreat_wui.pdf). (Original Source: California Department of Forestry and Fire Protection, 2003.). Accessed by CAJA Staff on May 15, 2009.



periods of moisture stress, causing the area to be very prone to wildland fires. Therefore, the project site could be susceptible to wildland fires.

Fire protection services for the area are further discussed in Section IV.L (Public Services-Fire Protection) of this DEIR.

### **Potential Existing Hazards**

According to the Phase I ESA, one recognized environmental condition has been identified at the project site, most likely due to the possible application of pesticides to the soil during its use as farmland. The assessment recommends that further investigation be conducted to identify potential environmental liabilities which may be present at the project area. Specifically recommended are additional investigations that are designed to test the surface soils for pesticides and the agricultural well for the presence of groundwater pollution.

Other environmental concerns that may affect the project site, but currently do not qualify as recognized environmental conditions, include: possible non-source pollutants from the northeast (e.g., the Airport) that may have been transported onto the project site as surface runoff via the drainage swale; possible solvents in the groundwater from hydraulically up-gradient properties north of the project site; possible illegal dumping of hazardous substances on the project site; and possible release of hazardous substances or petroleum products into the soil or groundwater from storage tanks at the Airport. Findings regarding properties with the potential to impact environmental conditions at the project site are discussed in further detail in the Phase I ESA report, which is provided in Appendix G to the DEIR.

A detailed analysis of hazards associated with geology and flooding are located in Section IV.F (Geology and Soils) and Section IV.H (Hydrology and Water Quality) of this DEIR, respectively.

## **REGULATORY SETTING**

A variety of laws and regulations at the federal, state, and local levels affect the management and control of hazardous substances. These regulations are intended to protect both the environment and public health from improper use, handling, storage, transport, and disposal of hazardous materials. Hazards associated with airports are also regulated by federal, state and local regulations. The following section describes the regulatory framework for hazardous materials, worker health and safety requirements, safety hazards associated with aircraft operations, potentially hazardous materials associated with the proposed construction and operation of an onsite wastewater treatment system, and potential hazards associated with wildfires.

### **Federal and State Requirements**

#### ***Hazardous Materials***

In California, the U.S. Environmental Protection Agency (EPA) has granted most enforcement authority over federal hazardous materials regulations to the California Environmental Protection Agency (Cal

EPA). In California, regional agencies are responsible for programs regulating emissions to the air, surface water, and groundwater. At the project site, the Bay Area Air Quality Management District (Air District) has oversight over air emissions, and the San Francisco Bay Regional Water Quality Control Board (San Francisco Bay RWQCB) has jurisdiction over the County, and regulates discharges and releases to surface and groundwater. Oversight for investigation and remediation of sites affected by hazardous materials releases can be performed by state agencies, such as the California EPA Department of Toxic Substances Control (DTSC) or the State Water Resource Control Board, and in the case of landfills, the Integrated Waste Management Board. The Resource Conservation and Recovery Act (RCRA) is the United States' primary law governing the handling and disposal of solid hazardous waste. The RCRA, which passed into law in 1976, set out to accomplish the following main goals: ensure that wastes are managed in an environmentally sound manner, protect human health and the environment from the potential hazards of waste disposal, reduce the amount of waste generated, and conserve energy and natural resources.

### ***Hazardous Materials Transportation***

Transportation of hazardous materials on highways is regulated through the Federal Department of Transportation (DOT) and the California Department of Transportation (Caltrans). This includes a system of placards, labels, and shipping papers required to identify the hazards of shipping each class of hazardous materials. Existing federal and state laws address risks associated with the transport of hazardous materials. These laws include regulations outlined in the Hazardous Materials Transportation Act administered by DOT. Caltrans is mandated to implement the regulations established by DOT, which is published as the Federal Code of Regulations, Title 49, commonly referred to as 49 CFR. The California Highway Patrol (CHP) enforces these regulations. Regulations of hazardous materials and wastes include the manufacture of packaging and transport containers; packing and repacking; labeling, marking or placarding; handling; spill reporting; routing of transports; training of transport personnel; and registration of highly hazardous material transport. General Information is found in Section 177.800 of 49 CFR, Transportation, Part 177—Carriage by Public Highway Subpart A. The purpose and scope of this part prescribes requirements that are applicable to the acceptance and transportation of hazardous materials by private, common, or contract carriers by motor vehicle. Each carrier is required to perform the duties specified and comply with all applicable requirements in this part to ensure its hazmat employees receive training in relation thereto. A carrier may not transport a hazardous material by motor vehicle unless each of its hazmat employees involved in that transportation is trained as required by this part.

### ***Hazardous Materials Storage, Handling, and Disposal***

The California Health and Safety Code (HSC 25500 et seq.) requires that all California facilities that store hazardous materials in quantities that, cumulatively for a site, exceed 55 gallons of a liquid or 500 pounds of a solid or 200 cubic feet of a gas at standard temperature and pressure or, for radioactive materials, the quantity for which an emergency response plan is required under federal or state regulations, are subject to hazardous material inventory and reporting regulations. The regulations require preparation of a Hazardous Material Management Plan (HMMP), also known as a California Business Plan under the

statute. The HMMP sets forth prescribed practices for storage, use, and containment of hazardous materials to be used at the facility. All facilities that exceed the HMMP thresholds shall submit the HMMP and chemical inventory at the next reporting period (January 1 of each year) per the requirements of HSC 25504 and 25505.

Generally, hazardous waste would be required to be handled in accordance with the California Health and Safety Code and California Code of Regulations. These regulations (22 CCR 66260 et seq.) include specific requirements for hazardous waste determination, obtaining an identification number, accumulation, labeling, emergency procedures/contingency plans, training, shipment, and reporting. The specific requirements under these regulations would vary depending on the amount of waste generated.

### ***Worker Health and Safety Regulations***

Worker health and safety in California is regulated by the California Department of Industrial Relations, Division of Occupational Safety and Health (California OSHA). California OSHA conducts onsite evaluations and issues notices of violation to enforce necessary improvements to health and safety practices.

#### *Injury and Illness Prevention Plan*

The California General Industry Safety Order requires that all employers in California shall prepare and implement an Injury and Illness Prevention Plan, which should contain a code of safe practice for each job category, methods for informing workers of hazards, and procedures for correcting identified hazards.

#### *Emergency Action Plan*

The California General Industry Safety Order requires that all employers in California prepare and implement an Emergency Action Plan. The Emergency Action Plan designates employee responsibilities, evacuation procedures and routes, alarm systems, and training procedures.

#### *Fire Prevention Plan*

The California General Industry Safety Order requires that all employers in California prepare and implement a Fire Prevention Plan. The Fire Prevention Plan specifies areas of potential hazard, persons responsible for maintenance of fire prevention equipment or systems, fire prevention housekeeping procedures, and fire hazard training procedures.

### ***Aviation Regulations***

Airport planning boundaries define areas where height, noise, safety standards, policies, and criteria are applied to certain proposed land use policy actions.

The U.S. Federal Aviation Administration (FAA), a component of the Department of Transportation (DOT), establishes guidelines for airport safety, which includes noise and risk of accident. Risk of

accident is generally related to the height of structure and land use in proximity to airports. Height standards for defining obstructions to air navigation are defined in Federal Aviation Regulation (FAR) Title 14 CFR Part 77, *Objects Affecting Navigable Airspace*. Compared to noise, safety is a much more difficult concern to address in airport/land use compatibility policies. A major reason for this difference is that safety policies address uncertain events which may occur with occasional aircraft operations. In administering FAR Part 77, the prime objective of the FAA is to ensure the safety of aircraft in flight and the efficient use of navigable airspace by aircraft. The FAA recognizes that there are varied demands for the use of airspace, by both aviation and non-aviation interests. When conflicts arise out of construction proposals, the FAA emphasizes the need for conserving and protecting the navigable airspace. Therefore, early notice of proposed construction or alteration provides the FAA with the opportunity to review development proposals to evaluate the potential aviation and airspace effects. The San Mateo County Airport Land Use Commission (C/CAG) supports the FAR Part 77 notification process related to proposed construction or alterations in the Half Moon Bay Airport airspace and advises project sponsors to comply with such notice requirements.

The *California Airport Land Use Handbook*, published by the California Department of Transportation Division of Aeronautics provides the regulatory framework for local governments to develop land use policies for properties in proximity to airports. In addition to establishing noise criteria and height limits, the handbook addresses appropriate land uses within the established airport areas of influence. Because aircraft accidents happen infrequently and the time, place and consequences of their occurrence cannot be accurately predicted, the concept of risk is central to the assessment of safety compatibility.

In terms of airport and land use compatibility planning, two variables determine the degree of risk posed by potential aircraft accidents: (1) accident frequency—where and when aircraft accidents occur in the vicinity of an airport, and (2) accident severity—what land use characteristics contribute to the consequences of an accident. Generally, land uses that attract the fewest people, like open space or agriculture, are most appropriate. In terms of noise, the most sensitive types of land uses, such as a school or residential development, are least appropriate within certain areas near an airport. The overall objective of safety compatibility guidelines can be stated as being to minimize the risks associated with potential aircraft accidents. There are two components to this objective: (1) safety of persons on the ground—to provide for the safety of people and property on the ground in the event of an aircraft accident near an airport, and (2) safety of aircraft occupants—to enhance the chances of survival of the occupants of an aircraft involved in an accident that occurs beyond the runway environment.

FAR Part 77, *Objects Affecting Navigable Airspace* defines a series of imaginary surfaces surrounding airports to provide airspace protection. Any object or structure which would penetrate any of the imaginary surfaces defined in FAR Part 77 for each airport is considered by the FAA to be an obstruction to air navigation. While an obstruction to air navigation may not necessarily be a hazard to air navigation, the FAA presumes it to be a hazard and treats it as such until an FAA aeronautical study has determined that it does not have an adverse effect upon the safe and efficient use of navigable airspace by aircraft. The FAA advises the local agency and the project sponsor of the outcome of the aeronautical study.

Relatively few aircraft accidents are caused by land use conditions which are hazards to aircraft in flight. However, such potential exists, and protecting against such conditions is essential to airport/land use safety compatibility. Because airspace protection is in effect a safety factor, its objective is to avoid the creation of land use conditions, that could potentially increase the risk of an accident occurring. The particular hazards of concern are: airspace obstructions, such as tall buildings, tall trees, antennas, etc.; and land use characteristics which pose other potential hazards to aircraft in flight, by attracting birds or creating visual or electronic interference with air navigation, such as site lighting, architectural features (e.g., reflective glass or other exterior surfaces), and communication facilities, such as antennas, microwave dishes, etc.).

### ***Stormwater Management***

The State Water Resources Control Board (State Water Board), Water Quality Order No. 97-03-DWQ, which is the National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000001 (General Permit), titled *Waste Discharge Requirements (WDRs) for Discharges of Storm Water Associated with Industrial Activities* requires that stormwater associated with industrial activity that discharges either directly to surface waters or indirectly through municipal separate storm sewers must be regulated by an NPDES permit. Municipalities covered under this permit must implement the stormwater requirements as per the General Permit.

These stormwater requirements only apply where stormwater has the potential to carry pollutants offsite and deliver them to state waters. Facilities that do not discharge stormwater to waters of the United States are exempt from the stormwater requirements cited above. This includes facilities where stormwater is captured and treated and/or disposed of with the facility's NPDES permitted process wastewater, and where stormwater is disposed of to evaporation ponds, percolation ponds, or combined sewer systems. These facilities are not required to obtain a stormwater permit.

Additional NPDES stormwater requirements are associated with construction activities that involve land disturbance of more than one acre. These requirements include the preparation of a construction-specific Storm Water Pollution Prevention Plan (SWPPP) for the period of project construction as well as filing a Notice of Intent with the RWQCB. The SWPPP must include a detailed description of best management practices to be installed within the proposed project to ensure that pollutants do not discharge to waters of the United States. The General Permit also requires implementation of a monitoring program, which includes visual observation of stormwater flows and collection of samples and analysis of stormwater for likely contaminants.

Most of the County's stormwater regulations are codified under Chapter 4, Section 100 of the San Mateo County Code,<sup>9</sup> which includes provisions from the County's Ordinance 3633, adopted in 1995. A major function of Ordinance 3633 and Section 4.100 of the County Code is to require project's to comply with the County's NPDES permit. Each incorporated city and town in San Mateo County joined with the

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<sup>9</sup> Accessible at <http://municipalcodes.lexisnexis.com/codes/sanmateo/>.

County of San Mateo to form the SMCWPPP in applying for a regional NPDES permit.<sup>10</sup> The SMCWPPP, previously referred to as San Mateo Countywide Stormwater Pollution Prevention Program (STOPPP), was established as part of the regional NPDES permit to apply for and administer the permit for the County and its cities and towns. The SMCWPPP received its first 5-year Phase I NPDES Municipal Stormwater Permits in 1995. The San Francisco Bay RWQCB adopted the second NPDES permit on July 21, 1999; it was subsequently amended with Provision C.3 (New Development and Redevelopment Component) on February 19, 2003, at which time a Stormwater Management Plan was also required to be implemented. On July 21, 2004, the RWQCB adopted the third permit. On May 12, 2005, the SMCWPPP submitted to the RWQCB its Hydromodification Management Plan (HMP) as required under the 2004 permit. On March 14, 2007, the RWQCB amended the 2004 permit to include key provisions of the submitted HMP.

Proposed development projects must comply with the County's Stormwater Management Plan and with the Watershed Protection Maintenance Standards. Along with the Planning Department, the Public Works Department reviews projects for compliance with the NPDES Provision C.3, which regulates new development and redevelopment. Currently, Provision C.3 requires stormwater controls during the construction and operation stages of proposed development. In addition, due to project size and type, the project would also be required to construct permanent on-site stormwater treatment systems and maintain these systems in perpetuity.

NPDES requirements are described in greater detail in Section IV.H (Hydrology and Water Quality) of this DEIR.

### ***Fire Protection Regulations***

The 2007 California Building Code (CBC) applies to all occupancies throughout the State of California; however, city, county, or city and county may establish more restrictive building standards reasonably necessary because of local climatic, geological, or topographic conditions. Furthermore, local fire jurisdictions may identify additional fire hazard areas, especially in communities adjacent to wildlands. Development of new buildings located within an area designated by the enforcing agency to be at significant risk from wildfires, for which an application for a building permit and/or plan approval for construction is submitted, shall meet the intent of CBC Chapter 7A, Materials and Construction Methods for Exterior Wildfire Exposure. Regulations require that building products and construction methods comply with applicable codes and ordinances of the local authority having jurisdiction, compliance must be submitted to the building official having jurisdiction for final approval.

In addition, guidelines for design and installation of solar photovoltaic systems mounted on rooftops or the ground are provided by the California Department of Forestry and Fire Protection - Office of the State Fire Marshal (CAL FIRE – OSFM). The local enforcing agency, by local ordinance, is meant to apply to the design, construction and installation of solar photovoltaic systems on buildings regulated by Title 24

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<sup>10</sup> Regional Board, 2007, Order No. R2-2007-0027, NPDES Permit No. CAS0029921.

of the CBC. Local modifications to CBC must comply with Health and Safety Code Section 18938(b) for Building Standards Law, Health and Safety Code Section 17950 for State Housing Law, or Health and Safety Code Section 13869.7 for Fire Protection Districts. Requirements for clearances for solar systems shall apply to all new buildings or structures that require a building permit issued by San Mateo County (Section 9116).

### **Regional and Local Requirements**

Local responsibility for hazardous materials oversight, permitting, and regulation is through the Certified Unified Program Agencies (CUPA). These programs were developed when the State of California delegated responsibility to local jurisdictions. Each CUPA is responsible for writing and updating a Hazardous Materials Area Plan (for the public safety response in the jurisdiction) and providing guidelines for the Hazardous Materials Business Plan (for local businesses designated as handlers of hazardous materials.) CUPA programs include the Hazardous Materials Business Plan Program, Hazardous Waste Program, Underground Tank Program, Accidental Release Program, and the portions of the Uniform Fire Code that address hazardous materials. This program includes inspections of businesses and review of permit conditions and procedures for the handling, storage, use and disposal of hazardous materials. The Hazardous Materials Business Plan is used to keep track of the use of hazardous materials by businesses in accordance with both state and federal laws. The Hazardous Waste Generator Program is based on the Hazardous Waste Control Law found in the California Health and Safety Code Division 20, Chapter 6.5 and regulations found in the California Code of Regulations, Title 22, Division 4.5.

In the County of San Mateo (County), CUPA is administered through the Department of Health Services by way of a Hazardous Materials Program (5971P). The Hazardous Materials Program provides regulatory oversight, enforcement, emergency response, and educational services for businesses, public agencies, and residents of the County in order to protect public health and the environment against hazardous chemicals and chemical pollution. The Hazardous Materials Program consists of six components: the Certified Unified Program Agency (CUPA), the Hazardous Material Inspections (HMI), the Emergency Response Team (ERT), the Solid and Medical Waste Program, the Ground Water Protection Program (GPP), and the Household Hazardous Waste Program (HHW). The Hazardous Materials Program also works to protect the public and the environment from the chemicals used in the home and small quantity generator facilities.

The County's ERT is a system capable of responding to an emergency incident involving hazardous materials. A hazardous materials incident could involve a fire, spill, container or equipment leaks, container abandonment, or an incident that threatens public health and safety or the environment. The first responder to hazardous material emergencies for the area would likely be the Coastside Fire Protection District, located at Station 41 at 531 Obispo Road in nearby El Granada. State law requires that first responders have a minimum 40 hours of training in accordance with the Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) standard. Additional strategic components of the ERT include one unit from the South County Fire Authority, the Area Office of Emergency Services and an emergency medical provider. The ERT works in conjunction with local fire departments, Caltrans and the California Highway Patrol depending on the

circumstances. For residents outside city and fire district boundaries, the Fire Protection Services Program, which is staffed by the California Department of Forestry and Fire Protection (CAL FIRE) on a contract basis, assists with provision of hazardous materials services in the County.

The San Mateo County Department of Agriculture/Weights & Measures is a regulatory and informational agency serving agriculture, industry and the community. The County Agricultural Commissioner/Sealer of Weights and Measures is the local enforcement authority for the California Department of Food and Agriculture and the California Department of Pesticide Regulation. Regulation of potentially hazardous pesticides and herbicides is under the jurisdiction of the County of San Mateo Agricultural Commissioner.

Wireless uses within communities generally fall under the jurisdiction of state and local governments, within the limits imposed for personal wireless service facilities by Section 332(c)(7) of the Federal Communications Act.

### ***San Mateo County General Plan***

The General Plan contains the following policies related to hazards and hazardous materials that are applicable to the proposed project:

#### *Natural Hazards*

##### 15.12 Locating New Development in Areas Which Contain Natural Hazards

- As precisely as possible, determine the areas of the County where development should be avoided or where additional precautions should be undertaken during review of development proposals due to the presence of natural hazards.
- Give preference to land uses that minimize the number of people exposed to hazards in these areas.
- Determine appropriate densities and development standards for new development proposed in these areas.
- Require detailed analysis of hazard risk and design of appropriate mitigation when development is proposed in these areas.

##### 15.29 Review Criteria for Locating Development Outside of Fire Hazard Areas

- Insure that fire safety is adequately addressed in the review of new development proposed in unincorporated areas located outside of fire hazard areas through measures including but not limited to referral of proposals for development to appropriate fire protection agencies for conditions of approval.



*Man-Made Hazards*16.41 Regulate Land Uses to Assure Airport Safety

- Regulate land uses surrounding airports to assure airport safety. Measures may include restrictions on permitted land uses and development review height criteria.

16.42 Limit Land Uses at Ends of Runways

- Limit land uses in approach zones, clear zones and other areas of high accident potential at ends of airport runways to low intensity, nonstructural uses, including, but not limited to, agriculture, open space, and storage.

16.43 Regulate Location and Height of Development Surrounding Airports

- Regulate development location and height in areas surrounding airport activities to protect air navigation requirements. Measures may include height criteria based upon an approach surface or other representative aircraft flight path.

Additionally, the County has adopted zoning provisions (Chapter 32) to regulate the height of structures and the use of the airspace in the vicinity of the Airport. These provisions are based on the authority granted to the County by the Airport Approaches Zoning Law and are in conformity with Sections 50485 to 50485.13 of the Government Code, and incorporate the restrictions contained in FAR Part 77, as applicable to the Airport.

16.53 Regulate Location of Hazardous Material Uses

- Regulate the location of uses involving the manufacture, storage, transportation, use, treatment, and disposal of hazardous materials to ensure community compatibility. Provide adequate siting, design, and operating standards.

16.54 Encourage Public Disclosure of Hazardous Materials

- Encourage businesses utilizing or storing hazardous materials within the unincorporated area to publicly disclose the types, quantities and health risks of hazardous materials present onsite so as to effect timely and effective emergency response and community risk assessment, improved land use planning and general public awareness.

16.55 Encourage Adoption and Enforcement of Fire Code Hazardous Material Storage Permit Provisions

- Encourage fire protection agencies serving the unincorporated area to adopt and enforce existing Uniform Fire Code provisions which authorize fire agency issuance of hazardous material storage permits so as to: (1) assure proper hazardous material storage, (2) prevent

accidental discharge or spill, and (3) provide necessary inventory information beneficial to timely and efficient incident response and containment. Assure that relevant hazardous material inventory information is referred to the County, and made available to the public.

### ***Half Moon Bay Airport Land Use Plan***

A comprehensive plan is a critical and effective part of the process of ensuring land use compatibility around airport facilities. Following is a list of general safety policies of the San Mateo County Comprehensive Airport Land Use Plan (ALUP) for the Half Moon Bay Airport that apply to the proposed project:

- The following safety zones are established at Half Moon Bay Airport: Approach Protection Zone (APZ), Runway Protection Zone (RPZ), and Traffic Overflight Zones (TOZ).
- APZs, defined and illustrated for Half Moon Bay, shall remain free of permanent structures at all times.
- Non-structural uses may be permitted in an APZ if they do not cause a concentration of more than 10 people per net acre on a 24-hour basis.
- Vehicle parking and open storage uses are permitted in APZs if they do not generate more than 25 people per acre at any time.
- Other uses may be permitted in an APZ, on a case-by-case basis, based on review of the relevant airport/aircraft public safety issues.
- The Airport Land Use Commission (C/CAG) and the C/CAG Airport Land Use Committee (ALUC) shall be guided by the safety/land use compatibility criteria table for each airport, (see safety sections of the individual airport land use plan chapters), when considering the consistency of a proposed local agency land use policy action with the relevant airport land use plan.

Height restrictions are necessary to ensure that objects will not impair flight safety or decrease the operational capability of an airport. Airspace protection is also a critical factor for the safe and efficient use of the airspace in the vicinity of an airport by an aircraft in flight. The following is a list of general height restrictions and airspace protection policies that apply to the implementation of the ALUP for each airport in San Mateo County:

- The applicable provisions of FAR Part 77, “Objects Affecting Navigable Airspace” are incorporated, by reference, into the ALUP, to establish height restrictions and airspace protection in the vicinity of each airport located in San Mateo County.
- The C/CAG and the ALUC shall be guided by relevant provisions in FAR Part 77 when considering the consistency of a proposed local agency land use policy action with the relevant airport land use plan.

- Any object or structure that would penetrate any of the imaginary surfaces defined in FAR Part 77, for each airport located in San Mateo County, shall be considered as an obstruction to air navigation, and therefore, inconsistent with the relevant airport land use plan.
- The ALUC, ALUC staff, and the C/CAG shall inform the local agency and the project developer of the federal requirement to notify the FAA of proposed land development in the vicinity of an airport, via notice requirements contained in FAA Form 7460-1, "Notice of Proposed Construction or Alternation."
- The C/CAG shall inform public agencies, land developers, and other interested parties of airspace protection concerns, as identified herein, at all three airports located in the County. The C/CAG will discourage local agency approval of proposed development in an airport environs area that includes land use and/or project design characteristics that would negatively impact the airspace in the vicinity of an airport, as discussed herein, and affect the safety of aircraft in flight.

In addition, certain land use characteristics are recognized by C/CAG as hazards to air navigation in the vicinity of Half Moon Bay Airport. These include the following:

- Any use that would direct a steady or flashing light of white, red, green, or amber color toward an aircraft engaged in an initial straight climb following take-off or toward an aircraft engaged in straight final approach toward a landing, other than FAA-approved navigational lights.
- Any use that would cause sunlight to be reflected toward an aircraft engaged in a straight climb following take-off or toward an aircraft engaged in a straight final approach toward a landing.
- Any use that would generate smoke or rising columns of air.
- Any use that would attract large concentrations of birds within approach-climbout areas.
- Any use that would generate electrical/electronic interference that may interfere with aircraft communication equipment and/or aircraft instrumentation.

Any proposed local agency actions that affect property in an airport environs area, shall be reviewed by the C/CAG for a determination of consistency with the relevant provisions in the ALUP.

## **ENVIRONMENTAL IMPACTS**

### **Thresholds of Significance**

In accordance with Appendix G to the State *CEQA Guidelines* and the Regulatory Setting requirements, the proposed project could have a significant environmental impact if it would:

- a) create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

- b) 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.
- c) emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- d) be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.
- e) for a project located 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, result in a safety hazard for people residing or working in the project area.
- f) for a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area.
- g) impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- h) 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.

As discussed in Section V.C (Impacts Found to Be Less Than Significant) of this DEIR, potential impacts associated with State CEQA Guidelines Threshold (c) above were determined to result in no impact because the project site is neither located within a quarter mile of a school nor is a school proposed to be developed in the vicinity of the project site. In addition, impacts associated with Threshold (d) above were found to have no impact as the Phase I ESA determined that the project is not located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 69562.5. Finally, impacts associated with Threshold (f) above were determined to have no impact because the project is not located in the vicinity of a private airstrip. Therefore, only Thresholds (a), (b), (e), (g), and (h) listed above are addressed in the following discussion.

### **Proposed Project**

The project proposes development of residential, limited commercial, office, and recreational uses. The project proposes development that provides housing and employment opportunities for low-income developmentally disabled (DD) adults. The project site consists of two parcels: (1) the northern parcel (Office Park); and (2) the southern parcel (Wellness Center). The primary development of the Office Park would consist of four three-story office buildings and associated common areas (i.e., parking lot, walkways, wetland area, and a Communications Building). The office buildings are proposed at 45 feet 6 inches in height, with the closest one located approximately 100 feet from the Airport APZ of Runway 30 and approximately 600 feet southwest of the southern end of Runway 30. The 2,000 square foot

Communications Building would not exceed 32 feet in height and would be located within the Airport APZ, as would parking accommodations and a walking path. The primary development of the Wellness Center would consist of 70 residential units for approximately 50 DD adults and 20 live-in staff members, and associated common and living areas and recreational facilities (i.e., parking lot, walkways, wetland area, fencing, commercial kitchen, dining area, laundry area, office space, a multipurpose auditorium/theater, indoor pool, basketball courts, fitness center, and a separate Storage Building). The Wellness Center building heights would range from 15 feet 10 inches to 35 feet, with the closest residential unit located approximately 900 feet southwest of the southern end of Runway 30. The 20,000 square foot Storage Building is proposed at 36 feet in height and would be located within the Airport APZ, as would parking accommodations and a walking path.

To facilitate water recycling, the project proposes development and operation of an onsite wastewater treatment plant (WWTP) for treating wastewater produced on the site. The project is anticipated to generate approximately 26,000 gallons per day (gpd) of domestic wastewater. Membrane Bio-Reactor (MBR) technology is proposed to be used for the wastewater treatment. The MBR system components include: a preliminary treatment of coarse and fine screening to remove solids, a secondary biological denitrification process, a tertiary ultraviolet-disinfection treatment, and handling of the residuals (sludge). The WWTP would be sized to provide a maximum monthly treatment capacity of 0.25 million gpd. The majority of treated wastewater from the WWTP would be used for flushing toilets and agricultural irrigation. Recycled wastewater would also be used periodically for landscaping and wetlands restoration. All excess wastewater not recycled would be infiltrated through three drain fields and discharged into the onsite wastewater infiltration system. During drought periods, the project proposes to ration water by reducing agricultural irrigation and would send the majority of the recycled water to the infiltration drain fields for groundwater recharge (final design of the drain fields would be based on certified percolation tests). During wet periods, when groundwater levels are higher and reduce the allowable infiltration of the onsite soils, the WWTP's wastewater effluent would be discharged to the existing Granada Sanitary District's sewer system.

In addition to the discharge of treated effluent, the WWTP will generate sludge which must be disposed of. The proposed MBR system would generate approximately 10 pounds of dry solids per day. The applicant proposes to press and haul the associated sludge to Ox Mountain Landfill or blend it into a worm composting operation constructed in portable spreaders. The composted sludge would then be recycled agriculturally onto the adjacent 12-acre parcel of land immediately east of the Wellness Center property, which the applicant proposes to operate and farm.

The project proposes the use of wireless communications technology to provide significant internet, voice and data transmission capabilities to the Office Park and Wellness Center. The proposed project would leverage a high-capacity, redundant telecom link, which would connect to two 36-inch microwave dishes located on the east face of the proposed two-story Communications Building. The Communications Building would be located on the southeast corner of the proposed Office Park parking lot. The microwave dishes would be integrated into the wall and would not extend beyond five feet of the roofline (refer to Figure III-15). The dishes would face Montara Mountain (east across airport property) to

connect to a repeater tower, and the location and orientation of the dishes would be such that public exposure to radiofrequency electromagnetic fields (radio wave emissions) would be minimized. The proposed telecommunications link is a wireless based link that would connect the Big Wave development with the greater Bay Area internet exchanges and overall global internet, and would interconnect with the public telephone network. The link would operate in Federal Communications Commission (FCC) licensed space.

The project proposes the use of hydrogen fuel cells, wind turbines, and photovoltaic cells as alternative energy sources. Five kilowatts (kW) of molten carbonate fuel cells would be implemented to provide backup direct current (DC) power for the communications system. Molten carbonate fuel cells operate with natural gas and do not require stored hydrogen. If inexpensive and safe methods of hydrogen generation can be identified for off-peak production, the proposed project could potentially implement larger fuel cells for hydrogen generation. Buildings would be heated by either natural gas or solar power. Solar panels would be installed in racks on the rooftops of the Office Park and the Wellness Center, approximately four feet above the roofline. Wind power turbines would also be installed on the rooftops, primarily on the north and west faces, around the solar panel racks and at the same height. The turbines would be located in a screened-in box that rotates to face the prevailing wind direction (north and west).

For a more detailed description of the proposed project, refer to Section III (Project Description) of this DEIR.

## **Project Impacts and Mitigation Measures**

### ***Impact HAZ-1 Routine Transport, Use, and Disposal of Hazardous Materials***

An impact is considered significant if a project includes activities that require routine transport, use or disposal of toxic or flammable materials associated with construction and/or operation of the project. Development, maintenance and use of the project site as a living and working community for developmentally disabled adults would introduce hazardous materials. The use, storage and/or disposal of the following substances could reasonably be expected as a result of the construction and operation of the proposed project: fossil fuels (i.e., gasoline, diesel, oil or other petroleum products used for construction and maintenance activities); construction materials (i.e., adhesives, paints, solvents, etc.); maintenance materials (e.g., paints, batteries, chemical cleaning products, disinfectants, chemicals for pool maintenance, pesticides, herbicides and fertilizers for agriculture use, bleach or acids for cleaning the MBR membrane); fuel for back-up power generation; solar cells; and medications/pharmaceuticals. The use, storage and/or disposal of the abovementioned materials could potentially cause contamination of soils and groundwater as well as posing a human health risk if not handled properly according to laws, ordinances and regulations. It is not anticipated that large quantities of these materials would be permanently used or stored within the project site.

Following development, occupancy of new residences would result in the production of normal household waste, and household hazardous waste, which may contain unknown hazardous materials. However, most household products are safe if used, stored, and disposed of correctly. Refer to Section

IV.N (Utilities and Service Systems) of this DEIR, for a more detailed discussion regarding the proposed project's solid waste generation and disposal.

The operation of the proposed WWTP would involve the regular handling, use and disposal of waste products during the course of normal operations. Given that the operation of the proposed, small scale WWTP would involve handling raw and treated sewage and operation of tanks and storage vessels with hazardous materials, there is a potential for these materials to be released to the environment through mishandling or an emergency situation. In addition, as discussed in Section IV.H. (Hydrology and Water Quality) of this DEIR, the proposed project could contribute pollutants to the environment via discharge of wastewater, which generally can have various contaminants when untreated, including human bodily waste, detergents, abrasives, and other household chemicals. Even recycled wastewater can contain relatively high levels of certain contaminants, including salts. However, the applicant proposes to meet the specific discharge requirements of Title 22 for unrestricted reuse of recycled tertiary treated wastewater in the design of the WWTP. The proposed tertiary process would produce treated wastewater that is intended to meet the combined RWQCB and CDPH criteria (i.e., CCR, Title 22, Division 4, Chapter 3, Article 3, §60304). The proposed onsite WWTP would need to be certified by the RWQCB and CDPH in the final permitting process, subject to approval from County Environmental Health, the CDPH, and the RWQCB for permitting the proposed wastewater system.

The applicant proposes to treat wastewater in accordance with standards mandated by the California Water Recycling Law (Water Code §13500 et seq.) and CCR Title 22 §60301 et seq. (i.e., disinfected tertiary recycled water). Recycled water used for flushing toilets would be distributed through purple colored pipelines (non-potable) in accordance with California Health and Safety Code (CHSC) §116815. Recycled water used for irrigation of agricultural row crops, landscaping, and wetlands restoration would be disposed via a subsurface drip emitter infiltration system.

In addition to the discharge of treated effluent, the WWTP will generate sludge which requires disposal. The applicant proposes to press and haul the associated sludge to a landfill facility or blend it into a worm composting operation constructed in portable spreaders and then recycled agriculturally. Sludge from the plant after composting would meet Class A sludge standards (i.e., biosolids pathogen requirements in Subpart D of 40 CFR, Part 503 regulation) for land application and agricultural uses for food crops. WWTP requirements are described in greater detail in Section IV.H (Hydrology and Water Quality) and Section IV.N (Utilities and Service Systems) of this DEIR.

Risk of upset associated with relatively common hazardous materials is anticipated to be minimal and largely site-specific; any upset (spill) would be limited in the area of impact and could be remediated following standard spill response procedures. Furthermore, full compliance with OSHA mandatory compliance safety plans, as well as other applicable federal, state, and local laws, regulations and programs related to the routine transport, use, and disposal of hazardous materials in the workplace would ensure that impacts resulting from the routine transport, use, disposal of hazardous materials associated with the construction and operation of the proposed project would not result in a significant hazard to human health and/or the environment. Therefore, hazardous material impacts associated with

construction and operation of the proposed project would be *less than significant* and no mitigation measures are required.

### ***Impact HAZ-2 Accidental Release of Hazardous Materials***

An impact would be considered significant if it involved the accidental release of a hazardous material, such as a major oil spill or leaking underground tank. The risk of upset and accidental release of hazardous materials is largely site-specific and would be associated with construction and operation of the Big Wave Wellness Center and Office Park as discussed in Impact HAZ-1 above. The following provides a more detailed discussion of these potential risks.

#### *Illegal Dumping on the Project Site*

Historically, the project site has been used for agriculture, and no buildings have been constructed at the project site. According to the applicant, illegal dumping consisting of tires, trees, and a boat has occurred at the project site. Treadwell & Rollo observed clusters of white objects along the northern-central edge of the Office Park parcel and along the southern edge of the Wellness Center parcel in aerial photographs from 2001. Based on the presence of dirt paths that lead to these white objects, it is possible that the white objects represent illegal dumping. Although illegal dumping may have occurred at the project site, there has been no data to indicate that the dumped material was a hazardous substance or a petroleum product. These conditions generally do not represent a threat to human health or the environment and generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. This does not qualify as a recognized environmental condition; therefore, the impact associated with the risk of upset and accidental release of hazardous materials onto the project site from previous illegal dumping would be *less than significant* and no mitigation measures are required.

#### *Potential Non-Point Source Pollutants*

In the vicinity of the project site, the local groundwater and the surface drainage are expected to flow in a northeast to southwest direction. The project site is relatively flat with a slight slope to the south. A natural drainage swale separates the two project parcels and leads to the Pillar Point Marsh. Non-point source contaminants, originating from properties northeast of the project site (e.g., the Airport) may be transported onto the project site as surface runoff via the drainage swale. However, because the Phase I ESA found no evidence to suggest a material threat of hazardous substances release onto the project site, the presence of the drainage swale does not currently qualify as a recognized environmental condition. Therefore, the impact associated with the risk of upset and accidental release of hazardous materials onto the project from this non-point source would be *less than significant* and no mitigation measures are required.

#### *Potential Solvents in Groundwater from Hydraulically Up-Gradient Properties*

Chlorinated solvents in groundwater have been identified at properties hydraulically up-gradient and north of the project site (Yu Property and El Granada Mobile Home Park). Quarterly groundwater



samples from the Corona, Culebra, and Retiro Wells located on these properties revealed historic detections of PCE and TCE (chlorinated solvents) in groundwater that steadily decreased from 1994 to 2003. Currently, the only concentrations of PCE and TCE in groundwater have been detected in the Corona Well at or near drinking water standards (located approximately 900 feet north of the project site). Chlorinated solvents have not been detected in groundwater from Retiro Well since 1997 (located approximately 400 feet north and hydraulically up-gradient of the project site). Based on the lack of detections in the Retiro Well and significant decreases in PCE and TCE concentrations in groundwater from the Corona and Culebra Wells, the San Mateo County Health Department indicated that the migration of chlorinated solvents onto the project site is unlikely. Therefore, this does not qualify as a recognized environmental condition, and the impact associated with these properties would be **less than significant** and no mitigation measures are required.

An agricultural supply well was installed in the northern part of the project site and has been pumping water intermittently for agricultural use since 1987. The agricultural well is screened within the same aquifer as the Corona, Culebra, and Retiro Wells (up-gradient of the project site) where chlorinated solvents have historically been detected. The pumping of water from this agricultural well may have drawn chlorinated solvents onto the project site. But based on laboratory analytical results from the Retiro Well and on information from the County Health Department, this condition generally does not represent a threat to human health or the environment and generally would not be the subject of an enforcement action. Therefore, this does not qualify as a recognized environmental condition and the impact would be **less than significant** and no mitigation measures are required. However, to determine whether hazardous substances have migrated onto the project site from the north or northeast, it is recommended that a groundwater sample be collected from the agricultural supply well (refer to Mitigation Measure HAZ-2 below).

#### *Potential Hazardous Substances or Petroleum Products in Soil or Groundwater*

Jet fuel and possibly other hazardous materials or petroleum products have been stored in various locations at the Airport, adjacent to the project site. At least one underground storage tank (UST) with unknown contents is located within 500 feet northeast of the project site. In addition, seven underground pump pits were identified along the taxiways near the hangar buildings, approximately 1,500 feet east of the project site. Although jet fuel has been documented at the Airport, there has been no evidence indicating a release of hazardous substances or petroleum products to soil or groundwater. However, due to the presence of a UST located within 500 feet northeast and up-gradient of the project site, if a release to soil or groundwater has occurred in the past, it may have migrated onto the project site. This condition generally does not represent a threat to human health or the environment and generally would not be the subject of an enforcement action. Therefore, this does not qualify as a recognized environmental condition, and the impact would be **less than significant** and no mitigation measures are required.

All other properties were either hydraulically down-gradient or cross-gradient, a significant distance from the project site, or were case-closed; and therefore unlikely to have impacted soil or groundwater at the project site.

### *Pesticide Use at the Project Site*

Pesticides may have been applied to soil at the project site during previous agricultural use. Although the current owner and project site operator both indicate that to their knowledge pesticides have not been applied to soil at the project site, pesticides may have been applied to soil by previous project site users. Based on Treadwell & Rollo's professional experience with similar projects, the presence of pesticides at the project site is likely to be present and therefore qualifies as a recognized environmental condition, constituting a **potentially significant** impact. Because the extent of potential past contamination of soils is not yet fully known, the impacts related to the exposure of contaminants to construction workers, nearby businesses and residents during soil grading and excavation activities is unknown; therefore, the following mitigation measure is required.

### ***Mitigation Measure HAZ-2 Accidental Release of Hazardous Materials***

Prior to approval of final development plans, a Phase II Environmental Site Assessment (Phase II ESA) shall be performed at the project site to evaluate whether the recognized environmental conditions identified in the Phase I ESA represent an actual release of hazardous substances to soil or groundwater at the project site. To determine whether hazardous substances have migrated onto the project site from the north or northeast, a groundwater sample shall be collected from the agricultural supply well. The Phase II ESA shall include parameters that may be applied to a health risk assessment and remediation (Site Management Plan) if soil is inappropriate for reuse and required to be transported off the project site. The recommendations of the Phase II ESA shall be incorporated into project plans to the satisfaction of the County and in conformance with applicable regulations.

### ***Impact HAZ-3 Hazards Associated with Airport Operations***

An impact would be significant if the proposed land uses present a safety hazard associated with airport operations to people or property onsite or in the project area, or if the proposed land use would present a hazard to aircraft utilizing the Airport. As discussed previously, relatively few aircraft accidents are caused by land use conditions which are hazards to aircraft in flight. However, such potential exists, and protecting against such conditions is essential to airport/land use safety compatibility. Airport safety zones are established by the ALUP. Both project parcels fall within approximately 100 feet of the Approach Protection Zone (APZ) of the southern approach (Runway 30). Refer to Figure IV.G-1. As mentioned previously, prevailing winds (north and west) generally favor Runway 30, and this southern approach is used 85 percent of the time. The project site's eastern boundary line is located approximately 500 feet from the centerline of Runway 30. The proposed Office Park buildings would not exceed 45 feet 6 inches in height, with the closest office building located approximately 100 feet from the Airport APZ of Runway 30 and approximately 600 feet southwest of the southern end of Runway 30. The 2,000 square foot Communications Building associated with the Office Park would not exceed 32 feet in height and would be located within the Airport APZ. The proposed Wellness Center building heights would range from 15 feet 10 inches to 35 feet, with the closest residential unit located at the APZ boundary and approximately 900 feet southwest of the southern end of Runway 30. The 20,000 square foot Storage Building associated with the Wellness Center would not exceed 36 feet in height and would be located

within the Airport APZ. The proposed Communications and Storage buildings would be located in the Airport Overlay (AO) setback. The AO setback is the required distance setback from the airport runway approaches. The structures proposed within the AO setback do not include residential uses or uses with three or more persons occupying the use at one time. These buildings would also have an approximately 20-foot setback from the Airport Street Right-of-Way (ROW) line.

The San Mateo County Comprehensive Airport Land Use Plan has designed safety and land use compatibility criteria to minimize the risks associated with potential aircraft accidents. Allowed uses in the APZ are: cemeteries (no chapels or funeral homes and cannot result in a gathering of more than 10 persons per acre at a time); golf courses (no club houses, bars, restaurants, or banquet facilities); industrial uses associated with manufacturing (cannot result in a gathering of more than 10 persons per acre at a time), transportation, and communications; and agricultural uses associated with crop production and livestock pasture and grazing (cannot result in a water area that may cause ground fog or result in bird hazard). It is the policy of the Airport Land Use Commission to keep APZs free of structures. Although the project does propose structures within the APZ, the structures do not include residential uses or uses with three or more persons occupying the use at one time, consistent with AO setback requirements.

Architectural and design features of the proposed project would comply with all applicable regulations and standards. The location and orientation of the microwave dishes would be such that public exposure to radiofrequency electromagnetic fields (radio wave emissions) would be minimized and would not be expected to interfere with Airport communications. The wireless telecommunications link would operate in Federal Communications Commission (FCC) licensed space. Solar panels would be positioned on rooftops so as not to create a glare for aircraft navigation. Building surfaces and a lighting plan would also be designed so as not to create a glare or visual interference for aircraft navigation. Wind turbines would be located in screened boxes to keep birds from hitting the rotating blades as well as from nesting.

During the preparation of the Draft EIR, the County received comments regarding potential wind impacts from the project to planes landing onto Half Moon Bay Airport runway. The comments expressed concern that, due to the orientation of the proposed Office Buildings, a wind tunnel could be created between two of the buildings, directly strong winds towards the Half Moon Bay Airport runways, making it hard for pilots to land planes at the airport, particularly smaller, lighter planes. However, the potential for a project-related wind tunnel is anticipated to be low, due to the terrain at the project site. The Pillar Ridge mountains currently block prevailing winds from the west and would prevent a wind tunnel effect.

Full compliance with all applicable federal, state, regional, and local regulations, programs and plans related to land uses in proximity to a public airport would be required. Therefore, the project would result in a ***less-than-significant*** impact associated with airport safety hazards to people residing or working in the area of a public airport.

The following mitigation is provided to assure that impacts remain less than significant:

***Mitigation Measure HAZ-3 Hazards Associated with Airport Operations***

Prior to approval of final development plans, a navigational easement shall be established for the project site, to the satisfaction of the County Director of Public Works. The navigational easement shall be recorded and shown on the vesting tentative map.

***Impact HAZ-4 Interfere with an Adopted Emergency Response Plan or Emergency Evacuation Plan***

As discussed in Sections IV.M (Transportation and Traffic), the proposed project would not generate sufficient traffic to create severe traffic congestion, nor would it interfere with emergency access to the site. Emergency vehicle access to the project site is provided from major roadways near and adjacent to the site. Major roadways near the project site include: State Route (SR) 1 (Cabrillo Highway) and Airport Street. The project site can be directly accessed from the surrounding streets, including: Cypress Avenue, Marine Boulevard; Capistrano Road, Prospect Way; and California and Cornell Avenues, located to the west, east and south of the site, respectively. Fire access and emergency access fencing and gates would be installed for the Wellness Center property and would run along the AO setback line between the buildings (refer to Figure III-24). The gates would be designed to be opened for fire access. In addition, two lock box access points would be available to allow fire trucks access to the proposed walking trail behind the Wellness Center. Development of the project site would be designed in accordance with all County regulations, including those pertaining to emergency access and evacuation. Therefore, impacts associated with an emergency response or evacuation plan would be ***less than significant***.

***Impact HAZ-5 Hazards Associated with Wildfires***

Although the project site is not located immediately adjacent to wildlands, the County has identified the project site to be located within a Community at Risk zone—neighborhoods or communities that interface with wildlands. Also, nearby agricultural lands adjacent to the Airport and east of Cabrillo Highway interface with an open space area that extends to Montara Mountain. This open space area is identified by CAL FIRE as a very high fire hazard zone. Development of new buildings located within an area designated by the enforcing agency to be at significant risk from wildfires, for which an application for a building permit and/or plan approval for construction is submitted, must meet the intent of CBC Chapter 7A, Materials and Construction Methods for Exterior Wildfire Exposure. Fire safety features in accordance with CBC standards include use of fire resistive building materials and adequate clearance of flammable materials from around buildings. Building standards require that building products and construction methods comply with applicable codes and ordinances of the local authority having jurisdiction, compliance must be submitted to the building official having jurisdiction for final approval.

The project applicant shall submit building plans and plot plans to the County and Coastside Fire Protection District to provide appropriate fire hazard management recommendations for inclusion as project conditions of approval. Therefore potential impacts from wildland fires would be ***less than significant*** and no mitigation measures are required.

For a more detailed discussion of project design in relation to fire safety, refer to Section IV.L (Public Services-Fire Protection) of this DEIR.

## **CUMULATIVE IMPACTS**

Development of the project in combination with the 37 related projects listed in Table III-1, (Related Projects) in Section III (Project Description) of this DEIR has the potential to increase the risk for accidental release of hazardous materials. The related projects list represents the broadest range of reasonable foreseeable development, including a number of projects that have not yet been approved. Each of the 37 related projects would require evaluation for potential threats to public safety, including those associated with transport/use/disposal of hazardous materials, accidental release of hazardous materials into the environment, hazards to sensitive receptors, listed hazardous material sites, aircraft-related hazards, emergency response, and wildland fire-related hazards. Because hazardous materials and risk of upset conditions are largely site-specific, this evaluation would occur on a case-by-case basis for each individual project affected, in conjunction with development proposals on these properties. Furthermore, implementation of Mitigation Measures HAZ-1 and HAZ-2 recommended above would reduce the project's impacts associated with hazards and hazardous materials and impacts would be less than significant and would not contribute to a cumulative impact to hazards and hazardous materials. Further, each related project would be required to follow local, state, and federal laws regarding hazardous materials and other hazards, including emergency response, airport operations and wildland fires (if applicable). Therefore, with full compliance with local, state, and federal laws pertaining to hazards and hazardous materials, cumulative impacts would be *less than significant* and no additional mitigation measures are required.

## **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

With implementation of mitigation measures listed above the project would have a *less-than-significant* impact with respect to hazards and hazardous materials.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### H. HYDROLOGY & WATER QUALITY

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#### INTRODUCTION

This section of the Draft Environmental Impact Report (DEIR) evaluates potential impacts of the proposed Big Wave Wellness Center and Office Park project (“proposed project”) with regard to hydrology of water bodies. Pillar Point Marsh and the neighboring Denniston Creek are the main surface water bodies near the project site. The Half Moon Bay Terrace serves as the primary aquifer for the Moss Beach, Princeton, and El Granada area, in which the project is located. All three of these water bodies have been designated by the State Water Resources Control Board (State Board) as having beneficial uses.<sup>1</sup> Both quantity and quality of flows from the project site to these water features should be consistent with these beneficial uses.

In addition, this section addresses the potential impacts of the proposed project related to water quality during construction and longer-term operational phases of the proposed project. The following discussion presents the findings and conclusions of Schaaf & Wheeler, the EIR hydrologists, including (but not limited to) data from the following (refer to Appendix H of this DEIR):

- *Hydrologic Analysis of the Big Wave Project*, prepared by Schaaf & Wheeler, May 15, 2009.

#### METHODOLOGY

The hydrologic, drainage, and water quality assessments of the proposed project are based upon:

- prior hydrologic analyses in the immediate area;
- site observations; and
- the preliminary site and drainage plans prepared by the project engineers MacLeod and Associates for the applicant.

General hydrologic information was collected from the National Weather Service database and published reports. General information on soils in the area of the project site was obtained from the United States Department of Agriculture (USDA) Soil Conservation Service (presently, Natural Resources Conservation Service, or NRCS) Soil Survey of San Mateo County.<sup>2</sup> Specific information on geologic

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<sup>1</sup> *San Francisco Bay Regional Water Quality Control Board, 2007, San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan), January 2007, 278 p.*

<sup>2</sup> *Wagner, R.J. and Nelson, R.E., 1954, Soil Survey of San Mateo Area: U.S. Department of Agriculture, Soil Conservation Service, 111 p. + maps.*

and soils conditions at the project site was drawn from the Balance Hydrologics, Inc. study<sup>3</sup> prepared for the County in 2002.

## ENVIRONMENTAL SETTING

The project site is located on Airport Street, northwest of the Princeton/Pillar Point Harbor area in an unincorporated area of San Mateo County, and is accessible via State Route 1 (SR 1), located less than 0.5 miles to the east, and Airport Street. The site can be directly accessed from the surrounding streets, including: Cypress Avenue, Marine Boulevard; Capistrano Road, Prospect Way; and California and Cornell Avenues, located to the west, east and south of the site, respectively. The site is currently used for agricultural purposes.

Surrounding areas include the Half Moon Bay Airport (east), the El Granada Mobile Home Park (north), the Pillar Point Headlands and Pillar Point Marsh (west), and the Princeton/Pillar Point Harbor industrial/commercial area (south). The Fitzgerald Marine Reserve, bracketed by Maverick's Surf break (south) and Montara Beach (north), is located approximately 0.25 miles to the west. Additionally, Moss Beach is about 2 miles northwest of the project area, and El Granada, about 1 mile east across SR 1.

A shallow drainage swale owned by the County of San Mateo separates the two parcels that comprise the project site. The northern parcel is larger at approximately 14.25 acres, while the southern parcel comprises approximately 5.28 acres.

### Topography

The project site comprises approximately 19.4 acres of relatively flat topography that is currently without urban development and in vegetable crop production. A natural drainage swale (intermittent stream) is at a low point between the two parcels and leads to the Pillar Point Marsh. Both portions of the site have a relatively steep topography change at their western edges, which approach the marsh. Steeper topographic changes also exist along the northern edge of the southern parcel and the southern edge of the northern parcel, where the parcels respectively border the drainage swale. Elevations of the northern parcel range from 11.5 to 27.7 feet National Geodetic Vertical Datum (NGVD),<sup>4</sup> while elevations of the southern parcel range from 8.9 to 18.3 feet NGVD.

### Climate

The area encompassing the project site is located in the Mediterranean-type climate zone typical of central California. This zone is characterized by cool, wet winters and warm, dry summers, with over 80

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<sup>3</sup> Woyshner, M., Hedlund, C., and Hecht, B., 2002, *San Mateo County Mid-Coast Aquifers: Literature and Data Review, Prepared for San Mateo County, Board of Supervisors, Balance Hydrologics, Inc., April 2002, 76 p.*

<sup>4</sup> *The topographic elevations are based on Site Topography by MacLeod & Associates dated October 14, 2005 and are benchmarked to the San Mateo County Datum. San Mateo County Datum is identical to the National Geodetic Vertical Datum of 1929 (NGVD 29).*



percent of all precipitation falling between the months of November and March (refer to Table IV.H-1). Moisture-rich air moves in from the ocean during the winter and drops from 20 inches to 50 inches of rain, increasing with altitude. The coastal areas of San Mateo County, including the project site, experience frequent fogs, which help moderate temperatures. At Half Moon Bay, average daily temperatures vary less than 10 degrees between the winter and summer months.<sup>5</sup>

**Table IV.H-1  
Mean Monthly Rainfall and Evapotranspirative Demand (in inches) – Project Vicinity**

Month	Mean Monthly Precipitation <sup>1</sup>	Mean Monthly Reference Evaporation <sup>2</sup>	Water Surplus or Deficit	Potential Runoff or Recharge <sup>3</sup>
October	1.66	2.96	-1.30	–
November	3.19	1.64	1.55	1.55
December	4.39	1.30	3.09	3.09
January	5.41	1.36	4.05	4.05
February	4.40	1.93	2.47	2.47
March	3.81	3.26	0.55	0.55
April	1.96	4.70	-2.74	–
May	0.74	4.87	-4.13	–
June	0.29	5.32	-5.03	–
July	0.11	5.03	-4.92	–
August	0.19	4.84	-4.65	–
September	0.40	3.60	-2.66	–
<b>Annual Total</b>	<b>26.40</b>	<b>40.81</b>	–	<b>11.71</b>

Notes:

- <sup>1</sup> Precipitation data for Half Moon Bay Airport based on a 63-year period, 1939-2001 (Todd Engineers, 2003, *Ibid.*).
- <sup>2</sup> Mean monthly reference evapotranspiration (ET<sub>o</sub>) is based on data from the California Irrigation Management Information System (CIMIS) (Coastside County Water District, 2005, *Urban Water Management Plan.*).
- <sup>3</sup> Dry soil recharge early in the wet season must satisfy the soil moisture deficit before rainfall reaches the water table.

There are two sources of long-term meteorological data near the project site. One is a weather station at the Half Moon Bay Airport approximately 0.5 miles from the project site. The other is the Half Moon Bay weather station (NCDC Station #043714) located approximately 3.7 miles southeast of the project site. Mean annual rainfall was 26.40 inches,<sup>6</sup> in terms of water year, for the period of record from 1939 to 2002 (64 complete years) at the airport station. Periods of abundant rainfall and prolonged droughts are both frequent in the historical record with a minimum annual rainfall during this period of 13.0 inches and a maximum of 52.6 inches. The recent record shows that the past decade has generally consisted of above-average rainfall conditions, with very wet years in years 1993, 1995, 1996, 1998, and 1999. This wet period was preceded by prolonged dry conditions in the late 1980's and early 1990's, with six consecutive years of below-average rainfall.

<sup>5</sup> Wagner, Richard J. and Ralph E. Nelson, 1961. *Soil Survey of the San Mateo Area, U.S.D.A. Soil Conservation Service, 111+ p.*

<sup>6</sup> Todd Engineers, 2003, *Lower Pilarcitos Creek Groundwater Basin Study, 66+ p.*

As Table IV.H-1 indicates, most of the area's precipitation is recorded during the months of November through March. Virtually all of the precipitation occurs as rainfall, although fog can account for a small percentage. The annual average evapotranspiration for the project area, as measured at the airport weather station, is estimated to be 40.81 inches, of which about 40 percent (17.15 inches) occurs during the non-irrigation season of October through April. Evaporation and evapotranspiration rates then rise in response to warmer weather, and soil moisture storage is typically depleted by mid- to late May. Growth of non-riparian native vegetation then slows or stops completely and landscape managers, where employed, commence irrigation, which is generally maintained into October.

For the developed areas of Moss Beach, El Granada, and Princeton, annual runoff is estimated to be 40 percent of annual precipitation.<sup>7</sup> Water that does not flow to the ocean serves to recharge groundwater, supply agricultural and municipal water via diversions and wells, and support water needs of vegetation and biota throughout the watersheds, including Pillar Point Marsh. As Table IV.H-1 indicates, the precipitation available after evapotranspiration to runoff or recharge groundwater from pervious surfaces is on average 11.71 inches a year, or about 44 percent of annual precipitation.

## Geology and Soils

### Geology

The project area is situated on a structural block west of the San Andreas and Pilarcitos faults.<sup>8</sup> The Half Moon Bay Terrace Formation underlies the Half Moon Bay Airport, as well as the agricultural fields to the east and west of SR 1 (Cabrillo Highway in this stretch). This formation consists of unconsolidated deposits of sand silt and clay and serves as the principal water-bearing zone in the Moss Beach and El Granada area.

Pillar Point Marsh is underlain by younger, fine-grained, organic-rich basin deposits and fine-grained alluvial deposits<sup>9</sup> that have been carried by flood waters from Denniston Creek, the airport, and neighboring uplands.

Geotechnical borings and water wells near the marsh reveal that the flood flows and alluvial sediments from Denniston Creek have periodically been transported to the marsh area. The existing channel

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<sup>7</sup> Hecht et. Al., 1988, *Hydrogeologic and Water-Quality Constraints at the Mid-Coastside Golf Course, Moss Beach, San Mateo County*.

Knot, J.M., 1973, *Effects of Urbanization on Sedimentation and Floodflows in Colma Creek Basin, California*.

<sup>8</sup> Brady/LSA, 2002, *Fitzgerald Marine Reserve Master Plan. Part Two: Environmental Setting. May 2002*.  
Woyshner, M., Hedlund, C., and Hecht, B., 2002, *Ibid*.

<sup>9</sup> Brabb, E.E., Pampeyan, E.H., 1972, *Preliminary geologic map of San Mateo County, California: USGS Miscellaneous Field Studies Map MF-328*.

alignment of lower Denniston Creek, set by highway and other road construction, and the development of Princeton's industrial zone, however, limit surface connections between the creek and marsh.<sup>10</sup>

The main geological feature near the project area is the San Gregorio Fault (SGF).<sup>11</sup> The fault line essentially cuts northwest to southeast through the middle of Pillar Point Marsh and crosses the northwestern edge of the northern parcel within the project site. As described below, the SGF plays an important role in the marsh hydrology, mainly because it displaces and deforms the Half Moon Bay Terrace.<sup>12</sup> East of the fault, the terrace is laterally continuous for several miles. The western wave-cut platform of the terrace is present at about sea level at Moss Beach to the north, but may be as much as 60 feet below sea level near Pillar Point Marsh. Remnants of an uplifted marine terrace are present immediately west of the fault, forming the upland areas to the west of the marsh and south to Pillar Point.

### **Soils**

The USDA NRCS has mapped soils<sup>13</sup> at the site as Denison Clay Loam (refer to Figure IV.H-1), subcategorized as either "nearly level" or "nearly level, imperfectly drained." The two subcategories found on site – Denison Clay Loam, nearly level (DcA) and Denison Clay Loam, nearly level, imperfectly drained (DdA) – include similar soils with the imperfectly drained implying an occasionally high water table. The high water table can reduce rates of surface water infiltration, either from stormwater runoff or irrigation.

Figure IV.H-1 displays NRCS soil data with the U.S. Geological Survey (USGS) Quadrangle Sheet in the background. A rough outline of the project boundaries and the watershed of the Pillar Point Marsh at its confluence with the harbor are also shown for clarification. The Quad Sheet supports the delineation of a high water table at some portions of the project site since the site is located in or at least near the Pillar Point Marsh. Using the NRCS Web Soil Survey,<sup>14</sup> percentages of each soil type on the project site were estimated. The northern parcel contains 96.7 percent DcA and 3.3 percent DdA, with the DdA portions at

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<sup>10</sup> *Brady/LSA, 2002, Ibid.*

<sup>11</sup> *Stoffer, P.W., 2005, Chapter 8 The San Andreas and San Gregorio Fault Systems in San Mateo County: In The San Andreas Fault in the San Francisco Bay Area, California: A Geology Fieldtrip Guidebook to Selected Stops on Public Lands, USGS, Open-File Report 2005-1127, 21 p.*

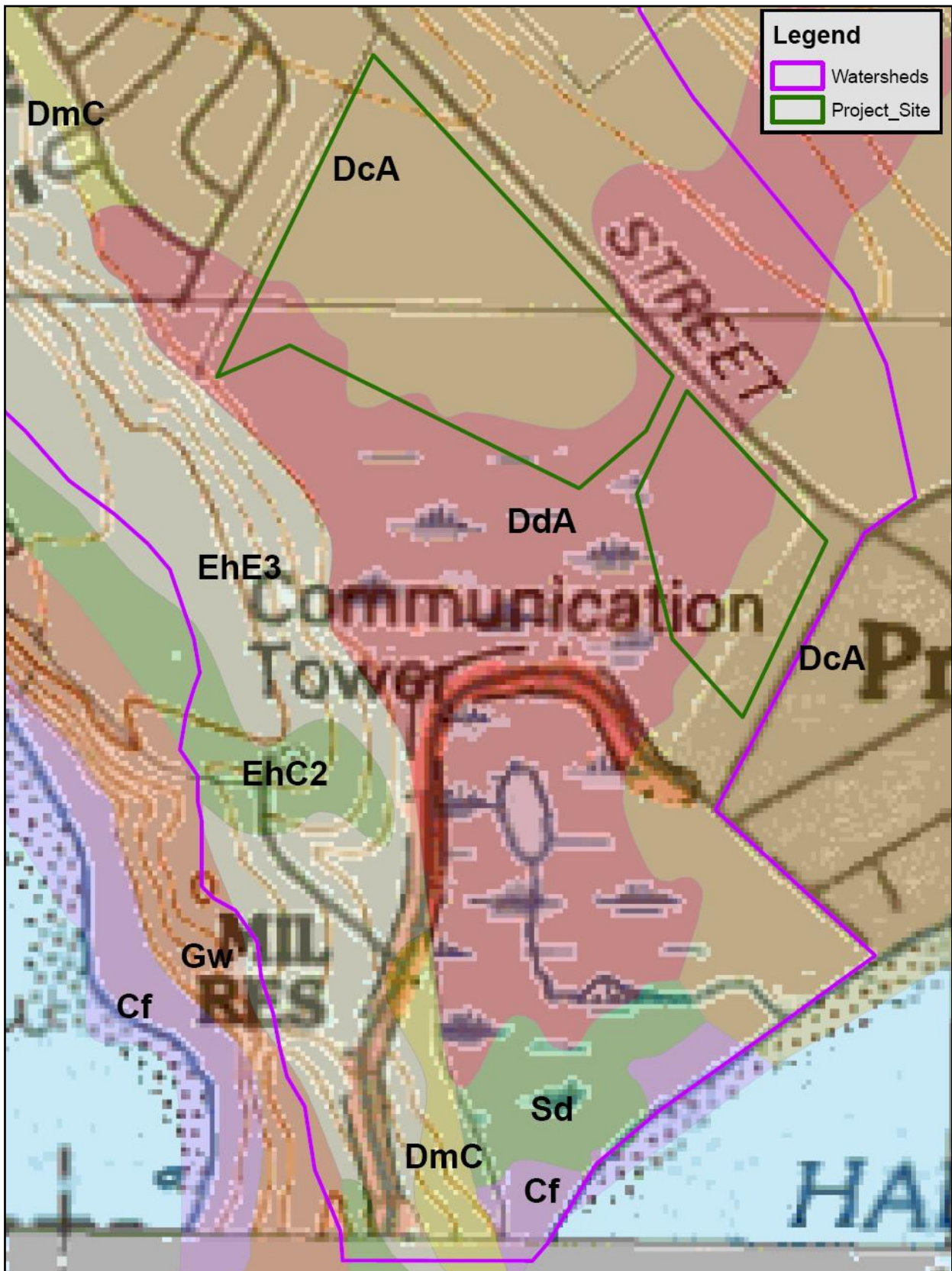
*Koehler, R.D., Simpson, G.D., Witter, R., Hemphill-Haley, E., and Lettis, W.R., 2002, Paleoseismic investigation of the northern San Gregorio Fault at Pillar Point Marsh near Half Moon Bay, California, U.S.G.S., National Earthquake Hazards Research Program (NEHRP) External Grant Award No. 02HQPA0001, 6 p.*

<sup>12</sup> *LaJoie, K.R., 1986, Coastal Tectonics: In Active Tectonics, Washington, D.C.: National Academy Press.*

*LaJoie, K.R., Weber, G.E., Mathieson, S., and Wallace, J., 1979, Quarternary Tectonics of Coastal Santa Cruz and San Mateo Counties, California, as Indicated by Deformed Marine Terraces and Alluvial Deposits, Field Trip Guidebook to Coastal Tectonics and Coastal Geologic Hazards in Santa Cruz and San Mateo Counties, California.*

<sup>13</sup> *Wagner, Richard J. and Ralph E. Nelson, 1961, Ibid.*

<sup>14</sup> *United States Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey, accessed at <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>.*



Source: U.S. Department of Agriculture, Natural Resources Conservation Service, 2006, Soil Survey (SSURGO) database for San Mateo Area, California, ca637, December 14, 2006. USGS, 1993, Montara Mountain, CA, 7.5' Quadrangle Sheet.



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Figure IV.H-1  
Soils Map, Big Wave Project Vicinity

the low-lying southwest corner and eastern edges near the drainage swale. The southern parcel contains predominantly DdA soils at 75.9 percent; DcA soils comprise 24.1 percent of the site on the eastern edge of the site. Figure IV.H-1 verifies these percentages.

Denison Clay Loam soils of both subcategories onsite have the following characteristics (refer to Table IV.H-2) that strongly influence local hydrology:

- moderately deep or deep;
- nearly level or gently sloping;
- clay loam on the soil surface and throughout the profile;
- moderately slow to slow permeability (Hydrologic Group C);
- very high water-holding capacity; and
- low infiltration.

Although the small slopes of these soils lead to slow runoff, these soils have been classified in Hydrologic Group C (moderate runoff) because of their slow permeability. The DdA soils, furthermore, tend to have a high water table, reducing the available subsurface storage. Particularly during large storm events, these soils can have high runoff volumes. With moderate slopes, however, the erosion potential of these soils is none to slight.

**Table IV.H-2  
Recharge and Water-holding Properties of the Primary Surficial Soil Types at the Project Site**

Map Symbol	Soil Description	Depth <sup>1</sup>	Hydrologic Group <sup>2</sup>	USCS Group <sup>3</sup>	Erosion Hazard	Permeability (in/hr)	Comments
DcA	Denison clay loam, nearly level – formed under grass vegetation from granitic alluvium – black and medium acidic or slightly acidic soil – extremely hard subsoil when dry	>80"	C	ML or CL	None	0.6 - 2.0	moderately slow permeability very slow runoff well drained
DdA	Denison clay loam, nearly level, imperfectly drained – same as above with: – occasionally high water table, causing problems with the disposal of water	>80"	C	SM	None	0.6 - 2.0	moderately slow permeability very slow runoff imperfectly drained

Notes:

<sup>1</sup> Depth to restrictive feature – i.e., bedrock or other impermeable layer limiting root penetration. Limit of soil survey is 80 “.

<sup>2</sup> There are four hydrologic soils groups that indicate infiltration of water when soils are thoroughly wet and receive precipitation from long-duration storms. Soil group “C” indicates a slow infiltration rate.

<sup>3</sup> *The Unified Soil Classification System (USCS) groups soils according to their grain size distribution, liquid limit, and plasticity index. ML indicates a fine-grained, inorganic silty soil with a low compressibility. CL indicates a fine-grained, inorganic clayey soil with a low compressibility. SM is a coarse-grained, sandy soil with significant amounts of silt.*  
Source: USDA, NRCS, Web Soil Survey: <http://websoilsurvey.nrcs.usda.gov>.

## Surface Water

### *Overview of Surface Water Features*

The primary surface water features near the project are the intermittent drainage swale between the two project parcels, the Pillar Point Marsh, and Denniston Creek. These features are generally described as follows with respect to the project site (refer to Figure IV.H-2):

- The swale is primarily fed by upstream drainage from the Half Moon Bay Airport and drains into Pillar Point Marsh.
- Pillar Point Marsh is a tidally influenced estuary (i.e., salt marsh) located within a cove of Half Moon Bay on the Pacific Ocean, bounded by Pillar Point Harbor to the south, Stanford Avenue to the southeast, Airport Street to the east, the old Granada Sanitary District access road to the north, the SGF fault scarp on the west, and the Pillar Point Military Reservation to the southwest.
- Denniston Creek feeds into Half Moon Bay from the north, but does not include the project area in its drainage area (watershed).

Pillar Point Marsh lies near the mouth of Denniston Creek, but is not directly connected by surface flow. Although Denniston Creek's recharge can affect water levels in the marsh, Denniston Creek is not discussed further since any impacts in the project area will not affect the creek directly.

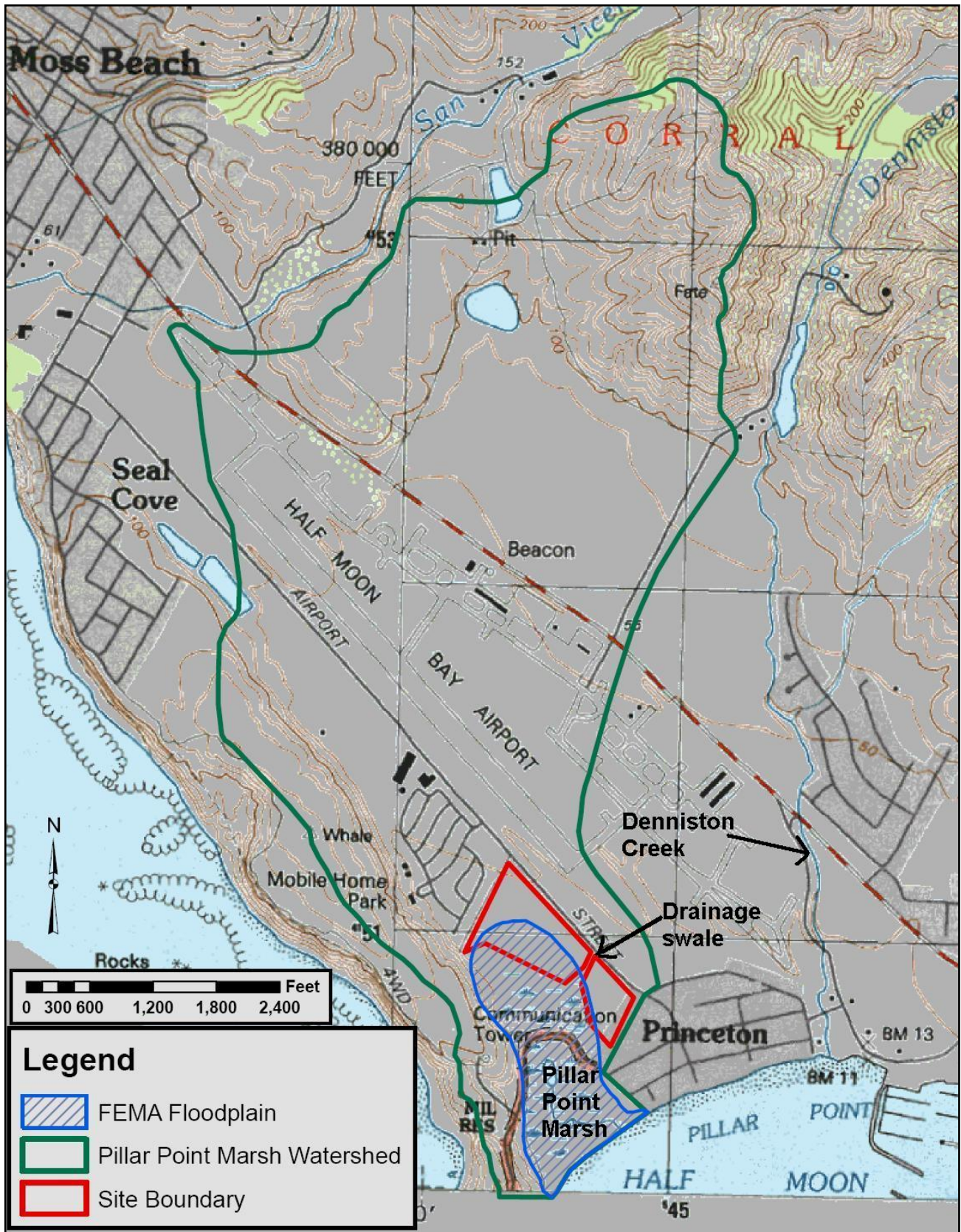
### *Pillar Point Marsh*

There is no distinct surface water feature, such as a creek or river that feeds surface water into Pillar Point Marsh. Although the marsh does have some surface drainage and is generally considered a surface water resource, it may be more appropriately described as a groundwater-fed lowland area (generally below 10 feet mean sea level [msl]), the lowest portion of which is subject to tidal inflows during high tides. Pillar Point Marsh eventually outlets to the Pillar Point Harbor, which in turn outlets to the Pacific Ocean. The marsh currently is reported to comprise about 41 acres (23.5 acres of freshwater marsh and 17.5 acres of salt marsh),<sup>15</sup> although at one point it was reported to comprise about 66 acres total.<sup>16</sup> The drainage area of Pillar Point Marsh is about 790 acres. Figure IV.H-3 represents the official boundary of the Pillar Point Marsh as presented in the County's Local Coastal Program documentation (1998). The maps for the Fitzgerald Marine Reserve, which acquired the marsh in 1997, indicate slightly different boundaries, as shown in Figure IV.H-4. Both maps indicate that the drainage swale between the two project site

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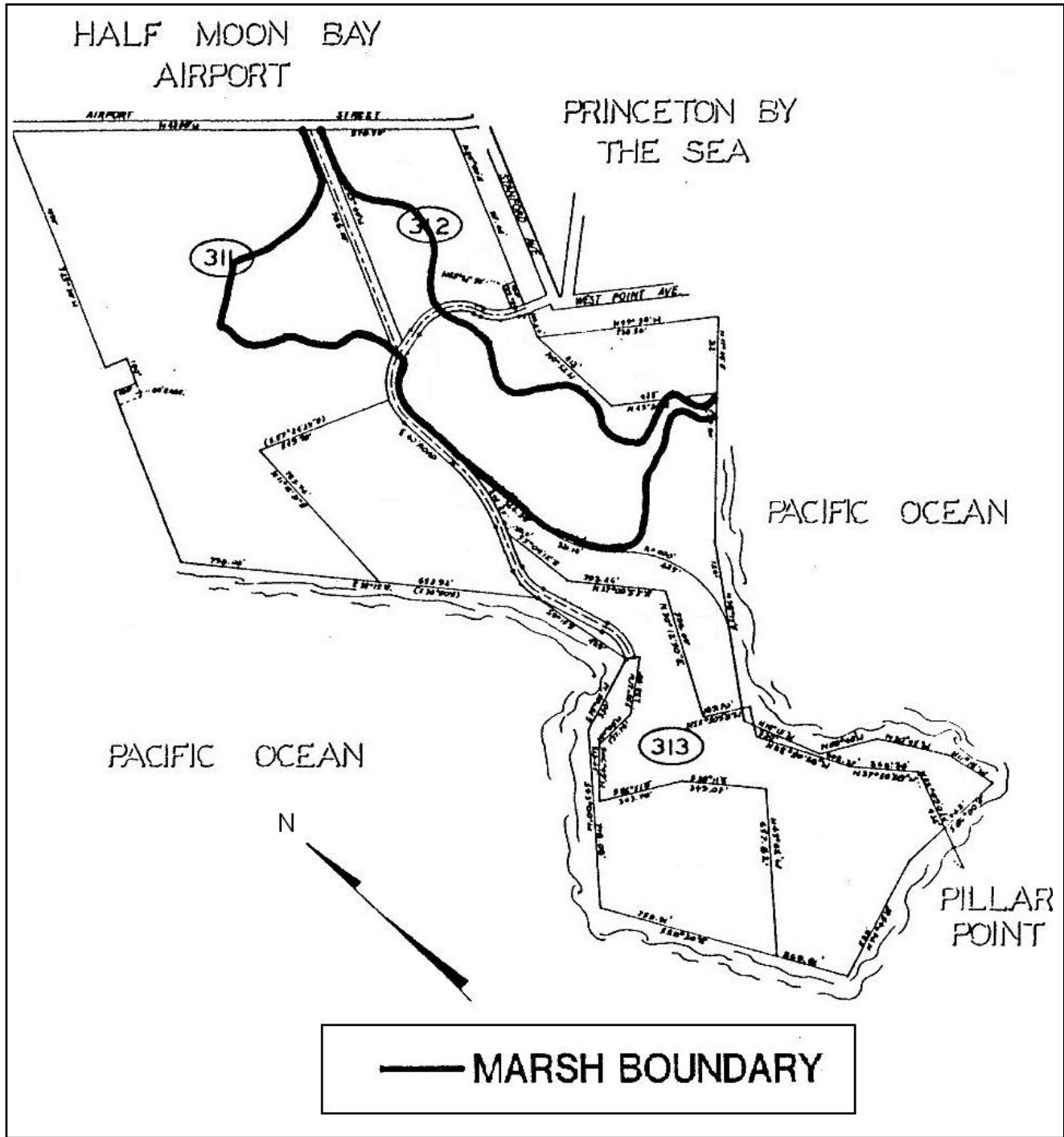
<sup>15</sup> Brady/LSA, 2002, *Ibid.*

<sup>16</sup> Flint, Philip S., 1977, *Environmental Study of the Pillar Point Marsh: Part I. Baseline Data. February 1977.*

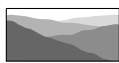


Source: USGS, 1993, Ibid. Kleinfelder, 2004, South Midcoast Aquifer Study, Hydrologic Sub-Areas, Plate 12, accessed on Apr. 4, 2007, [http://www.co.sanmateo.ca.us/smc/departments/home/0,,5557771\\_5558929\\_105063439,00.html](http://www.co.sanmateo.ca.us/smc/departments/home/0,,5557771_5558929_105063439,00.html), March 2004.





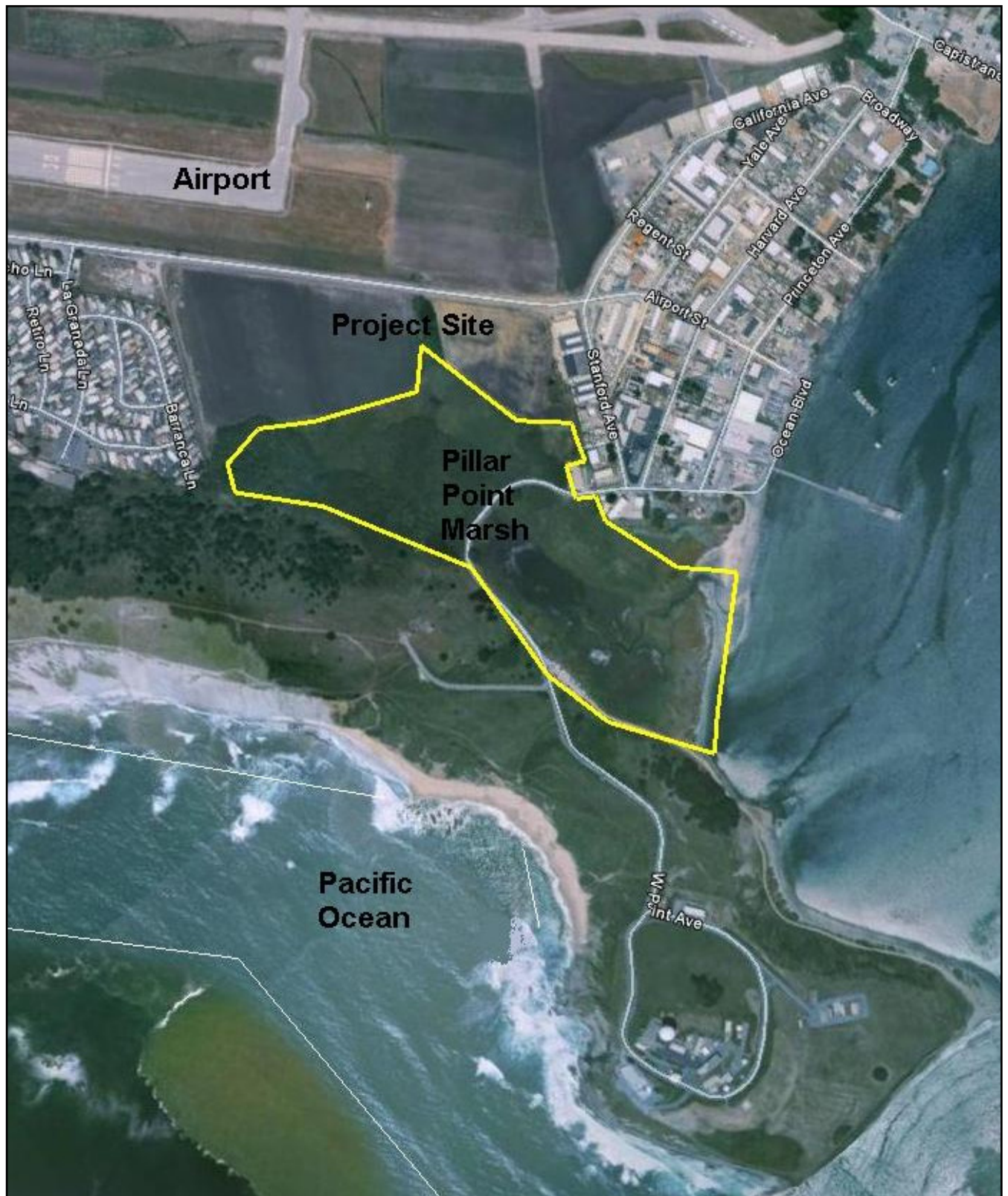
Source: Adapted from Map 7.1 from Environmental Services Agency, 1998, Planning and Building Division, San Mateo County, Local Coastal Program Policies, June 1998, accessed on April 2, 2007 at [http://www.co.sanmateo.ca.us/planning/pdf/lcp\\_1098.pdf](http://www.co.sanmateo.ca.us/planning/pdf/lcp_1098.pdf)



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Figure IV.H-3  
Pillar Point Marsh Boundary,  
Local Coastal Program





Source: Brady/LSA, 2002, Fitzgerald Marine Reserve Master Plan. Part Two: Environmental Setting. May 2002.



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Figure IV.H-4  
Pillar Point Marsh Boundary,  
Fitzgerald Marine Reserve

parcels is considered part of the marsh, although the project parcels themselves are considered to be outside and just on the northeastern edge of the marsh.

The geomorphology of Pillar Point Marsh is strongly influenced by the SGF, which is described in the geology subsection above. Surface water runoff and groundwater flow are both controlled and constrained by the SGF and its resulting offset. The marsh is currently separated into two distinct components by West Point Avenue, a brackish/saltwater marsh and beach to the southwest and a freshwater marsh-willow riparian zone to the northeast. The salt marsh portion occupies the area between the beach and the access road to the Pillar Point Military Reservation. The freshwater component of the marsh is northeast of the road, separated from the saltwater marsh by culverts under the road. The shape of the freshwater marsh components may be characterized by two lobes or arms, one that follows the trace of the SGF to the north and one that is dominated by the westerly drainage channel created during the airport construction. Historically, the marsh may not have had two such distinct components. Both natural and anthropogenic actions can affect the extent and nature of the marsh.

Natural, hydrologic conditions of the marsh can vary seasonally and throughout cycles of drought and abundant rainfall. The hydrologic status, or relative “wetness” of the marsh at any given time, will depend on the following factors:

- tidal inflow to the salt marsh;
- the annual amount of rainfall, runoff, and recharge to the supplying aquifer;
- the groundwater storage capacity of the upslope area supplying freshwater to the marsh;
- the percent of groundwater stored at any given time;
- the rate of subsurface flow through the aquifers to the marsh;
- the rate of subsurface outflow; and
- the rate of evapotranspiration.

As for artificial changes, historical land practices on the Half Moon Bay Terrace have greatly altered the surface hydrology, sedimentation, and vegetation patterns in the Pillar Point Marsh.<sup>17</sup> For instance, the marsh was reportedly dammed in the early 1900s by farmers trying to protect farmland from saltwater and to allow for an access road, and in the late 1920s, the U.S. Air Force improved the access road to become West Point Avenue.<sup>18</sup>

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<sup>17</sup> The following paragraphs detailing the historical setting of Pillar Point Marsh are excerpted from Section F. Hydrology of the Brady/LSA, 2002, *Ibid.*

<sup>18</sup> Brady/LSA, 2002, *Ibid.*

Available mapping of the marsh area indicates the marsh's hydrology has been periodically altered since the marsh was first noted in maps in the 1800s. The earliest known appearance of the marsh on maps<sup>19</sup> reveals that areas without standing or brackish water were used for cultivating grain. At that time, the marsh was crossed by agricultural roads. The earliest available photographs<sup>20</sup> from 1928 to 1931 show agricultural uses predominating. An access road to Pillar Point from Princeton-by-the-Sea existed in approximately the same location as the current paved road. Several agricultural ponds, including the San Vicente Reservoir and two ponds along the SGF scarp are also visible.

Subsequent aerial coverage indicates that by 1943<sup>21</sup> construction of Half Moon Bay Airport had commenced and an extensive surface drainage network, consisting of excavated ditches, had been developed to drain the runways, fields, and other airport facilities. In this drainage system, numerous small feeder ditches drain into a main collector ditch, which flows through a culvert, discharging at Airport Boulevard into the upper marsh. The grading of the runway and ditch network significantly altered surface drainage at the time. The ditch network continues to function today, serving as the primary source of surface flow and sediment to the marsh.

The 1943 aerial photographs also show that the dirt road bisecting the two portions of the marsh was a well-traveled route to the top of Pillar Point. Princeton-by-the-Sea to the south had been subdivided, but was still in agricultural production. The freshwater marsh also appears to be expanding into the area east of the Pillar Point access road, evidenced by a reduction in cultivated area and apparent spread of native vegetation, such as scrub and emergent marsh. The Pillar Point Harbor breakwater had not yet been constructed, and the salt marsh outlet was closed by a barrier dune created by wave action, leaving two distinct brackish open water areas.

By 1956, most of the upper marsh appears to have been reclaimed as agricultural land, with isolated willow stands. Princeton-by-the-Sea was still undeveloped, though the street layout remained. It should also be noted that the Pillar Point bluff and eastern slopes, as in earlier photographs, continued to be grazed and exhibited no coastal scrub characteristics. Between 1959 and 1967, the Pillar Point Harbor breakwater was constructed by the U.S. Army Corps of Engineers (USACE), enclosing Pillar Point Harbor and substantially reducing wave and tidal action at the mouth of the salt marsh. In 1968, the U.S. Air Force established the Pillar Point Missile Tracking Station, during which time the Pillar Point access road assumed essentially its current dimensions, drainage features, and alignment.

The 1972 aerial photographs show new structures on several lots next to the salt marsh. Also, the El Granada mobile home park and El Granada Sanitary District's Wastewater Treatment Plant abutting the freshwater marsh had been built. Stands of willow had begun to fill in between the mobile home park and

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<sup>19</sup> U.S. Coast and Geodetic Survey, 1966.

<sup>20</sup> California Department of Transportation, 1928-1931, Aerial Photo, From University of California, Santa Cruz.

<sup>21</sup> Archaeological Consulting and Research Services, Inc., 1975, *An Archaeological Assessment of the Proposed Fitzgerald Marine Reserve Additions*, Prepared for the County of San Mateo Parks and Recreation Division, November 1975.

the Pillar Point access road, and also built was the spur road off the access road, which now serves as the Harbor District's coastal access parking lot. Aerial photographs from 1977 show several structures on the barrier beach at the salt marsh outlet, implying a level of beach front stability previously unknown.

Aerial photographs reveal that the January 1982 storm events actively aggraded the delta at the mouth of Denniston Creek, with a plume of sediment discharging into Pillar Point Harbor. This sediment event appears to have overwhelmed the upstream Denniston Reservoir and resulted in the discharge to the harbor. Aerial photos from July of 1983 shows that even at high tide the barrier beach remained enlarged due to the previous year's sediment discharge event and the reduced littoral action at the mouth of the marsh. The extent of the freshwater emergent marsh consequently appears to expand upstream of the Pillar Point access road. The widening barrier bar and continuing delta formation at the mouth of Denniston Creek are still apparent in 1993 aerial photographs. The dune at the marsh outlet thus appears to be well vegetated, implying stability and an absence of wave action at higher elevations on the beach.

### *Surface Water Drainage*

There are currently no distinct drainage channels on the project site; stormwater runoff from the project site drains directly into Pillar Point Marsh. Portions of the site drain to the onsite drainage swale, which is probably best described as a shallow, intermittent stream. Any drainage to groundwater percolates into the Half Moon Bay Terrace.

Other surface water drainage into the drainage swale comes primarily from the Half Moon Bay Airport via an approximately 4-foot diameter, concrete pipe culvert (see the top picture in Figure IV.H-5), which travels from the southerly edge of the airport to the southwest beneath an agricultural field to outlet on the eastside of Airport Street. At Airport Street, the airport drainage travels through two 44-inch diameter, concrete pipe culverts (see the bottom picture in Figure IV.H-5) under the road into the drainage swale.

Any effects of the surface water drainage and groundwater recharge, both of which affect the hydrology of Pillar Point Marsh, need to put the effects into the context of the entire Pillar Point Marsh watershed. Figure IV.H-2 depicts the estimated watershed boundaries for Pillar Point Marsh, based on the USGS Quad Sheet topography for the area and other studies,<sup>22</sup> and indicates the 790-acre drainage area of Pillar Point Marsh. As detailed above, surface water ponding and drainage in the Pillar Point Marsh has already historically been altered by three primary man-made features, each of which has had substantial impacts on both the biology and function of the marsh complex:

- the access road to Pillar Point;
- the construction of the Half Moon Bay Airport; and

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<sup>22</sup> USGS, 1993, *Ibid.*

Kleinfelder, 2004, *South Midcoast Aquifer Study, Hydrologic Sub-Areas, Plate 12*, accessed on Apr. 4, 2007, [http://www.co.sanmateo.ca.us/smc/departments/home/0,,5557771\\_5558929\\_105063439,00.html](http://www.co.sanmateo.ca.us/smc/departments/home/0,,5557771_5558929_105063439,00.html), March 2004.



Surface water drainage culverts up stream of site.



Surface water drainage culverts on site.

Source: Schaaf & Wheeler, 2009.



- the USACE Breakwater at Pillar Point Harbor.

The most conspicuous feature is the access road, separating saltwater from freshwater marsh. The road both constrains tidal inflow to the freshwater wetlands, and, perhaps more importantly, traps sediment, gradually causing aggradation of the freshwater habitats to the east. The other two features are less conspicuous in their effects. The airport serves as the primary source of stormwater runoff and sediment to the upper freshwater marsh. The breakwater limits wave action on the saltwater marsh barrier dunes.

Both surface runoff from upstream of the marsh and rising groundwater levels contribute to surface water in the marsh. Fluctuations in the extent and duration of ponding occur through the year and over longer periods of wet and dry cycles. In effect, aggradation changes the mean elevation of the ground surface. Changes of habitat type reflect the long history of fluctuating water levels and sediment generating disturbance, especially in the freshwater portions subject to flooding and sedimentation.

In the upper watershed and on the unpaved areas of the Half Moon Bay Terrace, effective runoff of seasonal precipitation occurs after soils have become saturated. Based on local soil types, this typically occurs after the first 10 inches of rainfall has been absorbed by dry vegetation and soil surfaces. In paved areas, with roofs, gutters, and ditches, both the volume and velocity of rainfall runoff is increased. Drainage ditches hasten the flow of freshwater off the surface of the Half Moon Bay Terrace and through Pillar Point Marsh. As a result, groundwater recharge is decreased. Particularly if there is further development in the El Granada/Princeton area and along Airport Street, the trend may be towards less recharge area for the marsh.

#### *Other Surface Water Bodies*

There are no existing ponds or other surface water bodies on the project site. Extensive research and discussion with regulatory agencies has been conducted to clarify the extent of wetlands on and near the site. Results of this research and discussions are provided in Section IV.D (Biological Resources) of this DEIR. For this section of the DEIR, it is sufficient to note that high groundwater onsite is likely, especially near the edges of the project parcels that border the marsh and swale.

#### *Flooding*

Under Executive Order 11988, the Federal Emergency Management Agency (FEMA) is responsible for management of floodplain areas defined as lowland and relatively flat areas adjoining inland and coastal waters subject to a one-percent chance of flooding in any given year (a 100-year flood). FEMA requires that local governments covered by federal flood insurance pass and enforce a floodplain management ordinance specifying minimum requirements for any construction within the 100-year floodplain.

Flood hazards in the project vicinity and generally along the northern California coast may be generated by swell waves from offshore storms, by wind waves from land-falling storms, or tsunamis – sea waves

generated from oceanic earthquakes, submarine landslides, and volcanic eruptions.<sup>23</sup> The degree of hazard depends on the water-surface elevation of the astronomical tide that coincides with the wave or tsunami. Historical information on tsunamis in the project area is discussed in detail in the following subsection.

The federal Flood Insurance Study (FIS) for the project area does not discuss flooding specifically at Pillar Point Marsh or its vicinity, except at Miramar Beach, which is approximately 2 miles southeast of the site. Flooding related to Denniston Creek, however, is discussed in the FIS. The flooding for Denniston Creek is local to the creek and is not noted as directly affecting areas close to the project site. The floodplain depicted in the Flood Insurance Rate Map (FIRM) for the project area (i.e., Pillar Point Marsh) is not discussed or explained in the FIS; given that the floodplain is listed as an approximate zone, it is likely based on a previous floodplain map from 1977. Figure IV.H-6 shows the portion of the effective FIRM that includes the project area, with the project parcel boundaries superimposed. The FIS does note that the most severe storms to hit the California coast up until the time of the study were in 1978 and 1983, when high water levels were accompanied by large storm waves.

In January 1978, some of the better protected beaches were damaged, with jetties and breakwater barriers being overtopped and even undermined. The winter of 1983 brought a series of high tides, storm surges, and storm waves and caused considerable damage along the northern California coast. In addition, tsunami-related flooding, discussed below, has historically caused damage in the project area.

Both parcels of the project site appear to be located within a 100-year flood hazard area as mapped on the effective FIRM. Significant portions of the project site, as shown on the 1984 FEMA flood mapping,<sup>24</sup> are shown in a Zone A flood area. Since Zone A is an approximate flood zone with no base flood elevations (BFEs) determined, no BFEs are shown on the FIRM. However, in 2001, a Letter of Map Revision Based on Fill (LOMR-F) was granted by FEMA for properties adjacent to this floodzone, list the BFE as 8.5 feet (NGVD).<sup>25</sup> Furthermore, in a 2005 Letter of Map Amendment (LOMA), FEMA removed the project parcels from the floodplain.<sup>26</sup> This LOMA and its back-up information indicate that the limits of the FEMA floodplain are on the southside of the West Point Avenue access road.

Based on the surveyed site topography, no portion of the site is at 8.5 feet or lower. The lowest part of the site is near 10 feet. Figure IV.H-6 presents three floodplain boundaries: the one shown in the FEMA

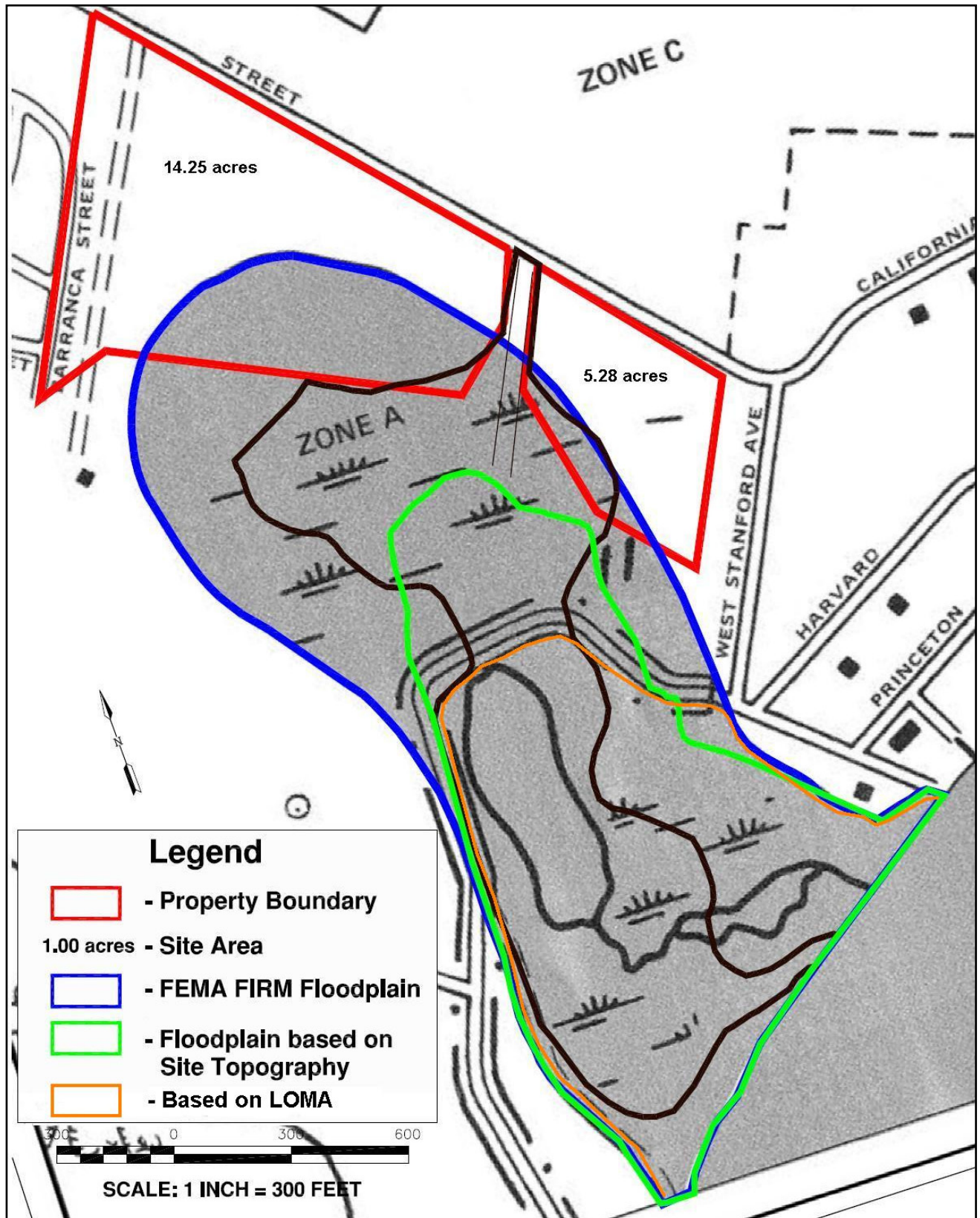
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<sup>23</sup> FEMA, 1986, *Flood Insurance Study, San Mateo County, California, Unincorporated Areas, August 5, 1986.*

<sup>24</sup> Federal Emergency Management Agency (FEMA), *National Flood Insurance Program (NFIP), 1984, Flood Insurance Rate Map (FIRM), San Mateo County, California (Unincorporated Areas), Panel 060311 0113B, July 5, 1984.*

<sup>25</sup> FEMA, 2001, *Letter of Map Revision Based on Fill Determination Document (Removal), Case No. 01-09-276A, February 1, 2001.*

<sup>26</sup> FEMA, 2005, *Letter of Map Amendment Determination Document (Removal), Case No. 06-09-0050A, November 1, 2005.*



Source: Background: Federal Emergency Management Agency (FEMA), National Flood Insurance Program (NFIP), 1984, Flood Insurance Rate Map (FIRM), San Mateo County, California (Unincorporated Areas), Panel 060311 0113B, July 5, 1984.



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Figure IV.H-6  
Floodplain in the Project Vicinity



FIRM, one based on available site topography, and one based on the previous LOMR-F and LOMA documents. The latter two boundaries show the project clearly outside of the (8.5-foot) floodplain.

Although the project is no longer within a FEMA-designated floodplain, another potential flooding source could affect the project parcels – the Denniston Reservoir. The Denniston Reservoir, a pooled section of Denniston Creek due to a small dam, sits approximately 4,800 feet north-northeast of the project site at the southern edge of the Montara Mountain foothills (refer to Figure IV.H-2). The California Office of Emergency Services (OES) prepares Dam Inundation Maps showing areas which would be inundated if regulated dams fail. The dam is apparently not large enough to be regulated by the California Department of Water Resources, Division of Safety of Dams (DOSD), although exact dimensions of the reservoir are not readily available.<sup>27</sup> Since the dam is not regulated by the DOSD, a Dam Inundation Map is not available for this dam. Inundation Maps for other dams in the project vicinity do not show the project site as being in an area inundated by waters of a failed dam.<sup>28</sup>

### *Tsunamis*

Tsunamis, often commonly and somewhat incorrectly referred to as “tidal waves”, are water waves of any size generated by a sudden vertical displacement of a water surface. Tsunamis do not have to be large, but can cause coastal flooding if large enough. Therefore, the FIS discusses general aspects of tsunamis in the project area and refers to engineering calculations that were performed to evaluate the coastal flood hazard along the Pacific Ocean in San Mateo County. The results of these calculations have been incorporated into the FIRMs. It is noted in the FIS that tsunamis cause some of the most destructive natural waves, although specific tsunami events and their effects are not discussed or analyzed further.<sup>29</sup>

Other sources indicate that for the West Coast of the U.S., in general, and the project vicinity, in particular, tsunami events are relatively rare. Most tsunamis are small, with a high percentage of “false alarms” reported, particularly since tsunamis can be confused with other phenomena, such as storm-generated waves or seiches.<sup>30</sup> For the 52 reported *local* tsunami events (i.e., generally not earthquake-induced and effecting only small areas) known from 1806 to 1992, only one tsunami event is reported within 10 miles of the project vicinity, at Half Moon Bay or Princeton-by-the-Sea. There are, however, among the 63 *non-local* tsunamis or *teletsunamis* (i.e., earthquake-induced) reported, three recorded with effects near the project site and several events noted in San Francisco, the San Francisco Bay, Santa Cruz, and Monterey. Most fatalities due to earthquake-induced tsunamis occur within 250 miles of the epicenter of the earthquake. Therefore, earthquakes centered as far south as Los Angeles, as far north as

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<sup>27</sup> TRC Essex, 2006, *DRAFT Denniston Reservoir Restoration Project Draft Initial Findings Report, Prepared for the Coastside County Water District, December 2006.*

<sup>28</sup> See <http://www.abag.ca.gov/bayarea/eqmaps/damfailure/dfpickc.html>, last accessed on May 7, 2009.

<sup>29</sup> FEMA, 1986, *Ibid.*

<sup>30</sup> Lander, James F., Lockridge, Patricia A., and Michael J. Kozuch, U.S. Department of Commerce, National Oceanic and Atmospheric Administration, 1993, *Tsunamis Affecting the West Coast of the United States 1806-1992, NGDC Key to Geophysical Records Documentation No. 29, December 1993, 254 p.*

Humboldt County, or as far out as 250 miles into the Pacific Ocean could be estimated to cause fatalities near the project.<sup>31</sup>

A validity scale has been established by the National Oceanic and Atmospheric Administration (NOAA) to gauge the veracity and severity of reported tsunamis, since reports of tsunamis and their effects can be more or less accurate. This scale varies from “0” for invalid reports to “4” for valid reports that conclusively indicate a tsunami event. The reported tsunamis near the project site include the following, with their validity rating indicated in parenthesis:

- September 1859 - local tsunami reported to lower water levels in Half Moon Bay (2);
- April 1946 - teletsunami induced by 7.8-magnitude earthquake in the Aleutian Islands (4);
- May 1960 - teletsunami induced by 8.6-magnitude earthquake in Chile and (4); and
- March 1964 - teletsunami induced by 8.4-magnitude earthquake in Prince William Sound (4).

The 1859 Half Moon Bay tsunami is disputed, and the effects were minor if any. The 1946 teletsunami, on the other hand, was observed all along the U.S. West Coast and reportedly flooded homes and stranded boats near Princeton-by-the-Sea, with a maximum height of about 10 feet at Half Moon Bay. A shed near Half Moon Bay was destroyed and boats floated 0.25 miles inland. The 1960 teletsunami also caused damage all along the California coast, including damaging a dozen boats near Princeton-by-the-Sea. The 1964 teletsunami caused massive damage along the West Coast, including sinking one boat and damaging four others near the Pillar Point jetties, as well as forcing nearby residents to evacuate from low-lying areas.<sup>32</sup>

With the Association of Bay Area Governments (ABAG), San Mateo County has developed a *Tsunami Evacuation Planning Map for San Francisco & San Mateo County*. Figure IV.H-7 provides a tsunami evacuation map for the project vicinity prepared with information from the ABAG map.<sup>33</sup> The ABAG tsunami website also indicates that the tsunami evacuation map is based on:

*“modeling of potential earthquake sources and hypothetical extreme undersea, near-shore landslide sources. Maximum run-up to a specific contour was determined to be the reasonable measure to delineate the tsunami evacuation area. The contour used [from a previous study] was...42 feet.”<sup>34</sup>*

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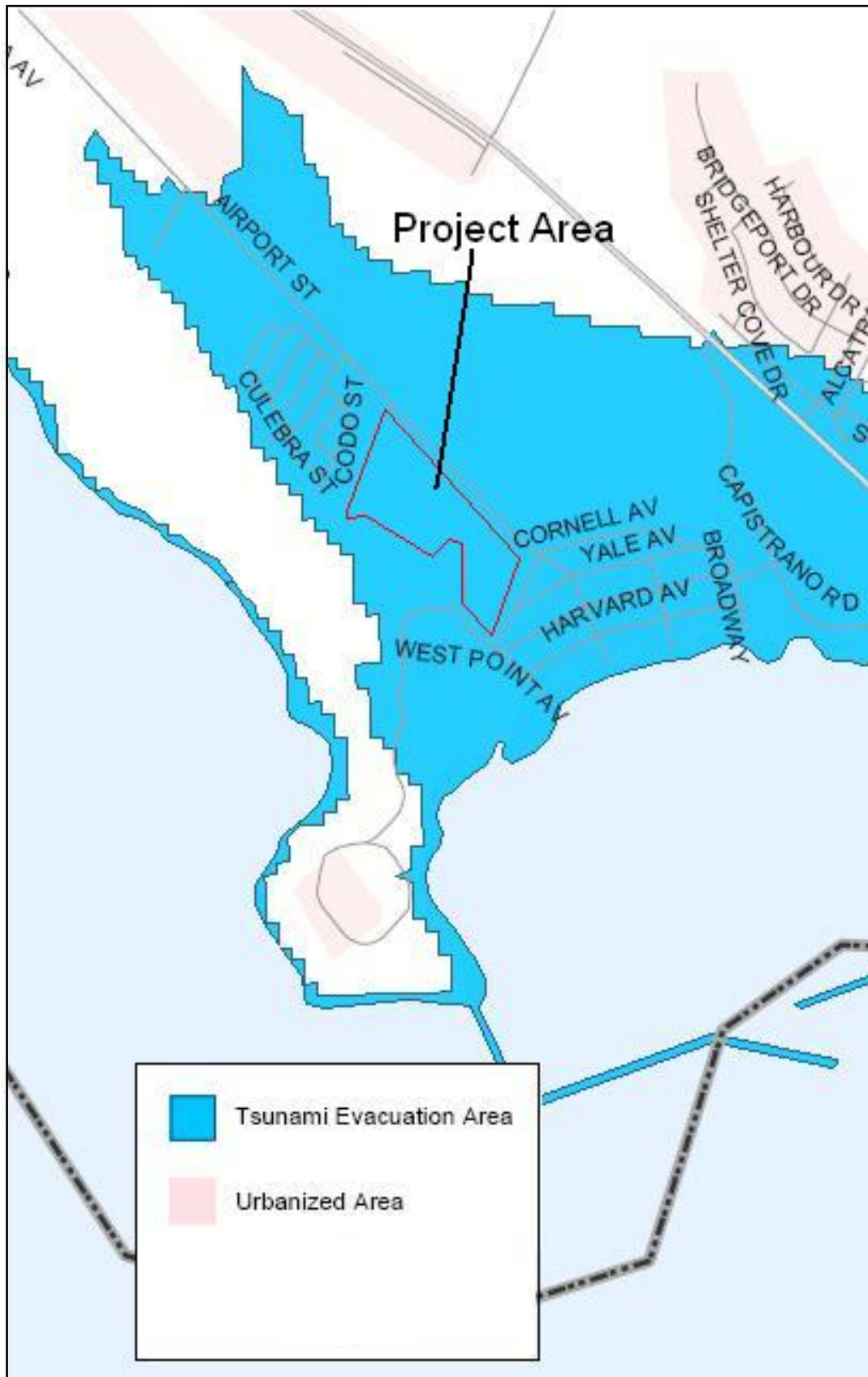
<sup>31</sup> *Ibid.*

<sup>32</sup> *Ibid.*

<sup>33</sup> See <http://www.abag.ca.gov/> last accessed on May 6, 2009

<sup>34</sup> See <http://www.abag.ca.gov/bayarea/eqmaps/tsunami/tsunami.html> last accessed on May 6, 2009.

*Titov, V.V and Synolakis, C.E., 1998, Numerical Modeling of Tidal Wave Runup, Journal of Waterways, Port, Coastal and Ocean Engineering, Vol. 124, No. 4, July/August 1998, 15 p.*



Source: Association of Bay Area Governments (ABAG), San Mateo County 2009.



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Figure IV.H-7  
Tsunami Evacuation Map  
in the Project Vicinity

The figure clearly shows the entire project vicinity and much of the surrounding area within the tsunami evacuation area (i.e., below the 42 foot contour). Along with the reported historical information on tsunamis in the project area, this evacuation map indicates that any development in this area would need to take into account the effects of tsunami action on structures and people.

### *Surface Water Quality*

Limited surface water quality data are available for Pillar Point Marsh, the main surface water body of concern, beyond periodic salinity and specific conductance measurements in the saltwater marsh.<sup>35</sup>

The available data indicate that the three primary potential sources of degraded water quality in the Pillar Point Marsh are:

- sediment transported from the airport drainage ditch network, roadside ditches, and grading and development in the Princeton-by-the-Sea area;
- urban runoff from the airport and Princeton-by-the-Sea; and
- agricultural chemicals used by local growers on the Half Moon Bay Terrace.

Fecal contamination is also a continual problem in Pillar Point Harbor, just downstream of the marsh. A research study headed by the San Mateo County Resource Conservation District (RCD) and funded by the State Board is currently investigating the sources of the fecal contamination.<sup>36</sup> The initial work has included a literature review and experimental circulation study to provide information on how pollution travels in the harbor.

As discussed in the Fitzgerald Marine Reserve Master Plan, visual impressions<sup>37</sup> of the sediment transported from the airport drainage system and Airport Street imply that a substantial proportion of the sediment delivered to the Pillar Point Marsh originates in the disked airport fields, the periodically cleared ditches, and roadside drainage ditches. During and after rainfall events, it is possible at the culvert above the saltwater marsh to differentiate, by eye and specific conductance measurements, between turbid waters flowing from the airport ditch and the relatively sediment-free surface runoff from the vegetated hillsides and terrace to the north.

Urban runoff and non-point sources of pollution related to the airport and local automobiles likely contribute hydrocarbons and heavy metals to the marsh, but these are not specifically documented. The potential for fuel spills and related industrial chemicals exist, although as of 1998, the San Francisco Bay

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<sup>35</sup> Flint, 1977, *Ibid.*

<sup>36</sup> San Mateo County Resource Conservation District, 2008, *Identification of Sources of Fecal Pollution Impacting Pillar Point Harbor: Literature Review*, May 2008.

<sup>37</sup> Brady/LSA, 2002, *Ibid.*

Regional Water Quality Control Board (RWQCB) staff did not have any record of known occurrences that had adversely impacted the marsh.<sup>38</sup>

Agricultural chemicals known to be used<sup>39</sup> by local farm operations on the Half Moon Bay Terrace include: Meta Systox, Vapam, Terra Clor 75 percent WP, Lorsban, Diazanon, Di-methoate, Guthion, and Lannate. Fertilizers used are 15-15-15, 12-12-12, urea, ammonium nitrate, and calcium nitrate. Transport of diazanon and other pesticides increases the likelihood of water quality degradation of the marsh and related groundwater. Furthermore, residues of these chemicals, as well as more toxic and persistent ones, may remain in the soil and be transported to the marsh due to their physical and chemical attachment to eroded sediment. No definitive water and sediment quality studies of the marsh have been conducted or are readily available to assess whether these substances are present or have caused problems.

## Ground Water

### *Hydrogeologic Setting*

The Half Moon Bay Terrace is the principal water-bearing formation in the El Granada/Moss Beach area. Figure IV.H-8 presents the main aquifers in the project area along with the geological information of each aquifer. The subbasin of the Half Moon Bay Terrace in the project vicinity is often referred to as the airport aquifer<sup>40</sup> because the Half Moon Bay Airport occupies a large portion of the basin. This aquifer is described as having an aerial extent of 5.12 square miles, although the exact boundaries of the airport aquifer vary by study. Neighboring subbasins include the Montara/Moss Beach and El Granada aquifers. The Regional Board's Basin Plan<sup>41</sup> describes the Half Moon Bay Terrace as having an aerial extent of 25 square miles, a depth from the surface of 15-20 feet, a storage capacity of 10,300 acre-feet, and a perennial yield 2,200 acre-feet.<sup>42</sup> Groundwater levels in the airport aquifer have remained essentially constant since the 1950s with no apparent long-term changes in water level or groundwater storage, although groundwater extraction by the local water utilities has increased from about 250 acre-feet per year (AFY) to a maximum of near 430 AFY and about 340 AFY during the 1987-1992 drought.<sup>43</sup> An agricultural well is located in the northern portion of the project site. Information is limited to reports by others for projects in the vicinity of the project site, including prior documents cited in these reports.

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<sup>38</sup> Napolitano, M., 1998, *Personal Communication, RWQCB, January 22, 1998.*

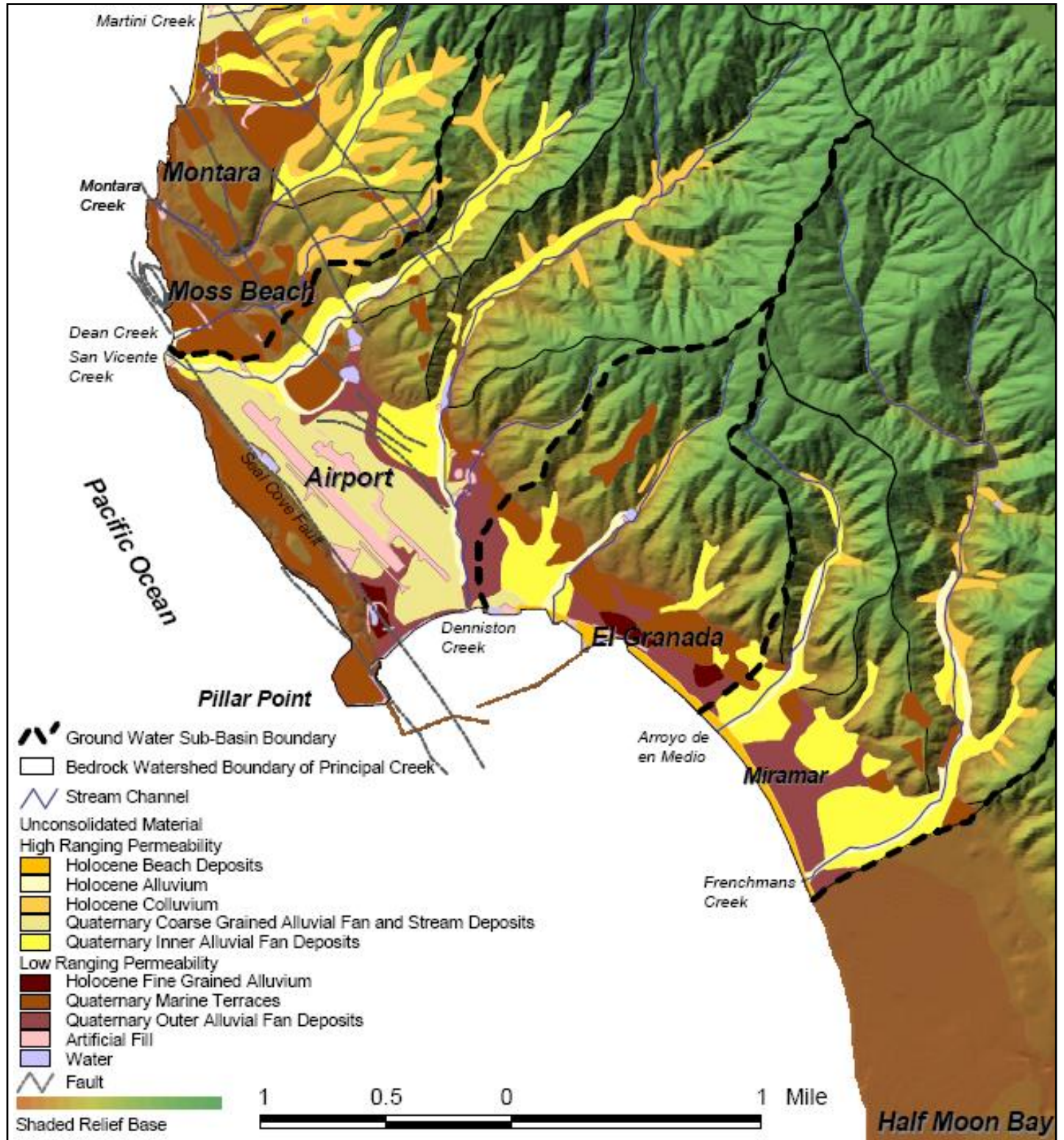
<sup>39</sup> Teter, J.S., 1996, *Watershed Sanitary Survey, Denniston and San Vicente Watersheds, For Coastside County Water District.*

<sup>40</sup> Woyshner, M., Hedlund, C., and Hecht, B., 2002, *Ibid.*

<sup>41</sup> *Regional Board, 2007, Basin Plan, Ibid.*

<sup>42</sup> *Geoconsultants, Inc., 1991, Annual Report 1990-1991, Groundwater Resources, Half Moon Bay, California, Prepared for the City of Half Moon Bay.*

<sup>43</sup> *Woyshner, M., Hedlund, C., and Hecht, B., 2002, Ibid.*



Source: Image adapted from Figure 1 of Woysner, M., Hedlund, C., and Hecht, B., 2002, San Mateo County Mid-Coast Aquifers: Literature and Date Review, Prepared for San Mateo County, Board of Supervisors, Balance Hydrologics, Inc., April 2002, 76 p.



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Figure IV.H-8  
Groundwater Subbasins and Geology  
in the Project Vicinity

In the Half Moon Bay/Pillar Point Marsh Ground Water Basin Study,<sup>44</sup> sixteen existing wells are identified in the Pillar Point area. Over 90 wells exist in the El Granada area. These have been the subject of several hydrogeological investigations to assess the safe yield of the airport aquifer and to evaluate the role of groundwater withdrawals and water table drawdown effects on the Pillar Point Marsh.

Since at least 1974, water levels have been measured in the marsh area and regional pumping has been monitored.<sup>45</sup> Professor Philip Flint of San José State University conducted probably the most intensive investigations<sup>46</sup> of Pillar Point Marsh and its seasonal surface and groundwater hydrologic conditions relative to municipal water supply production in the airport aquifer. Subsequent groundwater investigations confirm Dr. Flint's assessment that, despite periodic lowering of the groundwater by pumpage, rainfall runoff and recharge on the terrace and from Denniston Creek provide sufficient water to reverse drawdown effects, and, most probably, inhibit seawater intrusion into the groundwater basin. In addition, these locally conducted groundwater studies agree that the overall groundwater gradient in the terrace indicates a condition of groundwater discharge into the marsh area.

The flow of groundwater to the marsh is the primary reason the freshwater wetland habitats exist. Where this groundwater emerges at the surface, at approximately 10 to 15 feet msl, the freshwater wetland and riparian species can be found. Below this elevation, from approximately 5 to 10 feet msl, salt marsh habitat and tidally influenced brackish water predominates, except during rainy season flushing.<sup>47</sup>

Water level records from monitoring wells located in the terrace formation near Pillar Point Marsh indicate average seasonal water level fluctuations of 4 to 10 feet during average rainfall years. Water level declines of 14 to 29 feet have been recorded during dry and critically dry years in a monitoring well just west of the airport. Most important, however, is the quick response of several local monitoring wells to abundant periods of rainfall.<sup>48</sup> Overall, water levels in the airport aquifer recover seasonally, except

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<sup>44</sup> *Luhdorff & Scalmanini Consulting Engineers and Earth Sciences Associates, 1987, Half Moon Bay/Pillar Point Marsh Ground-Water Basin Study: Phase I.*

*Luhdorff & Scalmanini Consulting Engineers and Earth Sciences Associates, 1991, Half Moon Bay/Pillar Point Marsh Ground-Water Basin Study: Phase II.*

*Luhdorff & Scalmanini Consulting Engineers and Earth Sciences Associates, 1992, Half Moon Bay/Pillar Point Marsh Ground-Water Basin Study: Phase III.*

<sup>45</sup> *Lowney-Kaldveer Associates, 1974, Groundwater Investigation, Denniston Creek Vicinity, San Mateo County, California, for Coastside County Water District.*

*Woyshner, M., Hedlund, C., and Hecht, B., 2002, Ibid.*

<sup>46</sup> *Flint, P.S., 1977, Ibid.*

*Flint, P.S., 1978, Environmental Monitoring Study of the Pillar Pt. Marsh: Part II Progress Report, Prepared for the Coastside County Water District, March 1978.*

<sup>47</sup> *Brady/LSA, 2002, Ibid.*

<sup>48</sup> *Luhdorff & Scalmanini Consulting Engineers and Earth Science Associates, 1987, Ibid.*

*Luhdorff & Scalmanini Consulting Engineers and Earth Science Associates, 1991, Ibid.*

*Luhdorff & Scalmanini Consulting Engineers and Earth Science Associates, 1992, Ibid.*

during periods of extended drought. As in many coastal basins, groundwater levels appear to be dictated by the elevation of the outflow point of the marsh, which is at or above mean sea level.

### *Groundwater Quality*

Groundwater quality data for the project area is relatively more abundant than surface water quality,<sup>49</sup> due to the use of groundwater for water supply. Groundwater quality is generally considered good, with the exception of elevated levels of iron and manganese. Groundwater in this area, as it is generally in California, is reported to be relatively hard,<sup>50</sup> but hardness is not necessarily a health problem and not regulated as a contaminant.

At least one study<sup>51</sup> also reports high nitrate levels in the aquifer, which requires pumped groundwater used for domestic supply to be blended with surface water of lower nitrate concentration. Possible sources of nitrate and nitrogen include fertilizer use for agriculture in the region and the airport restaurant's septic leach field.

Because the groundwater basin interfaces with the ocean in Half Moon Bay, the potential for seawater intrusion has long been a source of concern. Chloride concentrations in the area's groundwater, however, do not appear to indicate the existence of seawater intrusion into the groundwater basin at past or current levels of groundwater production.<sup>52</sup>

In contrast with the effects of sediment on surface water quality, there are no distinctive concerns with sediment on groundwater quality. Although pesticides and other organics may pose a hazard to the surface water in the marsh, they are not indicated as a concern for the groundwater of the Half Moon Bay Terrace.

Although not currently listed for other contaminants, there is a potential that the groundwater near and underlying the project site is contaminated with 1,2,3-trichloropropane (TCP), a chemical found in historical soil fumigants and which can cause eye and skin irritation to those exposed to it by air. TCP is potentially thought to cause liver and kidney problems and be carcinogenic, as well. The Montara Water and Sanitary District, who manages groundwater wells at the airport found levels of TCP in 2002 that exceeded advisory levels. Currently, the chemical is unregulated by a maximum contaminant level, although the United States Environmental Protection Agency (USEPA) has an advisory limit of 2 parts

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<sup>49</sup> Flint, P.S., 1977, *Ibid.*

<sup>50</sup> Hardness refers to the presence of divalent cations – magnesium, calcium, etc. – that can cause scale build-up in plumbing fixtures and reduce the efficiency of cleaning detergents.

<sup>51</sup> Woyshner, M., Parke, J., Hecht, B., and Porras, G., 2005, *Drilling and Testing of Montara Water and Sanitary District's Well 2004-4, APN 036-180-030, San Mateo County, California, Well Completion Report, Prepared for Montara Water and Sanitary District, Prepared by Balance Hydrologics, Inc., July 2005.*

<sup>52</sup> Woyshner, M., Hedlund, C., and Hecht, B., 2002, *Ibid.*



per million (ppm) for adults and 0.6 ppm for children.<sup>53</sup> The California Department of Public Health (CDPH) has an advisory level of 0.005 parts per billion (ppb).<sup>54</sup>

## REGULATORY SETTING

There are several federal, state, and local laws, policies, and regulations that apply to hydrology and water quality on the project site. Applicable federal laws regulating development that may have effects on hydrology include the following:

- The National Flood Insurance Program (NFIP) of FEMA, established by Title 44, Code of Federal Regulations (CFR) and administered through FEMA;
- The USACE; and
- Various provisions of the Clean Water Act (CWA), including the National Pollutant Discharge Elimination System (NPDES), which is administered at a federal level through the USEPA. A USEPA regional office (Region IX) is located in San Francisco and delegates authority for waste discharge permitting under the CWA to the State Board.

The main state agencies with jurisdiction over the project site are the following:

- The State Board and the RWQCBs are divisions of the California Environmental Protection Agency (CEPA). These state agencies, as mentioned in §13160 of the Porter-Cologne Water Quality Control Act, serve as the lead agencies for the USEPA to implement aspects of the CWA through regional Basin Plans and administer the USEPA's NPDES program.<sup>55</sup>
- The California Department of Fish and Game (CDFG); and
- The California Coastal Commission (CCC), established by the California Coastal Act of 1976.

Several local agencies, including the County of San Mateo, the San Mateo Countywide Water Pollution Prevention Program (SMCWPPP), the San Mateo County Environmental Health Department, and the County Agricultural Commissioner, also have jurisdiction over development on the project site.

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<sup>53</sup> USEPA, 2008, *Emerging Contaminant – 1,2,3-Trichloropropane (TCP), Fact Sheet, April 2008.*

<sup>54</sup> CDPH, *Drinking Water Program, 2007, Drinking Water Notification Levels and Response Levels – An Overview, December 2007, accessed on April 27, 2009 at <http://www.cdph.ca.gov/certlic/drinkingwater/Documents/Notificationlevels/NotificationLevels.pdf>.*

<sup>55</sup> *State Water Resources Control Board, Porter-Cologne Water Quality Control Act, 2009, California Water Code, Division 7. Water Quality, Effective January 1, 2009.*

## **Federal**

### ***National Flood Insurance Program***

FEMA publishes FIRMs that identify special flood hazards. The FIRM containing the project site is part of the unincorporated San Mateo County FIRM series and became effective July 5, 1984. The FIRM established a Zone A Special Flood Hazard Area (SFHA) comprising Pillar Point Marsh. A Zone A floodplain has a 1 percent annual chance of flooding and is approximately delineated; because detailed analyses are not performed for such areas, no flood depths or base elevations are established or shown on the FIRMs for this zone. As currently shown on the FIRM, portions of the project site are within the A Zone. However, as noted above, FEMA removed the project parcels from the floodplain in a 2005 Letter of Map Amendment (LOMA).

### ***U.S. Army Corps of Engineers***

The USACE has jurisdiction and permitting authority under Section 10 of the Rivers and Harbors Act of 1899 over the Nation's waterways and their associated wetlands. The USACE also has authority under Section 404 of the CWA to protect the quality of the Nation's waters. The USACE regulates potential impacts on wetlands, threatened or endangered species, other valuable fish and wildlife resources, and cultural resources found in wetland areas.

Both dredging and filling of waters under the USACE protection are activities regulated by the USACE. The Section 404 permit program for discharge of fill or dredged materials into waters of the U.S. may be applicable to the project. The general criteria for such discharges is to have "no net loss" of wetlands due to project impacts, basically requiring compensatory mitigation.

### ***Clean Water Act***

Provisions of the federal CWA relevant to hydrology and water quality are generally implemented in California via statewide agencies, as discussed in the next subsection. As a summary of federal regulations under the CWA:

- Section 319 of the CWA addresses programs to manage non-point sources of pollution to the navigable waters of a state, via the NPDES permits;
- Section 401 addresses water quality in waters of the U.S., including wetlands;
- Section 402 addresses the discharge of pollutants from point sources into U.S. surface waters; and
- Section 404 establishes a program to regulate the discharge of dredged or fill material into waters of the U.S., and is implemented by the USACE as described above.

## State

### *California Department of Fish and Game*

The CDFG has jurisdictional authority over wetland resources associated with rivers, streams, and lakes under California Fish and Game Code Section 1600 to 1607. The CDFG has authority to regulate development and other work that will substantially divert, obstruct or change the natural flow of a river, stream or lake; substantially change the bed, channel or bank of a river, stream, or lake; or use material from a streambed. Typical activities regulated by the CDFG include re-channeling and diverting streams, stabilizing banks, implementing flood control projects, river and stream crossings, diverting water, damming streams, gravel mining, and logging operations.

The CDFG should be contacted if any portion of the project would interfere with a water course under the CDFG's jurisdiction. Alterations to the wetlands on-site are planned, and these alterations may require a permit from the CDFG. Once such a permit is acquired and permit conditions are met, the project should be in compliance with the CDFG regulations protecting wetlands and surface waters in California.

### *California Coastal Commission (CCC)*

The California Coastal Act created the CCC, an independent, quasi-judicial state agency which regulates development along California's coastline. In addition to preserving the coastline, the CCC also is charged with wetland preservation. Regional regulation is implemented by Local Coastal Programs (LCPs), which are prepared by the cities and counties located within the coastal zone. Prior to beginning construction, development within the "Coastal Zone" also requires a Coastal Development Permit.

The San Mateo LCP, which has been certified by the CCC, defines wetlands as areas "where the water table is at, near, or above the land surface long enough to bring about the formation of hydric soils, or to support the growth of plants which are normally found to grow in water or wet ground."<sup>56</sup>

There is another policy in the LCP in §2.33 that discusses any project that does or will draw from the Mid-Coast water supply via groundwater wells. This policy requires that "any water system that... proposes to draw [ground]water from wells in the aquifer serving Pillar Point Marsh agree to participate in and assist in funding of the hydrologic study of Pillar Point Marsh required by Policy 7.20 and to accept the restrictions from that study" as a condition of development. Relevant to hydrology and groundwater, Policy 7.20 requires the County to first define safe yield from the aquifer feeding the marsh as the amount of water that can be removed without adverse impacts on marsh health and then to restrict groundwater extraction in the aquifer to a safe yield as determined by a hydrologic study participated in by the two public water systems in the area. Water system capacity permitted and the number of building permits allowed in any calendar year shall be limited if necessary by the findings of the study.

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<sup>56</sup> *Environmental Services Agency, Planning and Building Division, San Mateo County, Local Coastal Program Policies, June 1998, accessed on April 2, 2007 at [http://www.co.sanmateo.ca.us/planning/pdf/lcp\\_1098.pdf](http://www.co.sanmateo.ca.us/planning/pdf/lcp_1098.pdf)*

### ***State Water Resources Control Board and Regional Water Quality Control Boards***

The project area lies within the jurisdiction of the San Francisco Bay RWQCB, which is Region 2 of the State Board. The State Board and the nine RWQCBs have the authority in California to protect and enhance water quality, both as the lead agencies in implementing the Section 319 nonpoint source NPDES program of the federal CWA, and from the state's primary water-pollution control legislation, the Porter-Cologne Water Quality Control Act.<sup>57</sup> The State Board and RWQCB also guide and regulate water quality in streams and aquifers of the San Francisco Bay Area through the following policies and actions:

- California Ocean Plan;
- Antidegradation Policy;
- Policy Regarding Water Reclamation;
- Bay's and Estuaries Policy;
- Thermal Plan;
- Basin Plan;
- Administration of the NPDES permit program for storm water and construction site runoff (CWA Sections 319 and 402); and
- CWA Section 401 water quality certification where development results in fill of jurisdictional wetlands or waters of the U.S. under Section 404 of the CWA.

#### *California Ocean Plan*

The State Board developed a Water Quality Control Plan for ocean waters of California (the "California Ocean Plan") in 1976, with several subsequent revisions.<sup>58</sup> The California Ocean Plan addresses discharge by point sources and non-point sources to California's ocean waters, but not to enclosed bays or estuaries. Ocean waters, as defined in the California Ocean Plan, are "territorial marine waters of the State [of California] as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons." As Figure IV.H-9 indicates, the Pillar Point Harbor area is considered an enclosed harbor and by that reason not subject to the California Ocean Plan.

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<sup>57</sup> State Board, 2009, *Ibid.*

<sup>58</sup> State Board, 2006, *California Ocean Plan, Water Quality Control Plan, Ocean Waters of California, February 2006, 57 pp.*

State Board, 2009 (in review), *Water Quality Control Plan, Ocean Waters of California, 62 pp.*

However, another provision of the California Ocean Plan is to protect Areas of Special Biological Significance (ASBS) by preventing discharges to these areas or to areas that would affect maintenance of natural water quality conditions in these areas. Parts of the Fitzgerald Marine Reserve and nearby areas on the Pacific Ocean coast are considered ASBS. Therefore, if the project discharges, either via stormwater or wastewater, were thought to impair the natural water quality of the protected areas, the State Board could use the California Ocean Plan to restrict discharges from the project.

#### *Antidegradation Policy*

The Statement of Policy with Respect to Maintaining High Quality of Waters in California, known as the Antidegradation Policy, adopted in 1968 and codified as Resolution No. 68-16 of the State Board, requires the continued maintenance of existing high quality waters and provides conditions under which a change in water quality is allowable. A change must:

- Be consistent with maximum benefit to the people of California;
- Not unreasonably affect present and anticipated potential beneficial uses of water; and
- Not result in water quality less than that prescribed in water quality control plans (i.e., Basin Plans) or policies.

This policy is periodically reviewed, with the latest review near the end of 2008.<sup>59</sup>

#### *Water Reclamation Policy*

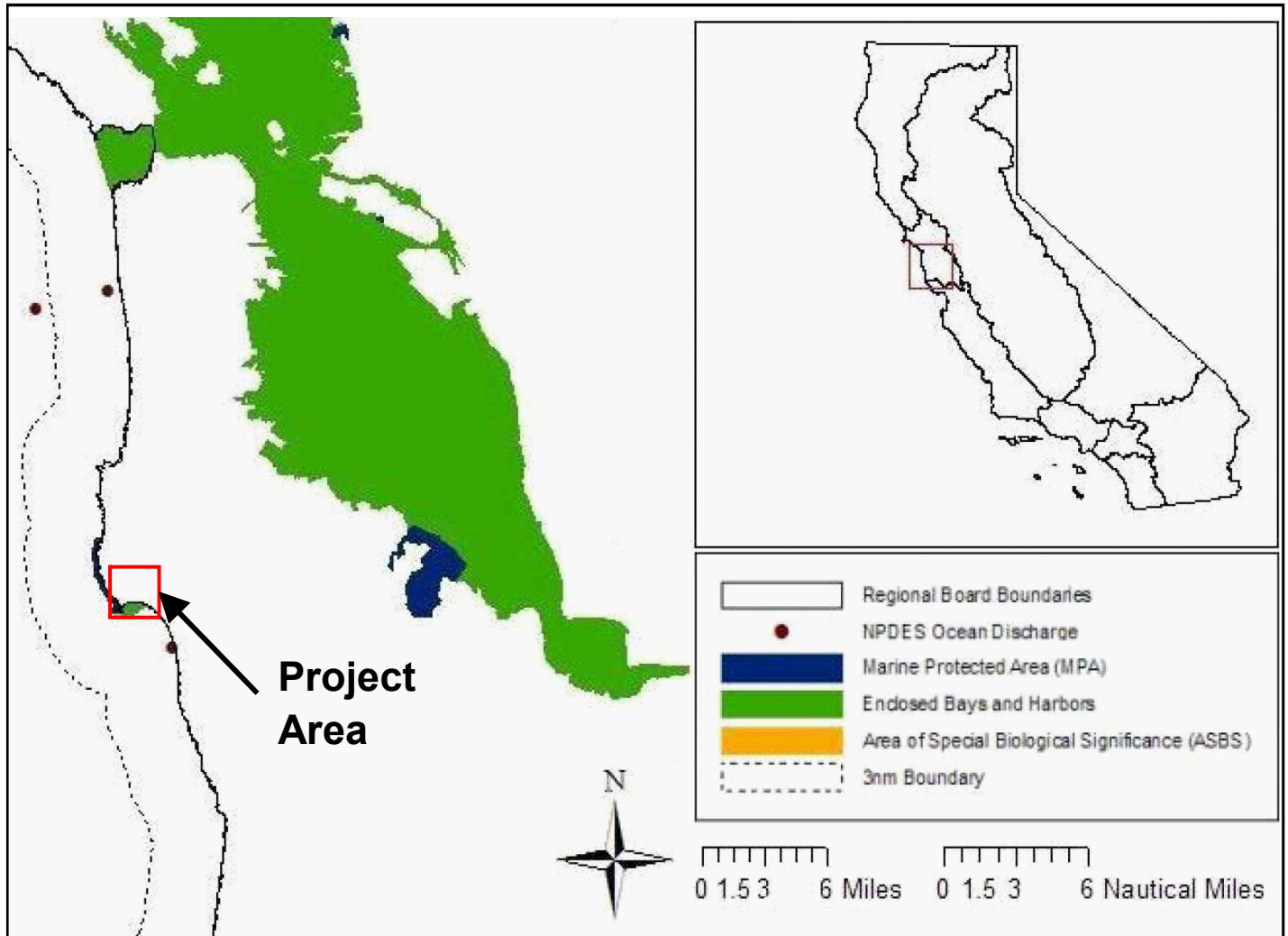
The State Board's Resolution No. 77-1 requires the State Board and RWQCBs to encourage water recycling projects in water-short areas of California to (a) put wastewaters that would otherwise be discharged to marine or brackish receiving waters to beneficial use, (b) supplement the use of fresh water supplies and (c) allow the use of treated wastewater to create, restore, and enhance marshlands, as long as beneficial uses are still protected.

#### *Bays and Estuaries Policy*

The State Board's Resolution Nos. 74-43 and 95-84 adopted and amended, respectively, the Water Quality Control Policy for the Enclosed Bays and Estuaries of California (Bays and Estuaries Policy). This policy provides water quality principles and guidelines for the prevention of water quality degradation and the protection of beneficial uses of the regulated waters. In general, this Policy applies to municipal wastewater discharges and industrial waste discharges. There is one provision in Section C.5

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<sup>59</sup> State Board, 2008, Notice of Staff Workshop, Periodic Review of the "Statement of Policy with Respect to Maintaining High-Quality of Waters in California" (Anti-Degradation Policy) State Water Resources Control Board Resolution No. 68-16, October 16, 2008.



Source: State Board, 2009 (in review), Water Quality Control Plan, Ocean Waters of California, 62 pp.



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Environmental Planning and Research

Figure IV.H-9  
California Ocean Plan Map  
near Big Wave Project

that requires in all of California's enclosed bays and estuaries that "[n]onpoint sources of pollutants shall be controlled to the maximum practicable extent," a provision which parallels the NPDES permitting requirements as described below. In addition, any (non-stormwater) wastewater discharges from the project would be regulated under Waste Discharge Requirements (WDR) for the project's wastewater treatment system. Essentially, then, this policy is enforced through other regulations of the State Board and RWQCB and will, therefore, not be discussed further.

#### *Thermal Plan*

The State Board's Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California<sup>60</sup> ("Thermal Plan") was adopted in 1972 and amended in 1975. This policy specifies water quality objectives, effluent quality limits, and discharge prohibitions related to elevated temperature waste discharges to interstate waters, enclosed bays, and estuaries. Any liquid waste discharged at a temperature higher than the natural temperature of receiving water, unless from irrigation runoff, is subject to the provisions of this policy. New discharges to receiving waters protected under this policy are specifically limited to temperature levels that assure protection of beneficial uses, with a maximum temperature of the discharge not allowed to exceed the natural temperature of the receiving waters by more than 20°F. The State Board enforces provisions of the Thermal Plan via the Waste Discharge Requirements for any related discharge. The project's wastewater treatment plant will have Waste Discharge Requirements, which should include requirements to meet the objectives of the Thermal Plan.

#### *San Francisco Bay Water Quality Control Plan ('Basin Plan')*

The San Francisco Bay RWQCB regulates water quality in the Bay area in accordance with its Water Quality Control Plan or 'Basin Plan'.<sup>61</sup> The Basin Plan presents the beneficial uses, which the RWQCB has specifically designated for local aquifers, streams, marshes, rivers, and the Bay, as well as the water quality objectives and criteria that must be met to protect these uses. Table IV.H-3 presents the existing and potential beneficial uses for Pillar Point Marsh, Denniston Creek, and the Half Moon Bay Terrace. Beneficial uses of Pillar Point Marsh include estuarine habitat, contact and non-contact aquatic recreation, saltwater habitat and wildlife habitat. These uses also apply to tributaries upstream of the marsh to the extent that flows in the tributaries could logically support the same uses. The Half Moon Bay Terrace has existing beneficial uses as a municipal and domestic water supply and agricultural water supply; the aquifer also has potential beneficial uses for industrial process and service water supply.

Pollution due to urban development, principally sediment and pollutants typically found in urban runoff (e.g., petroleum products, heavy metals, pesticides, and fertilizers) from the project site could potentially

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<sup>60</sup> State Board, undated, *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California*, 9 pp.

<sup>61</sup> Regional Board, 2007, *Basin Plan*, *Ibid*.

degrade water quality for sensitive aquatic and terrestrial wildlife species in these downstream receiving waters and in the tidal wetlands of Pillar Point Marsh.

Through the State Board, California has also identified waters that are polluted and need further attention to support their beneficial uses. These water bodies are listed under the CWA Section 303(d) list. The identified water bodies are “impaired,” meaning not meeting one or more of the water quality standards established by the State. Once the water body or segment is listed, the State is required to establish a Total Maximum Daily Load (TMDL), which is the quantity of the pollutant that can be safely assimilated into the water body without violating water quality standards.

In 2002, the State Board placed the Pacific Ocean at Pillar Point Beach on the 303(d) list as being water quality impaired for specific constituents; the list was approved by USEPA in July 2003. The 2006 303(d) list (approved by the USEPA in June 2007) continues to list this area as being impaired. The Pacific Ocean at Pillar Point Beach, presumably the coastal area of Pillar Point Marsh, is listed as being impaired by coliform bacteria (having a high coliform count) due to nonpoint sources for 1.1 miles. The Pacific Ocean at Pillar Point is also listed as being impaired by mercury from unknown sources along 0.62 miles.

**Table IV.H-3  
Existing and Potential Beneficial Uses of Receiving Waters in the Vicinity of the Project Site**

Use	Pillar Point Marsh	Denniston Creek	Half Moon Bay Terrace
Agricultural Supply (AGR <sup>1</sup> )		E <sup>2</sup>	E
Cold Freshwater Habitat (COLD)		E	
Estuarine Habitat (EST)	E		
Industrial Service Water Supply (IND)			P
Migration of Aquatic Organisms (MIGR)		E	
Municipal and Domestic Supply (MUN)		E	E
Industrial Process Water Supply (PROC)			P
Preservation of Rare, Threatened, or Endangered Species (RARE)		E	
Contact Water Recreation (REC-1)	E	E	
Non-contact Water Recreation (REC-2)	E	E	
Salt water habitat (SALT)	E		
Fish Spawning (SPWN)		E	
Warm Freshwater Habitat (WARM)		E	
Wildlife Habitat (WILD)	E	E	
<i>Notes:</i> <sup>1</sup> Abbreviations are those used in the Basin Plan to refer to beneficial uses. <sup>2</sup> "E" denotes existing beneficial uses; "P" denotes potential beneficial uses. Source: San Francisco Bay RWQCB, 2007, Basin Plan, Ibid.			



The shoreline area of Pillar Point Marsh is regularly posted for water quality exceedances of total coliform, E. coli, and enterococcus based on testing by the County Environmental Health Department. The San Mateo County RCD has been leading a study called “Identification of Sources of Fecal Pollution Impacting Pillar Point Harbor” to identify, as the name indicates, the sources of the (fecal) contaminants in an effort to reduce or eliminate the water quality concerns.<sup>62</sup> The latest information on this study indicates that a harbor circulation study has been performed to understand how the water flows through the harbor.<sup>63</sup>

The Pacific Ocean at the nearby Fitzgerald Marine Reserve is listed as being impaired by coliform bacteria for 0.46 miles. All of these locations listed as being impaired have TMDLs slated to be completed by 2019.

#### *Section 402 NPDES Permit for Non-Point Source Discharges*

The 1987 amendments to the CWA [Section 402(p)] provided for USEPA regulation of several new categories of nonpoint pollution sources within the existing NPDES. In Phase I, NPDES permits were issued for urban runoff discharges from municipalities of over 100,000 people, from plants in industries recognized by the USEPA as being likely sources of storm water pollutants, and from construction activities which disturb more than 5 acres. Phase II implementation, effective March 10, 2003, extended NPDES urban runoff discharge permitting to cities of 50,000 to 100,000 people, and to construction sites which disturb between 1 and 5 acres.

The USEPA has delegated management of California’s NPDES Municipal Stormwater Permit program to the State Board and the nine RWQCB offices. In both Phase I and Phase II, urbanized counties and cities that implemented a comprehensive storm water management plan for urban runoff management meeting RWQCB standards could apply to the respective Board for a joint city-county NPDES Municipal Stormwater Permit. Upon acceptance, the authority to regulate storm runoff discharges from municipal storm drain systems was transferred to the permit holders, allowing them to more effectively integrate the storm-water control program with other nonpoint source control programs. The NPDES enforcement for the project area is performed by a consortium of local agencies, as described further under “Local Regulations” below.

#### *NPDES General Permit for Construction Activity Discharges of Storm Water*

Since the proposed project would disturb more than 1 acre of land, the project applicant would be required to submit a Notice of Intent (NOI) to the State Board and apply for coverage under the NPDES Construction General Permit. Administration of these permits has not been delegated to cities, counties,

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<sup>62</sup> *San Mateo County Resource Conservation District, 2007, Identification of Sources of Fecal Pollution Impacting Pillar Point Harbor, Project Description, October 2007, 10 pp.*

<sup>63</sup> *San Mateo County Harbor District, 2008, Board of Harbor Commissioners Meeting Minutes, September 17, 2008, 6 pp.*

or RWQCBs, but remains with the State Board. Enforcement of permit conditions, however, is the responsibility of San Francisco Bay RWQCB staff, assisted by local municipal or County staff. San Mateo County requires the project applicant to prepare a Storm Water Pollution Prevention Plan (SWPPP) and submit it for review to the County and San Francisco Bay RWQCB prior to commencing construction. Once grading begins, the SWPPP must be kept onsite and updated as needed while construction progresses. The SWPPP details the site-specific best management practices (BMPs) to control erosion and sedimentation and maintain water quality during the construction phase. The SWPPP also contains a summary of the structural and non-structural BMPs to be implemented during the post-construction period, pursuant to the non-point source practices and procedures encouraged by the County, SMCWPPP, and the San Francisco Bay RWQCB.

### ***California Department of Public Health***

The CDPH regulates the recycling of wastewater under Title 22, Division 4 of the California Code of Regulations. These regulations are generally intended to protect the public from fecal and toxic contaminants found in wastewater. When applied to recycled wastewater, which is often applied as landscape irrigation in California, the Title 22 regulations also serve to protect the quality of receiving waters. Title 22 requires filtration and disinfection of influent wastewater, and rigorous sampling and laboratory testing of the treated wastewaters. The CDPH Title 22 regulations can be implemented via State or San Francisco Bay RWQCB Waste Discharge Requirements of a permitted treatment and recycling plant.

### ***Pharmaceuticals and Personal Care Products (PPCPs)***

Pharmaceuticals and personal care products (PPCPs) comprise a diverse set of chemicals increasingly found in treated wastewater as advances in analytical chemistry methods allow detection of pollutants in progressively smaller concentrations. Compounds commonly detected in wastewater effluent or receiving waters downstream of wastewater treatment plants include: cholesterol, estrogens (e.g., coprostanol), insect repellents (e.g., DEET), caffeine, triclosan, analgesics (e.g., salicylic acid, ibuprofen, acetaminophen), antibiotics (e.g., amoxicillin, erythromycin), tranquilizers, synthetic fragrances, and soaps and surfactants. PPCPs are introduced into the wastewater system through a variety of pathways, including: excretion following human use; expired and unused products flushed down sinks or toilets; and release of unabsorbed externally-applied products during washing or bathing.

PPCPs are an emerging issue, and the potential effects of many of these biologically active chemicals on humans and aquatic ecosystems are poorly understood due to the number of potential constituents involved (the compounds and their breakdown products and/or metabolites), the low concentrations, the lack of information on additive and synergistic effects of mixtures of PPCPs, effects of sub-therapeutic doses or continual long-term exposure to low concentrations, and the environmental fate and degradation characteristics. Concentrations of PPCPs in wastewater, surface water, and ground water are typically very low, which limits the potential for human exposure. For humans, the primary routes of exposure to PPCPs include consumption of potable water or fish that contain PPCPs and their derivatives. While

extensive mammalian and human toxicity data are available for pharmaceuticals subject to the drug development and approval process, the amount of monitoring data available on the prevalence and concentrations of other PPCPs in the environment and the resulting risks to humans and wildlife is currently very limited. Some types of PPCPs are referred to as endocrine disrupting compounds (EDCs) because they can mimic natural endocrine hormones of animals. Most evidence for adverse effects of EDCs on animals focuses on resident aquatic organisms (fish, invertebrates) immediately downstream of urbanized areas, livestock production facilities or direct wastewater discharges into receiving waters.

At present, there are no federal regulations specific to pharmaceuticals in drinking or natural waters and concentrations of PPCPs, and EDCs in wastewater are typically not monitored. The most applicable state regulation is the RWQCB's Basin Plan narrative water quality objective for toxicity, which states that all waters should be free of substances that produce detrimental effects in living organisms.

## Local

In terms of local regulations, since the project site is within unincorporated San Mateo County, the project is generally subject only to County regulations. The County has a Development Review Center that acts as a "one-stop" permitting center for projects in the County's jurisdiction. The center has project submittals reviewed by Building Inspection, Current Planning, and Public Works representatives. The Department of Public Works is specifically responsible for review of project submittals for compliance with the County's Stormwater Management Plan and with the Watershed Protection Maintenance Standards. Along with the Planning Department, the Public Works Department also reviews projects for compliance with the NPDES Provision C.3, as described below. Most of the County's stormwater regulations are codified under Chapter 4, Section 100 of the San Mateo County Code,<sup>64</sup> which includes provisions from the County's Ordinance 3633, adopted in 1995.

### *NPDES Municipal Stormwater Permit*

A major function of Ordinance 3633 and Section 4.100 of the County Code is to require projects to comply with the County's NPDES permit. Each incorporated city and town in San Mateo County joined with the County of San Mateo to form the SMCWPPP in applying for a regional NPDES permit.<sup>65</sup> The SMCWPPP, previously referred to as San Mateo Countywide Stormwater Pollution Prevention Program (STOPPP), was established as part of the regional NPDES permit to apply for and administer the permit for the County and its cities and towns. The SMCWPPP received its first 5-year Phase I NPDES Municipal Stormwater Permits in 1995. The San Francisco Bay RWQCB adopted the second NPDES permit on July 21, 1999; it was subsequently amended with Provision C.3 (New Development and Redevelopment Component) on February 19, 2003, at which time a Stormwater Management Plan was also required to be implemented. Currently, Provision C.3 requires stormwater controls during the

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<sup>64</sup> Accessible at <http://municipalcodes.lexisnexis.com/codes/sanmateo/>.

<sup>65</sup> Regional Board, 2007, Order No. R2-2007-0027, NPDES Permit No. CAS0029921.

construction and operation stages of proposed development. In addition, due to project size and type, the project would also be required to construct permanent on-site stormwater treatment systems and maintain these systems in perpetuity. On July 21, 2004, the RWQCB adopted the third permit. On May 12, 2005, the SMCWPPP submitted to the RWQCB its Hydromodification Management Plan (HMP) as required under the 2004 permit. On March 14, 2007, the RWQCB amended the 2004 permit to include key provisions of the submitted HMP. The goal of an HMP is to manage increased peak runoff flows and volumes (hydromodification) to avoid erosion of stream channels and degradation of water quality both on and off the project site.

SMCWPPP has issued guidelines based on the regional NPDES permit for integrated pest management, and general and construction-specific BMPs to minimize sedimentation and discharge of pollutants into stormwater runoff within the SMCWPPP's area. Construction BMPs are discussed below.

#### *Sediment and Erosion Control (Construction BMPs)*

Relevant to water quality, best management practices (BMPs) for sediment and erosion control will need to be employed during project construction to meet local sediment and erosion control policies. These BMPs will need to meet the County's Watershed Protection Maintenance Standards, generally set out in the Ordinance 3633. Under this ordinance, the County may establish controls on the volume and rate of storm water runoff from new developments and redevelopments as may be appropriate to minimize the discharge and transport of pollutants.<sup>66</sup>

#### *Other Relevant Local Entities/Policies*

The San Mateo County Environmental Health Department and the County Agricultural Commissioner are locally responsible for maintaining public health and safety relative to water quality, pesticide applications, and other potential environmental hazards.

The site is currently not served with potable water via a public water system, nor is the site within the district boundaries of a domestic water supplier,<sup>67</sup> which would require annexation via Local Agency Formation Commission (LAFCO) if the project was to receive back-up services. The applicant is proposing to connect to Coastsidewater Water District (CCWD) for the purchase of domestic water for emergency back-up and fire flow. Just over a third of the CCWD's available water supply is from local groundwater wells, located near Denniston and Pilarcitos Creeks.<sup>68</sup> However, the CCWD's 2007 Annual Water Quality Report<sup>69</sup> indicates that only 4 percent of the CCWD's water supply was from groundwater

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<sup>66</sup> San Mateo County, *San Mateo County Code, Chapter 4.100 Storm Water Management and Discharge Control*, accessed at <http://www.ordlink.com/codes/sanmateo/index.htm> on April 27, 2009.

<sup>67</sup> CCWD, <http://www.coastsidewater.org/water-district-map.html>, Accessed on April 27, 2009.

<sup>68</sup> CCWD, *Ibid.*

<sup>69</sup> CCWD, 2008, *2007 Annual Water Quality Report: Consumer Confidence Report, July 2008, 4 pp.*

in 2007, and a separate report indicates 6 percent production from groundwater for 2006.<sup>70</sup> Since groundwater is the identified water supply source for the project, potential influence of the CCWD's operations on the project's wells and, vice versa, effects of the project's groundwater operations on CCWD's groundwater supply are of concern.

One other relevant policy document that affects development on the project site is the Fitzgerald Marine Reserve Master Plan. Since the project site is within and contributes drainage to the Pillar Point Marsh, the project would be subject to any County implementation of the Fitzgerald Marine Reserve Master Plan. Policy 6 of the Master Plan's Natural Resource Management Program (Section C) involves implementation of water quality improvements in Pillar Point Marsh. Specifically, the County is identified as coordinating with surrounding landowners to develop and implement BMPs and enforce non-point source water quality regulations to improve water quality upstream areas that drain to Denniston Creek and the marsh.<sup>71</sup> These duties are performed under the county-wide NPDES permit enforcement described above.

On April 8th, 2008, San Mateo County Board of Supervisors passed a resolution to transfer specific vector control operations and responsibilities to San Mateo County Mosquito Abatement District. San Mateo County Mosquito Abatement District Board of Trustees reviewed and approved the transfer of services resolution during the board meeting on April 9th, 2008. San Mateo County Mosquito Abatement District Board of Trustees also approved a name change to San Mateo County Mosquito and Vector Control District. The San Mateo County Mosquito and Vector Control Districts mission is: "To safeguard the health and comfort of the citizens of San Mateo County through a planned program to monitor and reduce mosquitoes and other vectors." Various goals include: Prevent the emergence of biting adult mosquitoes by applying control to the larval stage; Monitor adult mosquito populations to uncover new sites of larval development and assess the effectiveness of control; Monitor the distribution of vector-borne diseases and prevent the occurrence of these diseases among district residents; Evaluate new pesticides and methods of control for mosquitoes; and Increase public awareness of District services with an active educational program.

No other local entities or regulations are known to affect the project development with respect to hydrology and water quality concerns.

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<sup>70</sup> CCWD, 2007, *Water Supply Evaluation Report, Calender Year 2006, November 2007*, 51 pp.

<sup>71</sup> Brady/LSA, 2002, *Ibid.*

## ENVIRONMENTAL IMPACTS

### Thresholds of Significance

Based on Appendix G to the CEQA Guidelines, the proposed project would have a significant hydrology and water quality environmental impact if it would:

- a) violate any water quality standards or waste discharge requirements.
- b) substantially deplete ground water supplies or interfere substantially with ground water recharge such that there would be a net deficit in aquifer volume or a lowering of the local ground water table level (e.g., the production rate of preexisting nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).
- c) 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 which would result in substantial erosion or siltation on- or offsite.
- d) 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 which would result in flooding on- or offsite.
- e) create or contribute runoff water which would exceed the capacity of stormwater drainage systems or provide substantial additional sources of polluted runoff.
- f) otherwise substantially degrade water quality.
- g) place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
- h) place within a 100-year flood hazard area structures which would impede or redirect flood flows.
- i) 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.
- j) expose people or structures to inundation by seiche, tsunami, or mudflow.

### Proposed Project

The 19.4-acre project site currently consists of two undeveloped parcels (northern and southern parcels), which are mostly in agricultural production. The two parcels are split by the County-owned, shallow drainage swale that collects intermittent drainage from the Half Moon Bay Airport and the parcels and outlets to the Pillar Point Marsh. Several aspects of the proposed project may impact hydrology and water quality of receiving waters, including the following:

- Grading and drainage system;
- Water supply (from groundwater);
- Groundwater recharge system;
- Stormwater (non-point source) pollutant discharge;
- Wastewater (point source) pollutant discharge; and
- Development in or near flood-prone areas;

The evaluation of the project relies on the latest submitted vesting tentative map plans, which are generally split between plans for the Office Park property development (within the 14.25-acre northern parcel) and those for the Wellness Center property development (within the 5.28-acre southern parcel).<sup>72</sup> These plans indicate extensive use of Low Impact Design (LID) and Best Management Practices (BMPs) to minimize the project's impact on the environment.

### ***Grading and Drainage System***

The existing site parcels drain either into the drainage swale between the parcels or to the Pillar Point marsh. Previous studies of the project site have indicated that the agricultural furrows onsite generally run perpendicular to the topographic contours,<sup>73</sup> thus in line with the natural drainage of the parcels. The project grading plans (refer to Figures III-25 and III-26) indicate some alteration of existing topography, including reshaping of some low contours outside the main areas of development, as well as placement of structures, parking lots, and walkways that can alter local drainage patterns.

The current project design focuses construction of new impervious and pervious areas on the relatively flat areas of the site. Figures III-25 and III-26 show that the majority of grading would occur as fill at the edges of the developed areas. Figure III-25 indicates 21,875 cubic yards (cy) of cut and 15,780 cy of fill are necessary for the Office Park property, mostly for building pads and parking lots. Since some of the net cut from the Office Park property will be transferred as fill to the Wellness Center property, only 4,105 cy of imported fill is projected to be needed. Figure III-26 indicates 870 cy of cut for landscaping rain gardens and 11,070 cy of fill for building pads, the perimeter fire trail, and parking lot within the Wellness Center property.

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<sup>72</sup> *Big Wave Project, 2009, Facilities Plan: Draft #2, January 2009, provided by applicant.*

*MacLeod & Associates, 2009, Preliminary Grading/Drainage & Utility Plan With Permanent Storm Drainage Controls, Big Wave Office Park, Drawing No. 1584-00, April 07, 2009, provided by applicant.*

*MacLeod & Associates, 2009, Preliminary Grading/Drainage & Utility Plan With Permanent Storm Drainage Controls, Big Wave Wellness Center, Drawing No. 1608-00, April 07, 2009, provided by applicant.*

<sup>73</sup> *Schaaf & Wheeler, 2007, Memorandum, Subject: Review of Wetland Hydrology Indicators for Big Wave Jurisdictional Delineation Including Site Visit Commentary, September 2007.*

Newly created impervious area would cover a moderate (13 to 22 percent) part of the entire project site. Also, the proposed project includes various elements to minimize surface water runoff, including the use of porous pavements for parking lots and walkways and draining roof leaders to infiltrating rain gardens.

The Office Park and Wellness Center properties will continue to drain to separate locations. Both properties would include storm drainage systems that collect water from the parking lots and rooftops and terminate in landscaped areas to allow for infiltration. Several outfalls are shown on Figures III-25 and III-26. The Wellness Center property has four outfalls along its western edge, all of which enter graded low areas that then drain towards Pillar Point Marsh. The Office Park property has three outfalls, two of which are anticipated to lead to localized depressions on site. The other outfall leads to a depressed rainwater garden at the southern edge of the parcel.

Except for the buildings, all new pavements (parking lots, walking paths, basketball court/game area) are proposed to be made of permeable materials and are not considered to increase the imperviousness of the site. The parking lot includes 6 inches of concrete, underlain by 12 inches of open graded baserock, which then sits on clayey silt soils. Both the concrete and baserock have permeabilities of 3 inches per hour, with the underlying soil having a permeability of ½ inch to 1 inch per hour.

As proposed, onsite infiltration drain fields (or drain fields) will be used, with the Wellness Center property drain fields located on the inside edge of the fire trail that runs along the outside of the developed area and the Office Park property drain fields located just around Building B and next to Buildings A and C on their respective sides facing Building B. All of these proposed drain fields are located upstream of the wetland areas and the Pillar Point Marsh.

### ***Water Supply***

The proposed domestic (potable) water supply for the project would be obtained through the production of treated groundwater from an onsite, existing groundwater well. An emergency back-up and fire flow connection would also be constructed to connect to the potable water facilities of the CCWD, who obtains some of their supply from local water wells drawing from the Half Moon Bay Terrace.<sup>74</sup> Refer to Section IV.L.1 (Water) for a detailed discussion of the water supply aspects of the proposed project.

For this section analysis use of groundwater for the project is relevant. Both of the proposed potable water sources draw groundwater from the Half Moon Bay Terrace, although the CCWD has other, surface water sources, as well.

Total potable water demands will be kept to a minimum by using recycled water for flushing toilets and irrigating landscaped areas. Total potable water demands have been estimated by the applicant as 10,000 gallons per day (gpd) during normal rainfall years and 5,000 gpd for drought years. During drought

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<sup>74</sup> *Coastside County Water District, 2006, Water Supply Evaluation Report, Prepared for the CCWD Board of Directors, Prepared by the CCWD Staff*



years, the proposed project would decrease agricultural irrigation to minimize water usage. The project also includes provisions to use well water to supplement irrigation water, if needed, although no estimate of these demands has been provided.

The project water supply will be supplemented by recycled wastewater, as discussed below. Much of this recycled water will be used to irrigate the project landscaping, as part of the project's groundwater recharge system.

### ***Groundwater Recharge System***

The proposed groundwater recharge system is designed to infiltrate an average of 12,000 gpd of stormwater and 20,000 gpd of recycled wastewater. Key stormwater infiltration components of the system are the planned permeable concrete parking lots and walkways and rainwater gardens. Recycled wastewater will recharge groundwater through drip irrigation for the landscaping and three infiltration drain fields. Final design of the drain fields would be based on certified percolation tests.

The groundwater recharge system will double as a stormwater control system, with plans to capture and treat 80 percent of the surface water runoff. To maximize the ability to recharge groundwater from recycled water, onsite stormwater runoff needs to be minimized. Minimizing stormwater runoff also helps meet stormwater runoff water quality criteria.

### ***Stormwater Pollutant Discharge***

The proposed project has been designed to incorporate the County's overall approach and practices (i.e., BMPs) for stormwater management.<sup>75</sup> The project plans and literature indicate various measures to manage pollutant discharges via stormwater runoff. Non-point source pollution is generally handled via stormwater BMPs, including Site Design BMPs, Source Control BMPs, and Treatment Control BMPs.

The Site Design BMPs employed in the development of the project include the following:

- Separating different quality stormwaters (parking lot runoff vs. roof water runoff) into different retention systems;
- Minimizing impervious surfaces;
- Minimizing impacts of parking lots (through design);
- Disconnecting roof leaders from impervious surfaces;
- Including microdetention in landscaping to slow runoff and infiltrate more stormwater;

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<sup>75</sup> WSP Environment and Energy, 2008, Draft (90%) Basis of Design Report, Riparian & Waters/Wetlands Ecosystem Restoration for Big Wave Wellness Center and Office Park, August 2008, provided by applicant.

- Protecting wetland areas;
- Maximizing stormwater infiltration; and
- Minimizing changes in the runoff hydrograph.

In addition, at least one Source Control BMP is planned – regular maintenance of the storm drain system and developed site. Various Treatment Control BMPs are also planned, and will perform several important functions, including enhancing the water quality, dissipating energy, and storage and infiltration of stormwater runoff. The specific Treatment Control BMPs planned for the project include the following:

- Porous pavement and underground detention for the parking lots and walkways;
- Grit removal and oil/water separators for captured parking lot runoff;
- Landscaped swales and rain gardens; and
- Infiltration basins.

All of these BMPs are referenced in some form on the SMCWPPP “NPDES Permit Impervious Surface Data Collection Worksheet,” and specified in the SMCWPPP C.3 Stormwater Handbook, used in the County’s review of project’s compliance with the County’s NPDES permit.<sup>76</sup>

Critical to proper stormdrain system and BMP function is the ongoing operation and maintenance of the stormdrain system and BMPs. Operation of the project landscaping is proposed to minimize excess irrigation to prevent runoff. The maintenance plan for the proposed stormwater system includes the following:

- Daily trash pickup in the parking lots;
- Monthly inspection of all components;
- Bi-monthly vacuuming of permeable concrete in parking lots by trained operators;
- Bi-annual catch basin cleaning;
- Training of select Wellness Center residents to perform maintenance;
- Annual weeding and debris removal from the landscaped areas; and

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<sup>76</sup> SMCWPPP, 2005, SMCWPPP C.3 Stormwater Handbook, May 2005, 232 p.

- Annual replanting of rain gardens and restored wetlands with native wetland plants.

### ***Wastewater Pollutant Discharge***

Other than stormwater runoff, the proposed project could contribute pollutants to the environment via discharge of wastewater, which generally can have various contaminants when untreated, including human bodily waste, detergents, abrasives, and other household chemicals. Even recycled wastewater can contain relatively high levels of certain contaminants, including salts. The project includes the development of an onsite membrane bioreactor (MBR) wastewater treatment plant (MBR plant) for treatment and recycling of wastewater produced onsite. The project is anticipated to generate approximately 26,000 gpd of domestic wastewater. The wastewater influent to the MBR plant will include both black wastewater from toilets and grey wastewater from other fixtures. The MBR plant will be used to treat and recycle 16,000 gpd of the wastewater for reuse in toilets onsite, with the remainder of the treated wastewater applied as landscape/agricultural irrigation and infiltrated via three drain fields. For these uses, the MBR plant will need and is planned to meet Title 22 Standards for tertiary treated wastewater and reuse.

The specific wastewater treatment criteria are summarized in Section III (Project Description) and in Table III-9 and are referenced against current Title 22 standards. The proposed MBR plant discharge is planned to have levels of biochemical oxygen demand, total nitrogen, total suspended solids, turbidity, and fecal coliform at or below the standards.

During wet periods (i.e., the winter), when groundwater levels are higher and reduce the allowable infiltration of the onsite soils, the MBR plant wastewater effluent will be discharged to a sanitary sewer system. A manhole is proposed to be constructed with the MBR plant to allow connection of the onsite wastewater collection system to the Granada Sanitary District's existing wastewater treatment plant, a regional wastewater treatment facility in the City of Half Moon Bay. This treatment facility has received San Francisco Bay RWQCB Order No. R2-2007-0003<sup>77</sup> as the current regulating Waste Discharge Requirements (WDR) permit. The WDR currently allows disposal of treated wastewater from this facility into the Pacific Ocean.

### ***Development In/Near Flood-prone Areas***

Since the 2005 FEMA LOMA<sup>78</sup> has removed the project parcels from the FEMA-designated floodplain and the project development is limited to these two parcels, no project development will occur in a FEMA-designated floodplain. The FEMA (100-year) floodplain is currently limited to the southside of West Point Avenue, which generally splits Pillar Point Marsh downstream of the project site.

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<sup>77</sup> RWQCB, 2007, *Waste Discharge Requirements For the Sewer Authority Mid-Coastside, City of Half Moon Bay, Montara Water and Sanitary District, and Granada Sanitary District Discharge to the Pacific Ocean Via Discharge Point 001.*

<sup>78</sup> FEMA, 2005, *Ibid.*

It is possible, given the nearby marsh that high groundwater could cause local flooding onsite, especially during heavy rain events. Inundation due to a dam failure, or from effects of a tsunami or seiche are also possible on the project site, as discussed above. Other than onsite stormwater storage, the current project plans do not indicate any particular measures planned to mitigate for onsite flooding from these or other sources.

### **Site Coverage**

The total project would have approximately 3 acres of impervious surface area and 9.5 acres of pervious parking lots and walkways that are designed for groundwater infiltration. The remaining 9 acres would be restored wetlands and native plant landscaped areas that is also considered pervious surface. Only 10 percent of the total site coverage is impervious surface. Tables IV.H-4 and IV.H-5 provide a breakdown of the impervious and pervious surfaces associated with the proposed development within the Office Park and the Wellness Center properties, respectively.

**Table IV.H-4  
Office Park Property Site Coverage**

Surfaces	Area (sf)
<b>Impervious Surfaces</b>	
Buildings A-D and Communication Building	80,000
<b>Total Improved Impervious Surfaces</b>	<b>80,000</b>
<b>Pervious Surfaces</b>	
Porous Parking Lot	243,925
Walkways	13,052
Islands/Sidewalks	18,065
<b>Subtotal Improved Pervious Surfaces</b>	<b>275,042</b>
<b>Total Improved Surfaces (not including Wetlands)</b>	<b>355,042</b>
<b>Total Wetland Restoration (Pervious)</b>	226,038
<b>Total Pervious Surface</b>	<b>501,080</b>
<b>Total Parcel Area</b>	<b>620,841</b>
<b>Total Percent Pervious</b>	<b>87.1%</b>
<b>Percent Wetlands Restoration</b>	<b>36.4%</b>
<i>Notes: sf = square feet</i>	
<i>Source: Big Wave, LLC, Facilities Plan: Draft #2, Big Wave Property, January 2009.</i>	

**Table IV.H-5  
Wellness Center Property Site Coverage**

Surfaces	Area (sf)
<b>Impervious Surfaces</b>	
Buildings 1 – 7	46,999
Pool Building	3,464
Water Recycling Plant	600
<b>Total Improved Impervious Surfaces</b>	<b>51,063</b>
<b>Pervious Surfaces</b>	
Porous Parking Lot	30,721
Basketball Court, Game Space	12,601
Walkways/Multipurpose Trails	9,211
<b>Subtotal Improved Pervious Surfaces</b>	<b>52,533</b>
<b>Total Improved Surfaces (not including Wetlands)</b>	<b>103,596</b>
<b>Total Wetlands Restoration</b>	122,749
<b>Total Pervious Surfaces</b>	<b>175,282</b>
<b>Total Parcel Area</b>	<b>229,779</b>
<b>Total Percent Pervious</b>	<b>76%</b>
<b>Percent Wetlands Restoration</b>	<b>53%</b>
<i>Notes: sf = square feet</i>	
<i>Source: Big Wave, LLC, Facilities Plan: Draft #2, Big Wave Property, January 2009.</i>	

## Project Impacts and Mitigation Measures

### ***Impact HYDRO-1 Violate Water Quality Standards or Waste Discharge Requirements***

Water quality standards of concern would be those applicable to the nearby drainage swale or Pillar Point Marsh, to which the project site drains. The California Ocean Plan and its protection of the Fitzgerald Marine Reserve require that discharges affecting the Reserve do not impair its water quality.

Pillar Point Harbor is listed as being impaired for fecal coliforms. The proposed development would not increase the presence of livestock or wildlife to contribute fecal coliforms, and human waste is being conveyed through an onsite sanitary sewer system and treated at an onsite MBR plant. The MBR plant would use Kubota membranes, which have been certified by the San Francisco Bay RWQCB and CDPH (in 2004) to meet the filtration requirements of Title 22 for unrestricted reuse of recycled tertiary treated wastewater. However, an April 2004 letter from the CDPH (then known as the California Department of Health Services) to the Kubota Corporation indicates that:

“The Department will continue to review all proposed projects [using the Kubota membrane technology] on a case-by-case basis to determine full compliance with all applicable treatment and reliability features

required by the Water Recycling Criteria. This will include the collective review of all treatment unit processes, operational controls . . . ‘O&M’ procedures, etc.”<sup>79</sup>

Therefore, because the Kubota membranes are currently certified by the San Francisco Bay RWQCB and CDPH and the proposed development would not increase the presence of livestock or wildlife, no increase in fecal coliforms to the marsh is expected from the project.

In terms of violating WDR, the project’s MBR plant will require a WDR permit from the San Francisco Bay RWQCB before any external discharge will be allowed. The MBR plant’s WDR would have provisions to protect receiving waters under the State Board’s Antidegradation Policy, Bays and Estuaries Policy, and Thermal Plan, and the San Francisco Bay RWQCB’s Basin Plan.

The wet weather connection to the Granada Sanitary District is anticipated to be capable of treating the project’s wastewater contribution and therefore, the project’s wastewater contribution would be covered under the existing WDR permit for that facility and thus meet applicable water quality criteria of its treated wastewater discharge. Refer to Section IV.N, Utilities and Service Systems for additional discussion of the Granada Sanitary District wastewater system.

Additionally, although the project would increase the amount of impervious surface on the project site, the project has been designed to incorporate the County’s overall approach and practices (i.e., BMPs) for stormwater management. The project has incorporated stormwater BMPs, including Site Design BMPs, Source Control BMPs, and Treatment Control BMPs as discussed above to reduce impacts associated with non-point source pollution.

With implementation of the abovementioned planned stormwater BMPs and the requirements for the WDR permit, the project is anticipated to have *less-than-significant* impacts in terms of violating water quality standards or waste discharge requirements and therefore no mitigation measures are required.

***Impact HYDRO-2 Substantially Deplete Ground Water Supplies or Substantially Interfere with Ground Water Recharge***

Development or redevelopment of any particular area has the potential to impact groundwater resources by (1) increasing water demand, if that demand is met with groundwater, and/or (2) increasing the amount of ground covered by impermeable surfaces that would thus interfere with the ability for surface water to infiltrate into subsurface soils and recharge groundwater aquifers. It should be noted that the project’s Facilities Plan<sup>80</sup> recommends that “groundwater utilized domestically and groundwater to be used for irrigation will not exceed the designed infiltration amount for project infiltration systems.”

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<sup>79</sup> California Department of Health Services. 2004. Letter to Mr. Hiroyuki Takatori. Subject: Conditional Acceptance of Increased Flux for the Kubota Type 510 Membrane. April 29, 2004.

<sup>80</sup> Big Wave Project, 2009, Ibid.

*Effects of Proposed Withdrawals on Regional Aquifers<sup>81</sup>*

One approach to evaluating the effects of the project's pumping on local and regional aquifers is to: (a) compare the projected demand and recharge with existing local demand and recharge; (b) evaluate how projected demand may affect offsite uses; then (c) consider effects during prolonged droughts. It is customary to use round numbers when conducting such evaluations.

- (a) Existing recharge on this 19.4-acre site is approximately 20 AFY, based on mean annual recharge of 11.5 to 12 inches. Due to the alluvial deposits that form the groundwater basin, recharge also occurs throughout the basin. Significant areas that have low recharge include the Half Moon Bay Airport and the existing developments in the watershed. Projected recharge with project implementation is anticipated to be similar to the existing recharge, as the impervious areas of the site will be drained to pervious areas.

The project site currently has an operating well that may be used for irrigation. It is possible to estimate existing irrigation (i.e., well water) demands from some knowledge of the crop's being irrigated. Based on site visits and available aerial photography, the entire area of both parcels (i.e., 19.4 acres) is essentially being irrigated. To avoid crop water stress, rainfall and irrigation must be sufficient to meet the crop's water needs, accounting for evapotranspiration. At a minimum, the calculated annual evapotranspiration needs to be delivered via rainfall or irrigation. As detailed in Table IV.H-1, the total average evaporation for the project area is 40.81 inches versus a total average rainfall of 26.40 inches, leaving an average annual deficit of 14.41 inches or 1.2 feet. Assuming perfect efficiency of the irrigation system and a crop coefficient<sup>82</sup> for legumes of 1.15, the existing crops onsite would annually require about 1.4 acre-feet per acre of crops. As a comparison, typical landscape irrigation in the Bay Area is estimated to require about 2.5 AFY per acre (acre-feet per acre is equivalent to feet). For the entire project area, a range from 1.4 to 2.5 AFY per acre would equal 27 to 49 AFY or 24,000 to 44,000 gpd. If the onsite well is used to meet these demands, then 24,000 to 44,000 gpd is a rough estimate of the amount currently pumped.

The applicant has estimated the proposed water demand as 10,000 gpd or 11 AFY,<sup>83</sup> which is about equal to the mean annual onsite recharge. This is less water than is estimated to be currently used onsite. Some of the existing water used will recharge the aquifer, but most of it is lost to evapotranspiration. Therefore, the project demands are estimated to be less than the net demands from the existing site.

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<sup>81</sup> This section relies on and summarizes a more detailed discussion in the memo attached as Appendix H.

<sup>82</sup> The crop coefficient accounts for varying water usage versus the reference crop used in estimating evapotranspiration values. Green beans have a relatively high crop coefficient of 1.15. See the Santa Clara Valley Water District's (undated) Handbook for Agricultural Water Use Efficiency.

<sup>83</sup> Project demand is evaluated separately in the Utilities section of this DEIR.

- (b) About 4 percent of the CCWD water supply is provided directly from wells in the airport aquifer,<sup>84</sup> and is legally limited to 130 million gallons per year (MGY), which is equivalent to 400 AFY. The average annual amount pumped, however, is about 160 AFY, and is even projected to decrease further to less than 100 AFY by 2010 due to increased reliance on other sources. Another 17 percent of the CCWD's water supply is provided from surface diversions of Denniston Creek, which is indirectly influenced by the airport aquifer. Overall, only a quarter of the CCWD's water supply is related to the local groundwater. Most of the remainder is purchased from the San Francisco Public Utilities Commission (SFPUC) and originates from the Hetch Hetchy Reservoir. The project demand of 11 AFY adds 7 percent more demand on the airport aquifer. However, total groundwater withdrawals from the site, as discussed above, are expected to decrease. Therefore, given the small increase over the CCWD's existing withdrawals and the net decrease for the site, the project's groundwater usage will not discernibly affect the ground water supply in the regional aquifer and existing ground water users who draw from it.
- (c) The CCWD has prepared an Urban Water Management Plan (UWMP)<sup>85</sup> in 2005 that analyzes the effects of pumping during multiple consecutive years of drought. Groundwater would still supply about 300 AFY during three consecutive dry years, although the proportion from the airport aquifer is unclear. Nevertheless, the UWMP does not indicate that excessive groundwater pumping would be required during drought years. Therefore, groundwater availability during drought is not expected to limit community water-supply availability as projected. The project, during a drought, is anticipated to increase groundwater recharge through groundwater infiltration efforts.

Therefore, impacts would be *less than significant*, and no mitigation measures are required.

#### *Interference with Ground Water Recharge*

Ground water recharge at the project site is significant as a means to: (a) contribute to the quantity and quality of groundwater for the local water supply; (b) sustain the wetland areas near the site; and (c) handle stormwater infiltration and minimize flooding. Rates of recharge approaching, equaling, or slightly exceeding those which currently prevail onsite are important for (b) and (c) and will influence (a).

The existing site, as agricultural land, contributes approximately 80 percent of its precipitation to recharge, with the remainder running off site into the Pillar Point Marsh. Urban development has the potential to greatly increase the amount of impervious surface on a site and, thus, increase the stormwater runoff and decrease the groundwater recharge.

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<sup>84</sup> CCWD, 2006, *Ibid.*

<sup>85</sup> CCWD, 2005, *2005 Urban Water Management Plan, Prepared for CCWD Board of Directors, Prepared by Amanda Cox.*



The current site development calls for a lower impermeable surface coverage (20 percent) compared to typical subdivisions, where impermeable surface coverage is 25 to 40 percent or higher. Although the developed land will occupy a greater percentage of the site, the parking lots and sidewalks are planned to be paved with permeable concrete. Permeable concrete is considered as pervious surface because it allows stormwater to percolate through into the ground. Any stormwater that does runoff the permeable concrete is planned to be directed to rainwater gardens, designed to percolate runoff.

The only truly impermeable surfaces on the project site will be the building rooftops and stormwater from the rooftops will also runoff eventually to rainwater gardens after entering small sections of storm drainage piping. Therefore, even though the site will have some impervious cover, runoff from all impervious surfaces is planned to drain to pervious surfaces and infiltrate into the groundwater system.

Infiltration via the rain gardens can be hindered by high groundwater levels. The project site may have relatively high groundwater. The applicant has provided relatively recent, site-specific geotechnical borings<sup>86</sup> that indicate water levels ranging from 3 to 9 feet below the ground surface on the Wellness Center property and 5 to 7 feet below the ground surface on the Office Park property. Given the location of these borings and the existing site (surface) elevations, these water depths equate to water elevations of 4 to 12 feet for the Wellness Center property and approximately 7 to 22 feet for the Office Park property. These borings were taken in late spring, so the water levels may not represent the highest seasonal water levels onsite. Wet-weather water levels would be confirmed for the final design and installation of any infiltration components, such as the rain gardens and wastewater infiltration galleries. From a recharge perspective, even if the infiltration components are less effective than anticipated, the excess water would still eventually percolate into the same aquifer in the downstream marsh area.

Effects on recharge to the Half Moon Bay Terrace – which supports the Pillar Point Marsh and drinking water supplies in the area – are expected to be *less than significant*, and no mitigation is required. The planned project recharge should serve as a further benefit to recharging the underlying aquifer. Further analysis of the project applicant's submitted water balance is presented in the *Hydrologic Analysis of the Big Wave Project*, prepared by Schaaf & Wheeler, May 15, 2009 provided in Appendix H of this DEIR.

### ***Impact HYDRO-3 Substantially Alter Drainage Patterns Resulting in Increased Erosion or Siltation***

The existing project site drains generally to the southwest towards the Pillar Point Marsh. The proposed project would essentially maintain the drainage discharge points onsite. Also, the nearby drainage swale would not be altered, so no stream or river would be altered as part of the proposed project. However, the proposed project would increase the amount of imperviousness onsite since the site currently has no impervious development, and the buildings are considered impervious cover. The increase in imperviousness serves to increase runoff amounts by 80 percent, as discussed later in this section. The

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<sup>86</sup> Bay Area Geotechnical Group, 2000, Job No. PECKJ-01-00, Boring Logs, June 2000.

Bay Area Geotechnical Group, 2002, Job No. BIGWA-01-00, Boring Logs, May 2002.

drainage plans (refer to Figure III-25 and III-26) propose rain gardens to mitigate the peak flows from the site, although the storm drainage system is likely to handle flows from only smaller events, such as the 2-year and 10-year storms. No modeling of the storm drainage systems and infiltration systems, such as in a drainage report, has been provided with the drainage plans, so the expected effect of the storm drainage systems cannot be fully assessed at this time.

Erosion and sedimentation are typically of greatest potential concern during the project construction-phase. After a project has been built and the landscaping has been installed, erosion from residential and commercial development sites is usually minimal, particularly when they are sited on relatively flat slopes. Potential impacts from the proposed project include onsite and offsite stream channel susceptibility to “*hydromodification*,” as well as localized effects of stormwater discharges to swales and drainageways. Any overland flow will go to a tidally-influenced area and not to any unlined channel subject to erosion. Therefore, hydromodification effects of the site development are anticipated to be minimal, and hydromodification regulations are not anticipated to be applicable to the project.

The existing drainage patterns on the project site, as inferred from the site topography, are dispersed overland flow. Some of the overland flow likely flows into the drainage swale between the two parcels of the project site. These drainage patterns will be somewhat altered by the proposed project. Rooftop runoff will be concentrated on the rooftops, collected into the storm drain system, and released to onsite rainwater gardens for detention and percolation. Rainfall on the pervious pavement sections of the site are intended to percolate locally. Any runoff from the pervious pavement sections will be collected into the storm drain system to percolate in the rainwater gardens, as well. The amount of overland stormwater flow will likely be reduced, as well as the overland flow to the drainage swale. Overall, the effects on erosion from such flow, therefore, is anticipated to be reduced. Also, the proposed project, as mentioned earlier, is anticipated to be exempt from mitigating for hydromodification.

The site includes soils with a low erosion potential (refer to Table IV.H-2), but the relatively steep parts of the site at the edges of the development will require attention during and after construction to avoid erosion. Erosion control plan sheets have been prepared by the applicant. However, these sheets only show short- or mid-term controls, such as fiber rolls and jute mesh at the downstream edges of the development. Clear flow paths of stormwater are not shown, and long-term erosion control measures are not described. Long-term erosion control measures are necessary, in particular for the relatively steep parts of the site at the edges of development. Indeed, these are the primary areas where construction BMPs are already being planned. A SWPPP has not yet been prepared for the project site. Measures to dissipate energy and control runoff velocities would be required to prevent discharges from eroding slopes and cause gulying and sediment transport downstream. Without a complete erosion control plan, a SWPPP, and a landscape plan showing erosion control measures, including measures that adequately control runoff velocities during larger events, the altered drainage patters could cause *significant* erosion impacts.

The following mitigation measure would reduce Impact HYDRO-3 to a *less-than-significant* level:

***Mitigation Measure HYDRO-3 Alteration of Drainage Patterns Resulting in Increased Erosion or Siltation***

The applicant shall prepare and submit a SWPPP for the proposed project. The applicant's SWPPP shall identify the BMPs to control erosion and sedimentation and provide for treatment of 80 to 85 percent of post-construction runoff from new impervious areas. Neighborhood- and/or lot-level treatment BMPs shall be emphasized, consistent with San Francisco Bay RWQCB and SMCWPPP guidance for NPDES Phase 2 compliance. These types of BMPs, which may also assist in reducing post-project peak flows, include infiltration basins and trenches, dry wells, rain gardens, on-contour grassy swales, media filters, biofiltration features and grassy swales. BMPs shall be designed in accordance with engineering criteria in the California Stormwater BMP Handbook or other accepted guidance and designs shall be reviewed and approved by the County prior to issuance of grading or building permits. As discussed under Mitigation Measure HYDRO-5, if lot-level BMPs are accepted by SMCWPPP as a suitable control measure, the applicant shall establish a mechanism for enforcement to assure that BMP functioning is being maintained as designed. The applicant has included a detailed maintenance schedule, which includes monthly inspection of system components, annual weeding, annual replanting, bi-annual cleaning of catch basins, bi-monthly parking lot vacuuming, and daily trash pickup in the parking lots.

Submittal of a project erosion control plan and SWPPP to San Mateo County for review shall be required as part of the Final Map application. The erosion control plan shall include components for erosion control, such as phasing of grading, limiting areas of disturbance, designation of restricted-entry zones, diversion of runoff away from disturbed areas, protective measures for sensitive areas, outlet protection, and provision for revegetation or mulching.<sup>87</sup> The plan shall also prescribe treatment measures to trap sediment once it has been mobilized, at a scale and density appropriate to the size and slope of the catchment. These measures typically include inlet protection, straw bale barriers, straw mulching, straw wattles, silt fencing, check dams, terracing, and siltation or sediment ponds. Other aspects of the SWPPP, especially those related to water quality, are discussed below for other mitigation measures.

Landscape plans showing the grassy swales and indicating flow paths shall also be provided.

***Impact HYDRO-4 Substantially Alter Drainage Patterns Resulting in Increased Flooding***

Placing fill or other structures in such a way as to block existing drainage paths could result in increased onsite or offsite flooding, particularly if there is significant offsite drainage that flows through the site. Offsite runoff from upstream of the project site is unlikely given that Airport Street is at the upstream border of the project site. Existing stormwater drainage from upstream travels through a culvert under Airport Street, and through the drainage swale between the two parcels of the project site into the Pillar

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<sup>87</sup> Association of Bay Area Governments (ABAG), 1995, *Manual of Standards for Erosion and Sediment Control Measures*, 2nd Edition, May 1995.

Point Marsh. However, since no drainage report was provided by the applicant, it is unknown if there are substantial stormwater discharges that would travel onto the site from neighboring areas, particularly the residential development to the northwest.

Increased flooding from onsite runoff can be analyzed by looking at the effects on Pillar Point Marsh of the increased runoff. The surface area of the freshwater portion of the marsh, which is upstream of West Point Avenue, is about 23.5 acres, based on Figure IV.H-6 and other reports. Based on the estimated precipitation for a 100-year, 24-hour storm and the increase in site impermeability, runoff volume is expected to increase by 17.0 acre-inches. This would increase the marsh level by about seven-tenths (0.7) of an inch over the existing level during a 100-year storm, assuming no increased outflow due to the higher water level.

Therefore, the proposed project could have a *significant* impact on flooding.

The following mitigation measure would reduce Impact HYDRO-4 to a *less-than-significant* level:

***Mitigation Measure HYDRO-4 Alteration of Drainage Patterns Resulting in Increased Flooding***

The applicant shall submit a drainage report and plans to the County that identify the drainage pathways and the extent of any offsite drainage that flows onsite. How such offsite drainage will be conveyed through the site shall also be detailed. The drainage plan shall provide designs consistent with recognized engineering criteria. The drainage plan shall be reviewed and approved by the County prior to issuance of grading or building permits.

***Impact HYDRO-5 Create or Contribute Runoff Water Which Would Exceed the Capacity of Existing or Planned Stormwater Drainage Systems or Provide Substantial Additional Sources of Polluted Runoff***

*Quantity of Surface Water Runoff*

A drainage report was not provided by the applicant. Table IV.H-6 summarizes the relevant parameters given by the applicant and used to estimate the existing (pre-project) and post-project stormwater discharges onsite for various size storms. Table IV.H-7 presents the results of the runoff analysis. As detailed in the *Hydrologic Analysis of the Big Wave Project*, prepared by Schaaf & Wheeler, May 15, 2009 provided in Appendix H of this DEIR, the rational method, combined with parameters from the Santa Clara County Drainage Manual (SCCDM), were used to estimate site runoff during a 2-year, 10-year, and 100-year storm event.

These estimates were based on the soil types described earlier, considering them Hydrologic Group C soils with moderately slow permeability. The high groundwater table can also lead to significant stormwater runoff, especially during large storm events. However, effects of the high groundwater table are not incorporated in the following estimates.

Table IV.H-7 indicates that the stormwater discharges increase by 80 percent for all three analyzed events. The runoff from the site enters some storm drains and then rain gardens and other retention basins. Any further runoff proceeds to Pillar Point Marsh, for which no new development or storm drainage facilities are planned or ever likely to be planned. Therefore, there are no existing or planned stormwater drainage systems whose capacities could be exceeded by the increased stormwater runoff from the site.

**Table IV.H-6  
Existing (Pre-) and Post-Project Discharge Parameters**

Watershed	Scenario	Drainage Area (acre)	Developed Area (acre)	Impervious -ness (%)	TC (min)	2-Year Intensity (in/hr)	10-Year Intensity (in/hr)	100-Year Intensity (in/hr)
Office Park	Pre	14.3	0.0	0.0	20.47	0.96	1.61	2.51
	Post		1.8	12.9	10.83	1.32	2.22	3.45
Wellness Center	Pre	5.3	0.0	0.0	14.23	1.15	1.93	3.01
	Post		1.2	22.2	9.13	1.43	2.41	3.75
<b>Post Total</b>		<b>19.6</b>	<b>3.0</b>	<b>15.4</b>	NA	NA	NA	NA

*Notes:*  
 TC = Time of Concentration  
 in/hr = inches per hour  
 NA = not applicable  
 Source: Schaaf & Wheeler, 2009.

**Table IV.H-7  
Existing (Pre-) and Post-Project Peak Storm Discharges for the 2-Year, 10-Year, and 100-Year Event**

Watershed	2-Year Discharge (cfs)		10-Year Discharge (cfs)		100-Year Discharge (cfs)		Average Increase (%)
	Existing	Post-Project	Existing	Post-Project	Existing	Post-Project	
Office Park	4.1	7.5	6.9	12.6	13.4	24.6	80
Wellness Center	1.8	3.0	3.1	5.1	5.9	9.9	80
<b>Total</b>	<b>5.9</b>	<b>10.5</b>	<b>9.9</b>	<b>17.7</b>	<b>19.3</b>	<b>34.3</b>	<b>80</b>

*Notes:*  
 cfs = cubic feet per second  
 Source: Schaaf & Wheeler, 2009.

Furthermore, the project, without any onsite mitigation, would increase the total watershed peak flows to Pillar Point Marsh by an estimated 3 percent; project site flows would go from representing 2.9 percent to 5.8 percent of the marsh watershed’s peak flows. With the planned detention, the percentage increase

should be even smaller. The *Hydrologic Analysis of the Big Wave Project*, prepared by Schaaf & Wheeler, May 15, 2009 provided in Appendix H of this DEIR presents details of the estimate for the entire watershed drainage.

Overall, impacts of increasing quantities of stormwater runoff would be ***less than significant***, and no mitigation measures are required.

#### *Quality of Surface Water Runoff*

The proposed project may generate significant adverse impacts on water quality. Pollutants and chemicals associated with urban development would runoff new roadways and other transportation facilities, such as parking lots. The pollutants can then flow into the main Pillar Point Marsh or the associated drainage swale. These pollutants would include, but are not limited to, heavy metals from automobile emissions, oil, grease, trash and debris, and air pollution residue. Eventually, these urban pollutants can filter down into the groundwater table, especially where groundwater is near the surface, such as in the freshwater portion of the marsh. Such contaminated urban runoff remains relatively untreated, thus resulting in incremental long-term degradation of water quality. Increased stormwater runoff can also lead to erosion, which can then contribute sediment to receiving waters; sediment can impair water quality by carrying with it any of the pollutants mentioned above.

Short-term adverse impacts to water quality may also occur during construction of the project when areas of disturbed soils become susceptible to water erosion and downstream sedimentation. This impact is of particular concern where projects are located on previously contaminated sites. Grading and vegetation removal in proximity to drainage features, such as the drainage swale, could result in an increase in bank erosion, affecting both water quality and slope stability along the drainage feature.

Site design to reduce impervious area coverage, limited grading, fitting structures to the existing topography, and use of onsite swales and rain gardens rather than storm drain pipes to convey runoff, as proposed by the project, are favored approaches to managing urban runoff.<sup>88,89</sup> Current agency guidance also recommends that, where soils and geotechnical conditions allow, runoff should be infiltrated using a combination of treatment BMPs, such as grass swales and infiltration trenches, to reduce peak flows and enhance water quality. Based on the analysis herein, these types of BMPs – when installed at the lot- or neighborhood-scale, properly sized for the drainage area, and designed to comply with criteria in the California Stormwater BMP Handbook – would be well suited to local conditions.

Under existing conditions, fertilizer and pesticide compounds are the most likely pollutants of concern since the project site is currently in vegetable crop production. Given that agricultural production would be reduced following project construction, the project could potentially reduce any existing nitrate-

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<sup>88</sup> *Bay Area Stormwater Management Agencies Association (BASMAA), 1999, Start at the source, 2nd Edition, 165 p.*

<sup>89</sup> *California Storm Water Quality Task Force, 2003, Ibid.*

nitrogen, ammonia-nitrogen and agriculture-related organic contributions to the surface water and ground water, a benefit to water quality.

However, there are several pollutants that the project development could contribute to the surface water, including sediment and typical urban pollutants. In contrast to other potential pollutants, sediment is typically of greatest potential concern during the construction-phase of development. After a project has been constructed and the landscaping has been installed, erosion and sedimentation from development sites is usually minimal. Potential post-project contributions of sediment to surface waters from storm drain outlets have been discussed above. Pollutants other than sediment which might typically degrade surface-water quality during project construction include petroleum products (gasoline, diesel, kerosene, oil, and grease), hydrocarbons from asphalt paving, paints, and solvents, detergents, nutrients (fertilizers), pesticides (insecticides, fungicides, herbicides, rodenticides), and litter. Once the buildings and roadways have been constructed, typical urban runoff contaminants might include all of the above constituents, as well as trace metals from pavement runoff, nutrients, and bacteria from pet wastes, and landscape maintenance debris. Since the drainage system discharges directly to Pillar Point Marsh, these pollutants could affect aquatic and wetland habitats and sensitive species, and sediment could reduce flood storage of the marsh. Without mitigation, the effects on surface water quality could be *significant*.

Therefore, the following mitigation measure is required to reduce the effects on surface quality to a *less-than-significant* level:

***Mitigation Measure HYDRO-5 Surface Water Runoff Quality***

The applicant shall prepared and submit a comprehensive erosion control plan and SWPPP. Potential construction-phase and post-construction pollutant impacts from development can be controlled through preparation and implementation of an erosion control plan and a SWPPP consistent with recommended design criteria, in accordance with the NPDES permitting requirements enforced by SMCWPPP and the San Francisco Bay RWQCB. The erosion control plan forms a significant portion of the construction-phase controls required in a SWPPP, which also details the construction-phase housekeeping measures for control of contaminants other than sediment, as well as the treatment measures and BMPs to be implemented for control of pollutants once the project has been constructed. The SWPPP also sets forth the BMP monitoring and maintenance schedule and identifies the responsible entities during the construction and post-construction phases.

The applicant's SWPPP shall identify the BMPs that will be used to reduce post-construction peak flows to existing levels in all onsite drainages where construction will occur. Neighborhood- and/or lot-level BMPs to promote infiltration of storm runoff shall be emphasized, consistent with San Francisco Bay RWQCB and SMCWPPP guidance for NPDES Phase 2 permit compliance. These types of BMPs, which may also enhance water quality, include infiltration basins and trenches, dry wells, rain gardens, on-contour grassy swales, media filters, and biofiltration features. BMPs shall be designed in accordance with engineering criteria in the California Stormwater BMP Handbook or other accepted guidance and designs shall be reviewed and approved by the County prior to issuance of grading or building permits.

The applicant shall prepare a clearly defined operations and maintenance plan for water quality and quality control measures. The design and maintenance documents shall include measures to limit vector concerns, especially with respect to control of mosquitoes. The applicant shall identify the responsible parties and provide adequate funding to operate and maintain stormwater improvements (through a HOA, Geological Hazard Abatement District, CSD, CFD or similar organization). If lot-level BMPs are accepted by the County as a suitable control measure, the applicant shall establish a mechanism for enforcement to assure that BMP functioning is being maintained as designed. The applicant shall also establish financial assurances, as deemed appropriate by the Community Development Director, enabling the County to maintain the stormwater improvements should the HOA or other entity disband or cease to perform its maintenance responsibilities.

The SWPPP must also include post-construction water quality BMPs that control pollutant levels to pre-development levels, or to the maximum extent practicable (MEP). To confirm that structural BMPs (e.g., biofiltration features, wet ponds, vegetated swales, constructed wetlands, or media filters) will function as intended, design must be consistent with engineering criteria, as set forth in guidance such as the recently revised California Storm Water BMP Handbook for New and Redevelopment.<sup>90</sup> These types of structural BMPs are intended to supplement other storm water management program measures, such as street sweeping and litter control, outreach regarding appropriate fertilizer and pesticide use practices, and managed disposal of hazardous wastes.

The main post-construction water quality enhancement measure indicated by the applicant report is the use of rain gardens (constructed wetlands) to control pollutants. Locations and designs of the stormwater infiltration system should be provided to the County as part of the grading plans during Final Map review.

Many of the distributed BMPs that could prove useful to address control of post-project peak flows at the lot- and/or neighborhood level could reasonably be linked with measures to enhance water quality, thereby providing compliance with the NPDES Phase 2 permit requirements as well. For example, downspouts could direct roof runoff to biofiltration features, with percolated stormwater conveyed through subdrains to small infiltration basins or dry wells.

#### ***Impact HYDRO-6      Otherwise Substantially Degrade Groundwater Quality***

The proposed project could potentially degrade groundwater quality due to contractor activities during construction, residents' and workers' activities following occupation of the constructed facilities, and contamination of unused wells.

Constituent pollutants from the first two sources are the same as described above for surface waters, and the regulatory framework and mitigation measures proposed to minimize impacts are also identical. No further mitigation would be required.

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<sup>90</sup> California Storm Water Quality Task Force, 2003, California Storm Water Best Management Practices Handbooks, 3 volumes.



The project applicant has indicated that an existing well, permitted for potable water use although currently used only for agricultural purposes, is onsite and planned for continued use during project operation. If any other wells do exist, are not used, and are not properly destroyed, the unused wells could pose a potentially significant impact to ground water quality as pollutants entering the well would be rapidly conveyed to the subsurface aquifer. This would be a **significant** impact on ground water quality.

The following mitigation measure is required to reduce the impacts to groundwater quality to a **less-than-significant** level:

***Mitigation Measure HYDRO-6 Groundwater Quality***

The applicant shall abandon all unused wells on the project site consistent with San Mateo County Department of Environmental Health standards and the standards described in the State of California Department of Water Resources Well Standards (Bulletins 74-81 and 74-90).

Any onsite wells left in service should meet CDPH criteria for well protection. The applicant shall prepare, if required by the CDPH or County Department of Health Services, a Drinking Water Source Assessment and Protection (DWSAP) application to identify and protect against potential well contaminants.

***Impact HYDRO-7 Place Housing Within a 100-year Flood Hazard Area or Place Within 100-Year Flood Hazard Area Structures that would Impede or Redirect Flood Flows***

As discussed previously, a 2005 LOMA removed the project parcels from the FEMA-designated 100-year flood hazard area (floodplain) in the project area.<sup>91</sup> Since the project is limited to development on these parcels, the project, therefore, would not be placing housing within a 100-year Flood Hazard Area. Given the existing LOMA, project development should have no impacts in terms of placing housing within a 100-year flood hazard area and no mitigation measures are required.

Furthermore, since the project parcels are not within a FEMA-designated 100-year floodplain, any development on these parcels should not impede or redirect flood flows. Hence, project development would have **no impacts** in terms of impeding or redirecting 100-year flood flows and no mitigation measures are required.

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<sup>91</sup> FEMA, 2005, *Ibid.*

***Impact HYDRO-8 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***

The project could potentially expose people and structures to a significant risk of loss, injury or death involving flooding as a result of the failure of a dam. Failure of the Denniston Reservoir dam on Denniston Creek could potentially affect the project area. The CCWD operates the dam and reservoir as part of their water supply. As mentioned before, the dam is not large enough to be regulated by the DOSD, and exact dimensions of the reservoir are not readily available.<sup>92</sup> A State Board application by the CCWD does allow for water rights to 5,580 acre-feet (243 million cubic feet) of stored water per year at a Denniston Creek reservoir.<sup>93</sup> Without more information on the dam or reservoir dimensions, however, actual storage in the reservoir cannot be calculated. It can be assumed since the dam is not subject to the DOSD that the storage and, thus, failure impacts are relatively small. Based on available information, the following can be said:

- The dam is about 5,800 feet from the mouth of Denniston Creek.
- The main channel of Denniston Creek is about 2,300 feet from the project site at its closet point.
- The project area is not within the Denniston Creek watershed.
- A small ridge generally separates the Pillar Point Marsh watershed, which includes the project area, from the Denniston Creek watershed to the east.
- No other potential flood sources, including levees, are known that would affect the project area.

For these reasons, the project is assumed to have a ***less-than-significant*** impact in terms of exposing people or structures to flooding as a result of dam or levee failure; therefore, no mitigation measures are required.

***Impact HYDRO-9 Expose People or Structures to Inundation by Seiche, Tsunami, or Mudflow***

There are hydrologic risks associated with seismic activity near large bodies of water, which can cause a tsunami, a seiche, or flow of mud and other debris from hillsides.

A tsunami is a series of waves created when a body of water, such as an ocean, is rapidly displaced on a massive scale. Earthquakes, mass movements above or below water, volcanic eruptions, and other underwater explosions, landslides, and large meteoric impacts all have the potential to generate a tsunami or teletsunami. As described earlier, ABAG has created tsunami maps for the Bay Area. The map

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<sup>92</sup> TRC Essex, 2006, *DRAFT Denniston Reservoir Restoration Project Draft Initial Findings Report, Prepared for the Coastsides County Water District, December 2006.*

<sup>93</sup> State Board, 1969, *Decision 1341, June 1969.*

showing the project vicinity indicates that the project would place residential and commercial structures within a mapped tsunami area, understandable given its proximity to the Pacific Ocean. This could represent a **potentially significant** impact.

The resonant oscillation of water (a standing wave) in an enclosed or partially enclosed water body is a seiche, which can raise flood levels of a water body.<sup>94</sup> The Pillar Point Harbor near the project site is mostly enclosed by engineered and constructed jetties. While these jetties tend to protect the harbor from the day-to-day effects of currents and tides, they could lead to seiche effects, especially if a tsunami were to affect the harbor. There are no other lakes or other enclosed bodies of water in the general vicinity of the project that would produce seiche events and affect the project site. The proximity of the project to the partially enclosed Pillar Point Harbor and the potential for tsunami events could expose people to inundation by seiche, which represents a **potentially significant** impact. The mitigations for such an occurrence would coincide with mitigations for tsunami events.

Landslides and mudflows tend to occur in steeply sloped areas. A USGS map of landslide potential for San Mateo County lists the project vicinity as a “flat land” area with a low potential for landslides,<sup>95</sup> and a USGS map of debris-flow source areas does not include the project vicinity in an area predicted to be a principal debris source area.<sup>96</sup> The USGS Quad Sheet confirms the flat terrain.<sup>97</sup> Therefore, given the relative flatness of the area and the mapping results, the potential for impacts from mudflow are considered **less than significant** within the project area and site.

The following mitigation measure is required to reduce impacts from exposure to tsunami and seiche to **less-than-significant** levels:

#### ***Mitigation Measure HYDRO-9 Exposure to Tsunami and Seiche***

In areas subject to tsunami and seiche effects, implementing agencies shall, where appropriate, ensure that the project incorporates features designed to minimize damage from a tsunami or seiche. Structures should either be placed at elevations above those likely to be adversely affected during a tsunami or seiche event or be designed to allow swift water to flow around, through, or underneath without causing collapse. Other features to be considered in designing projects within areas subject to tsunami or seiche may include using structures as buffer zones, providing front-line defenses, and securing foundations of expendable structures so as not to add to debris in the flowing waters.

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<sup>94</sup> Lander, James F., Lockridge, Patricia A., and Michael J. Kozuch, U.S. Department of Commerce, National Oceanic and Atmospheric Administration, 1993, *Ibid*.

<sup>95</sup> Wentworth, C., S. Graham, R.J. Pike, G. Buekelman, D. Ramsey and Barron, A., 1997, *Summary of distribution of slides and earth flows in San Mateo County, California, USGS Open-File Report 97-745C, 10 p and 11 sheets.*

<sup>96</sup> Ellen, S.D., et al., 1997, *Map Showing Principal Debris-Flow Source Areas in San Mateo County, California, USGS, Open File 97-745 E.*

<sup>97</sup> USGS, 1993, *Ibid*.

## CUMULATIVE IMPACTS

This section analyzes potential cumulative hydrologic and water quality impacts that could occur from the combination of the proposed project with other reasonably foreseeable projects in the near vicinity (refer to Table III-1). CEQA's concept of a cumulative impact is a change in the environment that results from adding the effects of the project to those effects of cumulative projects in the project vicinity. A cumulative impact related to hydrology would be an impact caused by the project that, when added to impacts of related past, present, and probably future projects, would rise to the level of significance.

The Half Moon Bay Airport, in particular, is an entity with considerable influence on the water quality and sedimentation rate of Pillar Point Marsh. Activities on the airport property, as well as on other neighboring parcels, directly affect the marsh. The airport is required to maintain an NPDES permit, a Stormwater Pollution Prevention Plan, and a Hazardous Material Management Plan, as required by the San Francisco Bay RWQCB and the County Department of Environmental Health.

The list of projects considered in the cumulative analysis is shown in Section III.B (Related Projects) of this DEIR. The other projects listed in the cumulative analysis would also be subject to local, State and federal regulations regulating water quality and flood control. By complying with those regulations, through incorporation of BMPs to prevent increases in peak flows and treat post-construction runoff, cumulative hydrologic and water quality impacts would be *less than significant*.

## LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts on hydrology and water quality with implementation of mitigation would be *less than significant*.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### I. LAND USE & PLANNING

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#### INTRODUCTION

This section of the Draft Environmental Impact Report (DEIR) addresses the subject of land use and planning with respect to the proposed Big Wave Wellness Center and Office Park project (“proposed project”). The Land Use & Planning section describes the existing land use setting and uses of the project site and adjacent areas. It includes the identification of current general plan policies and zoning designations. The purpose of this section is to provide the environmental and regulatory background necessary to analyze potential impacts to land use associated with the proposed project.

#### METHODOLOGY

The impacts of the proposed project on land use were analyzed qualitatively, focusing on consistency between planned and permitted uses under applicable land use plans. The evaluation assesses the consistency of the proposed project with the policies of the following documents:

- *San Mateo County General Plan*, County of San Mateo, Department of Environmental Management, Planning and Building Division, November 1986;
- *Local Coastal Program*, County of San Mateo, Environmental Services Agency, Planning and Building Division, June 1998;
- *Area Plans Summary: Montara-Moss Beach-El Granada Community Plan*, County of San Mateo, Department of Environmental Management, Planning and Development Division, 1985;
- *Half Moon Bay Airport Land Use Plan*, Chapter III of the San Mateo County Comprehensive Airport Land Use Plan, County of San Mateo, December 1996;
- *Zoning Regulations*, County of San Mateo, Environmental Services Agency, Planning and Building Division, July 1999; and
- *Community Design Manual*, County of San Mateo, 1976.

#### ENVIRONMENTAL SETTING

##### **Project Site and Surrounding Land Uses**

The approximately 19.4-acre project site is located on Airport Street, northwest of the Princeton/Pillar Point Harbor area in unincorporated County of San Mateo (see Figure III-1). The project site currently consists of two adjacent agricultural fields that are part of a larger ongoing and continuous farming operation. The northern parcel is 14.25 acres in size and the southern parcel is 5.12 acres in size. The

project site is relatively flat, with gentle slopes to the south and west. Due to extensive site farming activities, little to no vegetation remains over the majority of the project site. In those areas where normal farming activities have not occurred recently (e.g., along the Airport Street verge and in very small, scattered patches within the agricultural fields), non-native annual grasses and herbs occur. A natural drainage swale separates the two parcels and leads to the Pillar Point Marsh, a salt marsh habitat influenced by both tidal action and freshwater runoff from its tributary drainage area. Additionally, a total of 0.74 acres (32,180 sf) of wetlands under the protection of the California Coastal Commission occur on the project site, of which 0.45 acres is Federal jurisdictional waters/wetlands are under the permit authority of the US Army Corps of Engineers (USACOE). Photos of the project site are provided in Figures III-3 through III-6.

Surrounding land uses include the Half Moon Bay Airport and County of San Mateo open space across Airport Street to the east, the El Granada Mobile Home Park adjacent to and north of the project site, the Pillar Point Marsh to the west, and the Princeton/Pillar Point Harbor industrial/commercial area adjacent to and south of the project site. The Fitzgerald Marine Reserve, which is bracketed by Maverick's Surf break to the south and Montara Beach to the north, is located along the coast approximately 0.25 miles to the west. Views of the surrounding land uses are shown in Figure III-7 and Figure III-8.

## **Land Use Designation and Zoning**

### ***County of San Mateo General Plan***

According to the County of San Mateo General Plan (General Plan), the project site is located within the Montara-Moss Beach-El Granada Urban Community, within the Mid-Coast area or "Coastside." The Montara-Moss Beach-El Granada community extends along the Pacific Coast from Martini Creek, at the base of Montara Mountain, to the northerly city limits of Half Moon Bay.<sup>1</sup> The General Plan defines "Urban Communities" as areas with commercial centers which serve the needs of the local population and industrial areas which contribute to the local economy, and function like self-contained, independent cities.<sup>2</sup> The Coastside is predominately rural and devoted to agricultural, recreational, or open space uses. Development is concentrated in a collection of small urban communities, stretching 10 miles along the Pacific Ocean from Montara in the north to Half Moon Bay in the south.<sup>3</sup> The predominant land use in the Montara-Moss Beach-El Granada community is single family residential. Commercial uses are clustered along the Highway 1 corridor and Pillar Point Harbor. The Half Moon Bay Airport, located midway between El Granada and Montara, dominates the industrial area. Beaches, parks, agriculture and general open space lands surround the community. Additionally, the Montara-Moss Beach-El Granada

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<sup>1</sup> County of San Mateo, Department of Environmental Management, Planning and Development Division, *Area Plans Summary, Montara-Moss Beach-El Granada Community Plan, 1985, page 3.1.*

<sup>2</sup> San Mateo County, Environmental Services Agency, Planning and Building Division, *County of San Mateo General Plan, Chapter 8 - Urban Land Use, November 1986, page 8.2.*

<sup>3</sup> San Mateo County, Environmental Services Agency, Planning and Building Division, *County of San Mateo General Plan, Chapter 7 - General Land Use, November 1986, page 7.7.*

community has significant amounts of undeveloped acreage; however, development on the Coastsides is curtailing due to constrained drinking water supply and sewage treatment capacity.<sup>4</sup>

The Mid-Coast Area Land Use Map<sup>5</sup> designates the land use of the northern and southern parcels of the project site as General Industrial, which allows for manufacturing and processing uses including but not limited to fabricating, assembling, and storing products.<sup>6</sup> The locational criteria for this land use designation are as follows: existing industrial areas; accessible to housing opportunities; where sufficient existing or potential urban services are available; and/or proximate and convenient to major transportation facilities (roads, transit, rail).<sup>7</sup>

### ***County of San Mateo Zoning Regulations***

The zoning designations for the project site are as follows:

#### *Office Park Property (Northern Parcel)*

- Light Industrial/Design Review/Coastal Development District (M-1/DR/CD)
- Light Industrial/Airport Overlay/Design Review/Coastal Development District (M-1/A-O/DR/CD)

#### *Wellness Center Property (Southern Parcel)*

- Waterfront/Design Review/Coastal Development District (W/DR/CD)
- Waterfront/Airport Overlay/Design Review/Coastal Development District (W/A-O/DR/CD)

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<sup>4</sup> San Mateo County, Environmental Services Agency, Planning and Building Division, County of San Mateo General Plan, Chapter 8 - Urban Land Use, November 1986, page 8.3 and 8.6.

<sup>5</sup> San Mateo County, Department of Environmental Management, Planning and Building Division, County of San Mateo General Plan Policies, Mid-Coast Area Land Use Map, November 1986, page 8.5M.

<sup>6</sup> San Mateo County, Department of Environmental Management, Planning and Building Division, County of San Mateo General Plan Policies, Table 7.1P - General Plan Land Use Designations, November 1986, page 7.5P.

<sup>7</sup> San Mateo County, Department of Environmental Management, Planning and Building Division, County of San Mateo General Plan Policies, Table 8.1P - Appropriate Land Use Designations, Densities and Locational Criteria in Urban Areas, November 1986.

According to the County of San Mateo Zoning Regulations (Zoning Regulations), the following permitted uses, development, design, and performance standards are applicable to the proposed project:

### Office Park Property

#### *“M-1” (Light Industrial) District*

##### *Permitted Uses*

A total of 167 specific uses are permitted in the M-1 District, as well as 10 uses permitted with a Use Permit. Allowable uses in the M-1 District include but are not limited to the following (see Section 6271 of the Zoning Regulations): storage, assembly and manufacturing, communication centers, and administrative, research and professional offices, excluding doctors and dentists.

##### *Development Standards*

The following development standards set forth in the County of San Mateo Zoning Regulations apply to the M-1 District:

- Minimum Building Area (per building): 5,000 square feet (sf) and a frontage of not less than 50 ft
- Maximum Building Height: 75 feet (ft)
- Setbacks: Same as specified for “C-1” Commercial Districts (Section 6252).

Front Yards Setback: None

##### Side and Rear Yards Setbacks:

1. Every building or portion thereof which is designed, intended and/or used for any purpose permitted in any “R” District shall comply with the provisions of this Part as to side and rear yards which are required by any combined “S” District, provided that when the ground floor of any such building is used exclusively for any commercial purpose, no side or rear yard shall be required for said ground floor except as set forth in the following subparagraphs 2 and 3.
2. There shall be a side yard of at least 3 ft along the side of every lot in a “C-1” District, which side is bordering on property in any “R” District.
3. There shall be a rear yard of at least 6 ft along the rear of every lot in a “C-1” District, which rear is bordering on property in any “R” District.



## Wellness Center Property

### *“W” (Waterfront) District*

The purpose of the W District is to:

1. Provide a “working waterfront” area intended primarily for the location of marine related trades and services and manufacturing land uses that support commercial fishing and recreational boating activities;
2. Accommodate a compatible mix of recreational, resource management and waste management land uses;
3. Protect the functional and economic viability of the “working waterfront” area by restricting incompatible land uses;
4. Support and strengthen the Coastside economy by providing trade and employment opportunities;
5. Encourage architectural design and site planning that will, as much as possible, enhance the appearance of a “working waterfront”; and
6. Implement the policies of the San Mateo County General Plan, especially those concerning protection and development of coastal resources.

### *Permitted Uses*

Allowable uses in the W District include but are not limited to the following (see Section 6287 of the Zoning Regulations): indoor low to moderate impact manufacturing (and outdoor with a Use Permit), indoor storage (and outdoor with a Use Permit), parks (with a Use Permit), linear parks and trails, small solid waste collection facilities, parking lots and garages, limited keeping of pets, and other compatible uses with a Use Permit.

### *Development Standards*

The following development standards set forth in the County of San Mateo Zoning Regulations apply to the W District:

- Minimum Building Site (per building): 5,000 sf and a width of not less than 50 ft
- Maximum Building Height: 36 ft
- Maximum Lot Coverage: 60 percent
- Outdoor Storage: The storage of miscellaneous materials, articles, equipment or scrap in support of a permitted use providing that the storage site is screened from view by

a six-foot high solid wood, masonry or cyclone fence with wooden slats, dense landscaping, or a combination of fencing and landscaping materials.

- Landscaping: Landscaping must be provided in the following areas:
  - a. Parking Areas: In accordance with Section 6121(a)(1) and (4) of the Zoning Regulations.
    - Screening: Automobile parking facilities for more than ten (10) vehicles shall be effectively screened on each side which adjoins or faces premises situated in any R-E, R-1, R-2, or R-3 District by a solid masonry wall. Such wall shall not be less than 6 ft in height, except within required front yard areas and shall be maintained in good condition. Screen planting or wooden fences may be substituted for aesthetic reasons, or in cases of practical difficulties or unusual hardship, provided that the design and plant material is approved by the Planning Director and a bond to guarantee the installation and maintenance of said screen planting or fencing, for a period of three years, is posted with the Planning Commission. (Section 6121(a)(1))
    - Landscaping: A planter or landscaped area of at least 4 ft wide shall be provided adjacent to all street rights-of-way. In addition, any area within the street right-of-way between the edge of the sidewalk and the outer edge of the right-of-way shall be developed as a planter or landscaped area in conjunction with the required 4 ft area above, unless this requirement is waived by the County Engineer. Where a parking area has a capacity of more than ten (10) parking spaces, landscaped areas including the above 4 ft street buffer strip shall be not less than five percent of the total parking lot area.

Live landscaping shall be provided and maintained within any planter or landscaped area required by this section. Not more than 30 percent of the planter or landscaped area may be covered with hard surfaces such as gravel, landscaping rock, concrete, or other impervious materials. Such landscaped area or planter shall create the visual and physical separation necessary to reduce the traffic hazards between pedestrians and vehicles. (Section 6121(a)(4))
  - b. Additional Landscaping Requirements: In certain cases, landscaping may be required as a condition of use permit approval in order to: (a) provide a buffer between dissimilar uses; (b) screen equipment or materials stored out of doors; or (c) enhance the appearance of buildings.

- Loading: Where feasible, a loading bay for loading and unloading may be required onsite in order to minimize traffic hazards and congestion on roadways.

### Both Parcels

#### *“DR” (Design Review) District*

##### *Design Standards*

The DR Regulations establish design standards for specific Bayside County areas. In the DR Regulations, Section 6565.17 (Standards for Design in Other Areas), the following design standards shall apply in other areas zoned Design Review:

- A. Proposed structures are designed and situated so as to retain and blend with the natural vegetation and land forms of the site and to insure adequate space for light and air to itself and adjacent properties.
- B. Where grading is necessary for the construction of structures and paved areas, it blends with adjacent land forms through the use of contour grading rather than harsh cutting or terracing of the site and does not create problems of drainage or erosion on its site or adjacent property.
- C. Streams and other natural drainage systems are not altered so as to affect their character and thereby causing problems of drainage, erosion or flooding.
- D. Structures are located outside flood zones, drainage channels and other areas subject to inundation.
- E. Trees and other vegetative land cover are removed only where necessary for the construction of structures or paved areas in order to reduce erosion and impacts on natural drainage channels, and maintain surface runoff at acceptable levels.
- F. A smooth transition is maintained between development and adjacent open areas through the use of natural landscaping and plant materials which are native or appropriate to the area.
- G. Views are protected by the height and location of structures and through the selective pruning or removal of trees and vegetative matter at the end of view corridors.
- H. Construction on ridgelines blends with the existing silhouette by maintaining natural vegetative masses and land forms and does not extend above the height of the forest or tree canopy.
- I. Structures are set back from the edge of bluffs and cliffs to protect views from scenic areas below.

- J. Public views to and along the shoreline from public roads and other public lands are protected.
- K. Varying architectural styles are made compatible through the use of similar materials and colors which blend with the natural setting and surrounding neighborhoods.
- L. The design of the structure is appropriate to the use of the property and is in harmony with the shape, size and scale of adjacent building in the community
- M. Overhead utility lines are placed underground where appropriate to reduce the visual impact in open and scenic areas.
- N. The number, location, size, design, lighting, materials, and use of colors in signs are compatible with the architectural style of the structure they identify and harmonize with their surroundings.
- O. Paved areas are integrated into the site, relate to their structure, and are landscaped to reduce visual impact from residential areas and from roadways.

*“CD” (Coastal Development) District*

As noted in Section 6328.1 (Regulations for “CD” District) of the Zoning Regulations, the regulations of this district shall apply in addition to the regulations of any district with which the “CD” District is combined. Additionally, where the plans, policies, requirements or standards of the Local Coastal Program, as applied to any project in the “CD” District, conflict with those of the underlying district, or other provisions of this Part, the plans, policies, or requirements or standards of the Local Coastal Program shall take precedence (Section 6325.13 (Precedence of Local Coastal Program) of the Zoning Regulations).

Except as provided by Section 6328.5 (Exemptions), any person, partnership, corporation or state or local government agency wishing to undertake any project, as defined in Section 6328.3(r), in the “CD” District, shall obtain a Coastal Development Permit in accordance with the provisions of this Chapter, in addition to any other permit required by law. Development undertaken pursuant to a Coastal Development Permit shall conform to the plans, specifications, terms and conditions approved or imposed in granting the permit (Section 6328.4 (Requirement for Coastal Development Permit) of the Zoning Regulations).

Pursuant to Section 6328.15 (Findings) of the Zoning Regulations, a Coastal Development Permit shall be approved only upon the making of the following findings:

- (a) That the project, as described in the application and accompanying materials required by Section 6328.7 and as conditioned in accordance with Section 6328.14, conforms with the plans, policies, requirements and standards of the San Mateo County Local Coastal Program.

- (b) Where the project is located between the nearest public road and the sea, or the shoreline of Pescadero Marsh, that the project is in conformity with the public access and public recreation policies of Chapter 3 of the Coastal Act of 1976 (commencing with Section 30200 of the Public Resources Code).
- (c) That the project conforms to specific findings required by policies of the San Mateo County Local Coastal Program.
- (d) That the number of building permits for construction of single-family residences other than for affordable housing issued in the calendar year does not exceed the limitations of Policies 1.22 and 1.23 as stated in Section 6328.19 (Emergency Permits).

#### *“A-O” (Airport Overlay) District*

The intent of the Airport Overlay (A-O) District is to provide a margin of safety at the ends of airport runways by limiting the concentration of people where hazards from aircraft are considered to be greatest (Section 6288.1 (Intent) of the Zoning Regulations).

#### *Uses Permitted*

Pursuant to Section 6288.2 (Uses Permitted) of the Zoning Regulations, all uses permitted by the underlying district shall be permitted in the A-O District except residential or uses with more than three (3) persons occupying the site at any one time. Permitted uses shall be subject to a use permit.

#### *Development Standards*

As provided in Section 6288.3 (Development Standards) of the Zoning Regulations, all new development shall be subject to the development standards of the underlying zoning district.

#### *Performance Standards*

Pursuant to Section 6288.4 (Performance Standards) of the Zoning Regulations, all new uses must meet the performance standards of the underlying zoning district.

#### *Use Permits (Chapter 24)*

Pursuant to Section 6500 (When May be Issued) of the Zoning Regulations, use permits, conditional use permits, revocable use permits, and use permits valid for a term of one year, may be issued for any of the following:

- (d) Location of the following uses in any district, within the Urban Areas of the Coastal Zone, when found to be necessary for the public health, safety, convenient or welfare:

Includes, but is not limited to, the follow:

3. Sanitarium.

- (f) Additional Requirements in the Coastal Zone. Uses Permits issued in the Coastal Zone will be subject to the hearing, notification, and appeal requirements outlined in Sections 6328.10, 6328.11, and 6328.16 of the Coastal Development District regulations. Approved uses in the Coastal Zone shall be consistent with the policies and standards of the San Mateo County Local Coastal Program.

## REGULATORY SETTING

### Federal and State Requirements

#### *California Building Standards Commission-Green Building Standards*

The California Building Standards Commission has developed green building standards, along with other state agencies, that will establish California as a leader in the efforts to reduce greenhouse gas (GHG) emissions from structures. The code as adopted includes mandatory features with a delayed effective date for housing, and voluntary standards for hospitals and other non-residential occupancies. The Commission will continue to work with state agencies and the many stakeholders as they develop a comprehensive set of mandatory provisions in the 2010 edition of the California Green Building Standards Code. The green building standards were adopted by the California Building Standards Commission on July 17, 2008. The 2008 California Green Building Standards Code is a supplement to the 2007 California Building Standards Code, and becomes effective August 1, 2009.<sup>8</sup>

#### *Bay Area Clean Air Plan*

The project area is within the San Francisco Bay Area Air Basin, under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The BAAQMD is responsible for bringing and/or maintaining air quality in the Basin within federal and State air quality standards. Specifically, the BAAQMD has the responsibility to monitor ambient air pollutant levels throughout the Basin and to develop and implement attainment strategies to ensure that future emissions will be within Federal and State standards.

The BAAQMD has prepared a series of Clean Air Plans (CAP) in response to the Federal Clean Air Act (CAA), the most recent and rigorous of which was approved in December 2000. The 2000 CAP is

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<sup>8</sup> California Building Standards Commission, 2008 California Green Building Standards Code. Accessed by CAJA Staff at [http://www.documents.dgs.ca.gov/bsc/2009/part11\\_2008\\_calgreen\\_code.pdf](http://www.documents.dgs.ca.gov/bsc/2009/part11_2008_calgreen_code.pdf) on April 20, 2009.

designed to address attainment of the State standards for ozone (O<sub>3</sub>). The BAAQMD is beginning the process to prepare the 2009 Bay Area CAP.<sup>9</sup>

This DEIR analysis utilizes the 2000 adopted CAP. The 1997 CAP contained stationary and mobile source control measures, which included: developing rules to reduce vehicle trips to and from major residential developments, shopping centers, and other indirect sources; encouraging cities and counties to plan for high density development; and clustering development with mixed uses in the vicinity of mass transit stations. The 2000 CAP includes changes in the organization and scheduling of some existing control measures, some new stationary source control measures, revisions to previous stationary source measures, and deletion of some control measures no longer deemed feasible by BAAQMD staff. The transportation control measures (TCMs) are unchanged from the 1997 CAP. The 2000 CAP continues to discourage “urban sprawl,” while strongly endorsing high-density mixed-use developments near transit centers that reduce the need for commuting by personal vehicles.

### ***San Francisco Bay Water Quality Control Plan (Basin Plan)***

The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) was developed by the California Regional Water Quality Control Board (RWQCB), San Francisco Bay Region. The Basin Plan is intended to show how the quality of the surface and ground waters in the San Francisco Bay Region should be managed to provide the highest water quality reasonably possible. Specifically, the Basin Plan lists the following: various water uses in the region; describes the water quality that must be maintained to allow those uses; and describes the programs, projects, and other actions that are necessary to achieve the standards established in this plan.

The Basin Plan implements a number of state and federal laws, the most important of which are the California Porter-Cologne Water Quality Control Act and the federal Clean Water Act (CWA). The U.S. Environmental Protection Agency (U.S. EPA) has delegated responsibility for implementation of portions of the CWA to the State and Regional Boards, including water quality planning and control board programs, such as the National Pollutant Discharge Elimination System (NPDES).

### ***City/County Association of Governments of San Mateo County (C/CAG), Congestion Management Plan (CMP)***

The passage of Proposition 111 and 108 in 1990 included a requirement that every urban county within California designate a Congestion Management Agency (CMA) that would prepare, implement, and biennially update a Congestion Management Program (CMP) that includes all jurisdictions within the county. In San Mateo County, the City/County Association of Governments (C/CAG) was designated as the CMA. Subsequent legislation (Assembly Bill [AB] 2419) allowed existing CMAs to discontinue participation in the Program. San Mateo C/CAG voted to continue to participate in and adopt a CMP.

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<sup>9</sup> Bay Area Air Quality Management District (BAAQMD), 2009 Clean Air Plan. Accessed by CAJA Staff at <http://www.baaqmd.gov/pln/plans/ozone/> on October 21, 2008.

According to the state legislation, the purpose of a CMP is to develop a procedure to alleviate or control anticipated increases in roadway congestion and to ensure that federal, state, and local agencies join with transit districts, business, private, and environmental interests to develop and implement comprehensive strategies needed to develop appropriate responses to transportation needs.

The main requirements of the CMP legislation are summarized as follows:

- The CMA must specify a system of highways and roadways for which traffic Level of Service (LOS) standards shall be established. The CMP's Roadway System shall include at a minimum all state highways and principal arterials.
- LOS Standards intended to measure roadway congestion must be established for all state highways and principal arterials included in the CMP's Roadway System. LOS is a qualitative description of roadway operations ranging from LOS A (free flow conditions) to LOS F (completely jammed conditions). The CMP may not establish any standard below LOS E unless the LOS was F at the time that the standard was established;
- The Performance Element includes performance measures to evaluate current and future multimodal system performance for the movement of people and goods in San Mateo County;
- The CMP must contain an element promoting the use of alternative transportation modes and ways to reduce future travel demand. Improving a county's jobs/housing balance and implementing travel demand management strategies are specifically mentioned as ways of attaining the objectives of this element of the CMP;
- The purpose of this element of the CMP is to create and implement a program to analyze the impacts of land use decisions made by local jurisdictions on regional transportation systems. Estimates of the costs associated with mitigating the projected impacts must be included in the CMP, with some exceptions; and
- The CMP must contain a 7 year program of projects expected to maintain or improve traffic LOS and transit performance, and to mitigate the impacts of local land use decisions. Projects contained in the CIP must also conform to transportation-related air quality mitigation measures.

In addition to these requirements, a CMP must also include a uniform database and a computer-based transportation model that will be used to determine the quantitative impacts of proposed or planned land developments on a county's transportation systems. Finally, the CMA (San Mateo C/CAG) is charged with monitoring the implementation of all elements of the CMP and determining conformance with the CMP's requirements and recommendations.



## **Regional and Local Requirements**

### ***County of San Mateo General Plan***

The County of San Mateo General Plan (General Plan) was adopted in 1986 and sets forth goals and policies for the future development of the County, designating the location of desired future land uses within the County. The General Plan consists of an overview and 16 elements, including: (1) Vegetative, Water, Fish and Wildlife Resources; (2) Soil Resources; (3) Mineral Resources; (4) Visual Quality; (5) Historical and Archeological Resources; (6) Park and Recreation Resources; (7) General Land Use; (8) Urban Land Use; (9) Rural Land Use; (10) Water Supply; (11) Wastewater; (12) Transportation; (13) Solid Waste; (14) Housing; (15) Natural Hazards; and (16) Man-Made Hazards.

The General Land Use Chapter of the General Plan guides the future physical development of the unincorporated areas of the County by (1) establishing a boundary which designates urban and rural areas, and (2) prescribing appropriate urban and rural land uses and densities. The Urban and Rural Land Use Chapters of the General Plan provide in more detail a specific land use plan which shows how land in the County should be used and attempts to provide for closer coordination of land use planning with LAFCO's sphere of influence program.<sup>10</sup> The Land Use Chapters of the General Plan translate combine the policies from the other chapters into a comprehensive land use plan which guides the future development of the unincorporated areas of the County.<sup>11</sup>

Consistency of the proposed project with the applicable General Plan policies is analyzed in Table IV.I-1 (County of San Mateo Regional and Local Requirements Consistency Analysis) at the end of this section.

### ***County of San Mateo Zoning Regulations***

The County of San Mateo Zoning Regulations (Zoning Regulations) serve as the County's zoning ordinance to promote and protect the public health, safety, peace, morals, comfort, convenience and general welfare, in addition to the following:

- (a) To guide, control, and regulate the future growth and development of San Mateo County;
- (b) To protect the character and the social and economic stability of agricultural, residential, commercial, industrial, and other private and public areas within the County, and to assure the orderly and beneficial development of such areas;
- (c) To obviate the menace to the public safety resulting from the locating of buildings, and the use thereof, and the use of land, adjacent to streets and highways which are a part of the Streets and Highway Plan Unit of the Master Plan of the County, or which are important

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<sup>10</sup> San Mateo County, Environmental Services Agency, Planning and Building Division, County of San Mateo General Plan, Chapter 7 - General Land Use, November 1986, page 7.1.

<sup>11</sup> San Mateo County, Environmental Services Agency, Planning and Building Division, County of San Mateo General Plan, Chapter 7 - General Land Use, November 1986, page 7.3.

- thoroughfares, in such manner as to cause interference with existing or prospective traffic movements on said streets and highways;
- (d) To provide adequate light, air, privacy, and convenience of access to property; and to secure safety from fire, inundation, and other dangers; and
  - (e) To prevent overcrowding the land and prevent undue congestion of population.

The Zoning Regulations for the project area were first adopted in 1957 and have been amended through August 2000. Development guidelines for properties within the County of San Mateo are established by the Zoning Regulations. Specific development standards applicable to the proposed project are included above, under subheading “Land Use Designation and Zoning” on pages IV.I-4 through IV.I-9 of this section.

### ***Montara-Moss Beach-El Granada Community Plan***

Area plans, also known as community or neighborhood plans, serve to guide decisions about the physical development of a given community or district. These plans allow for specific, local application of the more broad based policies contained in the County of San Mateo General Plan. Because Government Code Section 65301(b) allows for the adoption of the General Plan as either a single document or a group of documents relating to geographic segments of the planning area, area plans are considered part of the General Plan.<sup>12</sup>

In 1978, the County Planning Commission and the Board of Supervisors approved the Montara-Moss Beach- El Granada Community Plan<sup>13</sup>. The Community Plan addresses issues pertaining to land use, transportation, conservation and open space, parks and recreation, and infrastructure (including community facilities, public services and community appearance).<sup>14</sup>

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<sup>12</sup> County of San Mateo, Department of Environmental Management, Planning and Development Division, Area Plans Summary, “Relation to General Plan”, 1985, no page.

<sup>13</sup> County of San Mateo, Department of Environmental Management, Planning and Development Division, Area Plans Summary, Montara-Moss Beach-El Granada Area Plan, 1985, page 3.1.

<sup>14</sup> County of San Mateo, Department of Environmental Management, Planning and Development Division, Area Plans Summary, Montara-Moss Beach-El Granada Area Plan, 1985, pages 3.2 to 3.5.

The Montara-Moss Beach-El Granada Community Plan policies applicable to the proposed project include the following:

*Land Use*

***Residential Land Use***

2.5 Location of Multi-Family Development

Locate multiple-family development adjacent to commercial centers as a transition to single-family development.

***Commercial Land Use***

2.7 Commercial Development Buffers

Buffer commercial areas from surrounding residential development with landscaping, fencing, and/or buildings designed for compatibility between these land uses.

2.9 Appearance of Commercial Development

- a. Employ the design guidelines of the Community Design Manual in all new commercial development.

***Industrial Land Use***

2.11 Desired Industrial Uses

Encourage industrial uses which are in accord with the stated objectives of the community: greenhouses, strawflower processing, fish processing, boat building, warehousing, and aviation related uses.

2.12 Location of Industrial Development

- a. Locate industrial development in areas where it will have the lowest impact on surrounding land uses and on the environment.
- b. Concentrate industrial development in areas adjacent to the Half Moon Bay Airport and Pillar Point Harbor.

*Infrastructure****Public Facilities***3.21 Airport Development

Development surrounding Half Moon Bay Airport is to be consistent with the goals and policies of the adopted ALUC Plan.

*Housing****Provision of Housing***4.4 Provision of Affordable Housing

Provision of housing affordable by low and moderate income families should be a priority of new residential construction, particularly if government subsidies are available.

4.7 Compatibility of New Housing with General Plan

New housing should be consistent with the policies of the County General Plan, its elements, and the Local Coastal Program.

*Visual Quality*7.3 Preserving Natural Amenities

Preserve the natural amenities of the community through the appropriate location of new structures designed to harmonize with their surroundings.

***Regulation of Appearance***7.11 Design Review

Apply the DR (Design Review) Overlay Zoning District in the urbanized areas of the community to regulate siting of structures, to protect natural features, and to provide for design compatibility with surrounding development.

7.12 Community Design Manual

- a. Employ the design guidelines set forth in the Community Design Manual.
- b. Employ the guidelines of the Community Design Manual to ensure that specific site design is sensitive to the marine orientation of the community.

Consistency of the proposed project with the above-listed Montara-Moss Beach- El Granada Community Plan policies is analyzed in Table IV.I-1 (County of San Mateo Regional and Local Requirements Consistency Analysis) at the end of this section.

### ***County of San Mateo Local Coastal Program***

The California Coastal Act was adopted by the State Legislature in 1976 and became effective on January 1, 1977. The Act established the California Coastal Zone to preserve and protect coastal resources. In San Mateo County, the Coastal Zone stretches for approximately 55 miles along the coast from San Francisco County to Santa Cruz County. It includes approximately 88,000 acres of land area. The Coastal Act required the County of San Mateo to prepare a Local Coastal Program (LCP) to guide existing and future development within the Coastal Zone. The LCP was first adopted in 1980, with the latest revisions being adopted in 1998.

As noted on page 8.22 of the Urban Land Use Element (Chapter 8) of the General Plan, the Montara-Moss Beach-El Granada Community Plan was used as the basis for the LCP Land Use Plan for the Mid-Coast. Some changes were made to the original Mid-Coast Plan to meet the requirements of the Coastal Act. Beyond this, however, the policies and land use designations contained in the Montara-Moss Beach-El Granada Community Plan remain as the primary planning document for the Mid-Coast community.

Applicable LCP policies relating to the proposed project include the following:

#### *Locating and Planning New Development*

##### ***Development Review***

#### 1.1 Coastal Development Permits

After certification of the LCP, require a Coastal Development Permit for all development in the Coastal Zone subject to certain exemptions.

##### ***Growth Management***

#### 1.18 Location of New Development

- a. Direct new development to existing urban areas and rural service centers in order to: (1) discourage urban sprawl, (2) maximize the efficiency of public facilities, services, and utilities, (3) minimize energy consumption, (4) encourage the orderly formation and development of local governmental agencies, (5) protect and enhance the natural environment, and (6) revitalize existing developed areas.
- b. Concentrate new development in urban areas and rural service centers by requiring the “infilling” of existing residential subdivisions and commercial areas.

- c. Allow some future growth to develop at relatively high densities for affordable housing in areas where public facilities and services are or will be adequate and where coastal resources will not be endangered.
- d. Require the development of urban areas on lands designated as agriculture and sensitive habitats in conformance with Agriculture and Sensitive Habitats Component policies.

### *Housing*

#### ***Encouragement and Provision of New Housing Opportunities for Low and Moderate Income Households***

##### 3.13 Maintenance of Community Character

Require that new development providing significant housing opportunities for low and moderate income persons contribute to maintaining a sense of community character by being of compatible scale, size and design. Limit the height to two stories to mitigate the impact of this development on the surrounding neighborhoods. Assess negative traffic impacts and mitigate as much as possible.

##### 3.14 Location of Affordable Housing

- a. Mid-Coast: Locate affordable housing in the following locations:
  - (1) All designated affordable housing sites within the urban boundary defined in the Locating and Planning New Development Component.
  - (2) Other affordable housing within the urban boundary, or in the rural area as specified in Policies 3.22 and 3.23.

### *Energy*

#### ***Alternative Energy***

##### 4.42 Alternative Energy Sources

Encourage the development of non-polluting alternative energy resources including but not limited to co-generation, biomass, wind and solar.

*Agriculture****Open Field Agriculture***5.13 Minimum Parcel Size for Non-Agricultural Parcels

- a. Determine minimum parcel size on a case-by-case basis to ensure that domestic well water and onsite sewage disposal requirements are met.
- b. Make all non-agricultural parcels as small as practicable (residential parcels may not exceed 5 acres) and cluster them in one or as few clusters as possible.

*Hazards*9.10 Geological Investigation of Building Sites

Require the County Geologist or an independent consulting certified engineering geologist to review all building and grading permits in designated hazardous areas for evaluation of potential geotechnical problems and to review and approve all required investigations for adequacy. As appropriate and where not already specifically required, require site specific geotechnical investigations to determine mitigation measures for the remedy of such hazards as may exist for structures of human occupancy and/or employment other than those considered accessory to agriculture as defined in Policy 5.6.

*Recreation/Visitor-Serving Facilities****Development Standards for Recreation and Visitor-Serving Facilities***11.17 Parking

Use the parking standards contained in the Shoreline Access Component (Policy 10.22) and Chapter 3 of the Zoning Ordinance.

Consistency of the proposed project with the above-listed LCP policies is analyzed in Table IV.I-1 (County of San Mateo Regional and Local Requirements Consistency Analysis) at the end of this section.

***Half Moon Bay Airport Land Use Plan***

The Half Moon Bay Airport Land Use Plan is included as Chapter III of the San Mateo County Comprehensive Airport Land Use Plan (CLUP). The Half Moon Bay Airport Land Use Plan applies to the geographic areas of the unincorporated community in the vicinity of the Half Moon Bay Airport that are impacted by aircraft noise, restrictions on the height of structures and/or objects near the airport, and safety compatibility criteria. The Half Moon Bay Airport Land Use Plan includes policies, standards, and criteria to address each of these issues to assist local agencies to achieve land use compatibility with

existing and future airport development and operations. The County of San Mateo has adopted General Plan policies and Zoning Regulations to address airport noise, safety, and height issues related to aircraft operations at the Half Moon Bay Airport, and are described throughout the Half Moon Bay Airport Land Use Plan.<sup>15</sup>

Half Moon Bay Airport is a general aviation, single runway airport, classified by the Federal Aviation Administration (FAA) as a Reliever Airport for San Francisco International Airport. Aircraft compatible with the facilities and constraints of the airport are aircraft that weigh 12,500 pounds or less; however, heavier aircraft may operate at the airport with prior approval from the County Airport Manager. The airport property consists of 345 acres and is located in a noise sensitive area that consists of predominately agricultural uses, but contains adjoining residential land uses. To address airport noise/land use compatibility issues in the Half Moon Bay Airport environs, the County has adopted both general plan and zoning provisions related to airport/aircraft noise issues. In addition, the County has implemented noise abatement procedures at Half Moon Bay Airport to further reduce aircraft noise impacts in the surrounding noise sensitive areas, including: intersection take-offs are discouraged; turns prior to reaching 550 feet MSL are discouraged; pilots are encouraged to reduce power/rpms as soon as safe and practical; pattern work, especially touch-and-gos, is discouraged at night and on weekend and holiday mornings; stop-and-gos are strongly discouraged; Runway 30 has a right-hand traffic pattern; Runway 12 has a left-hand traffic pattern; flights over St. Catherine's Hospital are discouraged; pilots are encouraged to maintain pattern altitude (1,000 feet MSL) until it is necessary for them to descend for landing; pilots are encouraged to avoid flying over homes whenever possible; straight-in arrivals are discouraged; arrivals from the west are encouraged to overfly the airport at or above 1,500 MSL, continuing until clear of the traffic pattern - these aircraft are then directed to make a normal 45 degree entry into the downwind leg at 1,000 feet MSL; and aircraft over 12,500 pounds are prohibited from landing at Half Moon Bay Airport without receiving prior approval from the Airport Manager.<sup>16</sup>

Certain land use characteristics are recognized by the Airport Land Use Commission (C/CAG) as hazards to air navigation in the vicinity of the Half Moon Bay Airport, including the following:

- Any use that would direct a steady or flashing light of white, red, green, or amber color toward an aircraft engaged in an initial straight climb following take-off or toward an aircraft engaged in straight final approach toward a landing, other than FAA-approved navigational lights;

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<sup>15</sup> County of San Mateo, *Half Moon Bay Airport Land Use Plan, Chapter III of the San Mateo County Comprehensive Airport Land Use Plan, December 1996, page III-2.*

<sup>16</sup> County of San Mateo, *Half Moon Bay Airport Land Use Plan, Chapter III of the San Mateo County Comprehensive Airport Land Use Plan, December 1996, Table III-1: County of San Mateo Half Moon Bay Airport Noise Abatement Procedures, page III-14.*



- Any use that would cause sunlight to be reflected toward an aircraft engaged in a straight climb following take-off or toward an aircraft engaged in a straight final approach toward a landing;
- Any use that would generate smoke or rising columns of air;
- Any use that would attract large concentrations of birds within approach-climbout areas; and/or
- Any use that would generate electrical/electronic interference that may interfere with aircraft communication equipment and/or aircraft instrumentation.

Airport/land use compatibility is determined by comparing proposed land use policy action with the aircraft noise/land use compatibility criteria, the relevant Federal Aviation Regulations (FAR) Part 77 height restrictions, and safety criteria outlined below. A proposed land use policy action must be compatible with each of these elements for the C/CAG to determine that the proposed action is consistent with the relevant policies, standards, and criteria contained in the Comprehensive Airport Land Use Plan (CLUP).

Applicable Half Moon Bay Airport Land Use Plan policies related to the proposed project include the following:

#### Airport/Aircraft Noise Reduction

To address airport noise/land use compatibility issues in the Half Moon Bay Airport environs, the County has adopted both General Plan and zoning provisions related to airport/aircraft noise issues. In addition, the County has implemented noise abatement procedures at Half Moon Bay Airport to further reduce aircraft noise impacts in the surrounding noise sensitive areas. The Half Moon Bay Airport Land Use Plan also contains aircraft noise contours and noise/land use compatibility criteria to address airport/aircraft noise reduction.

#### *Half Moon Bay Airport 1995 Projected Aircraft Noise Contours*

The Half Moon Bay Airport noise contours were developed in 1975 as computer projections for 1995 (refer to Map HMB-17 on page III-18 of the Half Moon Bay Airport Land Use Plan).

#### *Airport Noise/Land Use Compatibility Criteria for Half Moon Bay Airport*

The aircraft noise/land use compatibility criteria were developed for housing built with ordinary construction. The Airport Land Use Commission (C/CAG) recognizes the 55 dB CNEL aircraft noise contour at Half Moon Bay Airport as the noise level threshold for reviewing and evaluating proposed land use policy actions.

## Safety Criteria

Areas around airports are continually exposed to the possibility of aircraft accidents. The risk of people on the ground being killed or injured by a falling plane is small; however, an aircraft crash is a high consequence event. When a crash does occur, the result is often catastrophic. Because of this, most attempts to establish safety criteria to protect persons on the ground have not estimated accident probabilities, but rather approach safety criteria by determining compatible land uses, assuming a crash would occur. The safety criterion in the Half Moon Bay Airport Land Use Plan is based on that approach. Additionally, the County has adopted both General Plan and zoning provisions related to safety and land use compatibility.

### *Airport Safety Zones*

Airport safety zones are used as airport/land use compatibility tools to help minimize the number of people exposed to potential aircraft accidents, accomplished by placing restrictions on land uses in safety zone areas. Three airport safety zones have been established for the Half Moon Bay Airport: (1) the Runway Protection Zone (RPZ), which begins 200 feet from the end of Runway 12-30 and is the most restrictive in terms of safety compatibility criteria; (2) the Approach Protection Zone (APZ), located under the FAR Part 77 Approach Surface and is less restrictive; and (3) the Traffic Overflight Zone (TOZ), which coincides with the boundary of the Horizontal Surface for Half Moon Bay Airport and is even less restrictive. The airport safety zones for Half Moon Bay Airport are included in Maps HMB-8 through HMB-10 on pages III-25 through III-27 of the Half Moon Bay Airport Land Use Plan.

It is the policy of the C/CAG to keep APZs free of structures. Non-structural uses may be permitted in APZs if they do not cause a concentration of more than 10 people per net acre and motor vehicle parking and open storage uses that generate up to 25 persons per net acre are also permitted.

### *Safety/Land Use Compatibility Criteria*

Because aircraft accidents happen infrequently and the time, place, and consequence of their occurrence cannot be predicted, the concept of risk is central to the assessment of safety compatibility. From a land use planning perspective, two variables determine the degree of risk posed by potential aircraft accidents: (1) accident frequency and (2) accident severity. The objectives of safety compatibility criteria are to minimize the risks associated with potential aircraft accidents, to increase the safety of people and property on the ground in the event of an aircraft accident near an airport, and enhance the chances of survival of the occupants of an aircraft involved in an accident.

The safety/land use compatibility criteria for the Half Moon Bay Airport environs are designed to minimize the risks associated with potential aircraft accidents. The criteria are used to evaluate the compatibility of the specified land uses with the three established safety zones. The criteria are not intended to be a specific development plan, do not set forth specific land uses for any particular parcel(s), and are not retroactive with respect to existing land uses.

### Height of Structures, Use of Airspace, and Airspace Compatibility

The height of structures and the use of airspace are key safety elements related to airspace compatibility. There are three key objectives related to the preservation and maintenance of airspace compatibility:

1. To avoid airspace impacts that may require significant changes in existing air traffic patterns;
2. To avoid airspace impacts that may result in a shifting of aircraft noise from one area to another; and
3. To avoid the creation of land use conditions which, by posing hazards to aircraft in flight, can increase the risk of an accident occurring. These hazards include: airspace obstructions and land use characteristics, which pose other potential hazards to aircraft in flight, by attracting birds or creating visual and/or electronic interference with air navigation.

Any proposed new construction or expansion of existing structures that would penetrate any of the FAR Part 77 imaginary surfaces for Half Moon Bay Airport, as adopted by the C/CAG, is deemed to be an incompatible land use, unless either the FAA has determined that the proposed structure does not constitute a hazard to air navigation or the State Aeronautics Program has issued a permit to allow construction of the proposed structure.

### ***Community Design Manual***

The Community Design Manual was created to provide guidelines by which individual building permits are evaluated. It is the policy of the County of San Mateo to avoid and prevent possible community deterioration, though the implementation of the design criteria set forth in the Community Design Manual. It is the intent of the County, through the implementation of the Community Design Manual, to accomplish the following:

1. To improve the general standards of orderly development of the County through design review of individual buildings, structures, and their environs.
2. To improve and augment the controls now included in ordinances related to planning and building in order to promote development which is in the best interest to the public health, safety, and welfare of the County.
3. To establish standards and policies that will promote and enhance good design, site relationships, and other aesthetic considerations in the County.

In order to accomplish these goals, the Community Design Manual does not set forth rigid rules for designing structures but rather establishes general guidelines in which consideration latitude remains, so as not to stifle individual initiative.<sup>17</sup>

The following Community Design Manual guidelines are applicable to the proposed project:

### *Site Design*

#### ***Siting***

- Structures and accessory structures should be located, designed, and constructed to retain and blend with the natural vegetation and natural land forms of the site (i.e., topography, rock outcroppings, ridgelines, tree masses, etc.), and should be complementary to adjacent neighborhood structures.

#### ***Grading***

- Grading and vegetation removal should be minimized and allow for only the construction of the structure and paved areas such as driveways and paths. Should grading be required, such work should blend into adjacent land forms through the utilization of contour grading rather than cutting, filling, padding or terracing the site.
- To ensure minimal impact on the physical setting of the site and adjacent properties, site preparation, grading and structure location should be carefully controlled to reduce erosion, soil exposure, impact on natural drainage systems, and to maintain surface runoff at or near existing levels. Grading or removal of vegetation which would contribute to the instability of the site or adjacent property should not be permitted.

#### ***Vegetative Preservation***

- Structures should blend with the natural vegetative cover of the site and only that vegetation should be removed which is necessary for the construction of the structure.
- Structures should be designed around major trees or tree stands.

#### ***Landscaping***

- Landscaping material should have an informal character and should provide a smooth transition between the development and adjacent open space areas.

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<sup>17</sup> County of San Mateo, *Community Design Manual, Introduction, 1976, page 3.*

- Only tree and plant materials native to the area should be used to assure against non-native plant intrusion to reduce irrigation and maintenance requirements, and to minimize visual impact.
- Additional planting may be required where existing or proposed plant material is considered insufficient. Planting should be placed so that it does not constitute a safety hazard.

***Water***

- With the exception of trails and paths, and related appurtenances, structural development should be set back from and not permitted to be constructed where such development will adversely affect a stream, drainage area, or body of water.

***View Preservation***

- Views should be preserved by limited structure height. Introduced vegetation should be located so as to not block views from uphill structures or views from scenic corridors and vista points.
- Public views within and from scenic corridors should be protected and enhanced, and development should not be allowed to significantly obscure, detract from, or negatively affect the quality of these views. Visual screening or increased setbacks may be used to mitigate such impacts.
- Structures should be located to retain views of prominent scenic features, i.e., bodies of water, mountains, valleys, etc.
- Trees and vegetation may be selectively pruned or removed at the end of view corridors to enhance scenic vistas.

***Open Space Preservation***

- Structures should be sited to retain maximum open space and to reduce the visual impact in scenic open space areas.
- Where possible, structures should be clustered near existing natural and man-made vertical features such as tree masses, hills, and existing structures.
- Contiguous undeveloped lots, especially those under the same ownership, should be consolidated to create large building sites and encourage clustering, thereby retaining a greater area in open space.
- Where conditions permit, minimum sideyard requirements may be reduced or increased as long as the total required setback is maintained.

### ***Cliffs and Bluffs***

- Structures should be set back from bluffs and cliffs so as not to destroy natural land forms.
- Intrusion of structures into views from scenic areas should be minimized.

### ***Accessory Structures***

- Accessory structures should be located in the immediate vicinity of the main structure(s), should be visually integrated with the main structure(s), and blend in with the natural terrain and vegetation of the site.
- Fences should be built to fit the natural contours of the land. Use of living (vegetative) fences in conjunction with earth berms, and fences made of natural materials are encouraged.

### ***Paved Areas***

- Paved areas such as parking lots, driveways, sidewalks, etc., should be well integrated into the site, relate to existing and proposed structures and landscaped to reduce visual impact.
- Small separate paved parking lots are preferred to large single paved lots.
- Parking areas should be screened from residential areas and from scenic roadways.
- Driveways should be shared when feasible to reduce curb cuts, especially along major arterials and scenic roads.
- Paving materials used for pathways, sidewalks, driveways, and parking areas should be varied, textured, colored or patterned to add visual interest, especially where visible from above.

### ***Utilities***

- Public utility structures, including luminaries, overhead wires and utility poles should be of minimum bulk and height, should be designed to have an uncluttered appearance, and should be subordinate to or blend with the natural setting and community.
- Underground utility lines should be required except where such undergrounding would result in significant adverse environmental impacts. Utility structures should not be visible above ridgelines.

### ***Signs***

- On-premise signs should be integrated with the architectural design of the structure and should not extend above the roof line of the structure.

- Signs should be simple, well designed and constructed of materials which harmonize with their surroundings.
- Brightly illuminated, colored, rotating, reflective, blinking, flashing or moving signs, pennants or streamers should not be permitted.

### *Exterior Appearance*

#### ***Colors and Materials***

- Exterior colors and materials should blend with that natural setting and surrounding neighborhood. The use of natural materials and earth colors are encouraged; highly reflective surfaces and colors are discouraged.

#### ***Structural Shapes***

- Simple structural shapes should be used to unify building design and to maintain an uncluttered community appearance.
- As roofs are a visually dominating feature in a community, it is important that simple shapes, non-reflective surfaces, and a simple range of materials and colors be used in their construction.
- Stacks, vents, antennas and other equipment should be organized to emerge together, screened from view and located on the least noticeable side of the roof.

#### ***Scale***

- Structures should relate in size and scale to adjacent buildings and to the neighborhood in which they are located.

The proposed project would be required to comply with the above-listed Community Design Manual.

### ***County of San Mateo Green Building Ordinance***

On February 26th 2008, the San Mateo County Board of Supervisors approved a Green Building Ordinance that will apply to building projects within the unincorporated areas of San Mateo County. On October 7, 2008 the Board of Supervisors adopted an ordinance amending the regulations clarifying standards and requirements to improve the effectiveness of the Green Building Program. The purpose of the Green Building Program is to enhance public health and welfare by encouraging green building measures in the design, building and maintenance of buildings. Green Building Practices are intended to achieve the following goals:

- To encourage the conservation of natural resources;

- To reduce waste in landfills generated by construction projects;
- To increase energy efficiency and lower energy usage;
- To reduce operating and maintenance costs for buildings; and
- To promote a healthier indoor environment.

### ***San Mateo Local Agency Formation Commission (LAFCO)***

LAFCOs exist in each county of the State to regulate the boundaries of cities and special districts. LAFCOs are required to adopt and periodically update spheres of influence<sup>18</sup>, conduct municipal service reviews, and process applications for boundary change applications and applications for extension of service outside jurisdictional boundaries. LAFCO decisions must be consistent with the adopted sphere of influence for the agencies affected by the boundary change. The State Legislature has set forth specific policy direction to LAFCO in carrying out its duties and responsibilities under the Cortese-Knox-Hertzberg (CKH) Local Government Reorganization Act of 2000. Specifically, LAFCO is directed to:

- Encourage orderly growth and development...logical formation and determination of local agency boundaries” (Government Code, Section 56001);
- Encourage and provide for “planned, well-ordered, efficient urban development patterns with appropriate consideration of preserving open space lands” (Government Code, Section 56300); and
- Discouragement of urban sprawl, preserving open space and prime agricultural lands, efficiently providing government services and the encouragement of orderly formation and development of local agencies based upon local conditions and circumstances (Government Code, Section 56301.).

The LAFCO adopted sphere of influence for the municipal service providers was last adopted in October of 2008. The updated sphere determination placed all areas eligible for water service not currently in the boundaries of the Montara Water and Sanitary District in the sphere of influence of the Coastside County Water District. The project area is therefore in the sphere of influence of the Coastside County Water Districts. The territory is therefore eligible for annexation because it is contiguous to District boundaries. LAFCO policies favor annexation over extension of service outside city or district boundaries. In cases where annexation is not feasible, Government Code Section 56133 provides that a city or district may provide new or extended services by contract or agreement outside its jurisdictional boundaries only if it first requests and receives written approval from the local agency formation commission in the affected county.

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<sup>18</sup> “Sphere of Influence” means a plan for the probable physical boundaries and service area of a local agency, as determined by the commission (Government Code Section 56076).



## ENVIRONMENTAL IMPACTS

### Thresholds of Significance

Based on Appendix G of the State *CEQA Guidelines*, the proposed project would have a significant impact on land use and planning if it would:

- a) Physically divide an established community;
- b) Conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or
- c) Conflict with any applicable habitat conservation plan or natural community conservation plan.

### Project Impacts and Mitigation Measures

#### *Discretionary Actions*

This DEIR serves as the environmental document for all discretionary actions associated with the development of the proposed project. This DEIR is intended to cover all federal, state, regional, and/or local government discretionary approvals that may be required to develop the proposed project, whether or not they are explicitly listed below. The federal, state, regional and local agencies that may have jurisdiction over the proposed project may require, but are not necessarily limited to the following:

#### *County of San Mateo*

The applicant is requesting approval of a series of actions from the County of San Mateo in order to construct the proposed project including:

- Use Permit, per Section 6500(d)3 for the modern sanitarium component of the Wellness Center;
- Tentative Map for Major Subdivisions, per the County Subdivision Regulations, to subdivide the Office Park site into five lots (one common area and one for each building), and to create three lots for the Wellness Center;
- Other discretionary approvals and requirements, including compliance with applicable ordinances and policies (e.g., Subdivision Ordinance, Green Building Ordinance, and General Plan) and various permits (e.g., use permits, off-street parking exception, building permits, grading permit, tree removal permit, etc.);
- The project would be subject to County design review prior to approval;

- Coastal Development Permit, per County Zoning Regulations Section 6328.4; through San Mateo County Local Coastal Plan; and
- This project would be subject to San Mateo County Environmental Health reviews and approvals for subdivision, water treatment systems and onsite wastewater treatment systems, water and wastewater distribution systems.

*San Mateo Local Agency Formation Commission (LAFCO)*

As discussed previously, the project applicant proposes to connect to the CCWD. This proposed annexation to CCWD would require review and approval by LAFCO and approval of amendments to the Coastal Development Permits for the El Granada Pipeline replacement project. Any temporary or permanent extension of water services outside of the service boundary as defined on January 1, 2003 would require amendments to Coastal Development Permits A-1-HMB-99-20 and A-2-SMC-99-63 as well as amendment(s) to the County of San Mateo and Half Moon Bay Local Coastal Plans. LAFCO annexation would require:

- Application by property owner to the San Mateo LAFCO, including a map and legal description and LAFCO and State Board of Equalization Fees;
- Adoption of a property tax exchange resolution by the Board of Supervisors regarding amount of property tax to be transferred between the County General Property Tax and County governed districts;
- Approval by LAFCO and recordation of certificate of completion; and
- Approval of community onsite water by the California Department of Public Health (CDPH) and wastewater systems by the Regional Water Quality Control Board (RWQCB).

*California State Water Resources Control Board (State Board) and San Francisco Bay Area RWQCB*

- Proposed modifications to potential jurisdictional wetlands and waters will require Section 401 water quality certification from the RWQCB;
- The creation of an onsite wastewater treatment plant (subsurface discharge included) will require approval from RWQCB, additionally, a Sewer System Management Plan and waste discharge reports will be required; and
- The RWQCB will require compliance with a National Pollutant Discharge Elimination System (NPDES) Permit and the provision of a Stormwater Pollution Prevention Plan (SWPPP) for stormwater and construction runoff.

*Bay Area Air Quality Management District (BAAQMD)*

- BAAQMD permits that would be required for the MBR plant could include a Permit to Operate, as well as potentially required permits for internal combustion engines and other portable equipment that have air emissions.

*California Department of Fish and Game (CDFG)*

- In order to avoid potential impacts to special-status or endangered species and their habitats, the applicant shall provide BMP's to avoid incidental take of species and/or habitat disturbance or degradation. The applicant will coordinate with CDFG for approval of all mitigation measures (e.g. exclusionary fencing, biological monitoring, etc.).

*California Department of Public Health (CDPH)*

- The use of an onsite treated water supply would require approval from CDPH Division of Drinking Water and Environmental Management. Also, the use of disinfected tertiary treated wastewater for subsurface irrigation would require approval from CDPH under CCR, Title 22, Division 4, Chapter 3, Article 3, §60304.

*United States Army Corps of Engineers (USACOE)*

- Current project design, including the Wetland Restoration Plan, avoids impacts to all jurisdictional wetlands and waters with the exception of hand planting and weeding in wetland areas adjacent to restoration and enhancement activities. None of the actions proposed by the project require a permit from the USACOE.

*United States Fish and Wildlife Services (USFWS)*

- Current project design, including the Wetland Restoration Plan, does not require a permit from the Army Corps of Engineers. Project BMP's are designed to avoid incidental take of special status or endangered species as well as their habitats located in adjacent Pillar Point Marsh. Therefore, the project design to date does not require consultation with USFWS.

***Impact LU-1 Physical Division of an Established Community***

The project site, totaling 19.4 acres, is made up of two adjacent agricultural fields that are part of a larger ongoing and continuous farming operation. The site is designated General Industrial and is zoned Light Industrial/Design Review (M-1/DR) and Light Industrial/Airport Overlay/Design Review (M-1/AO/DR) (northern parcel), and Waterfront/Design Review/Coastal Development District (W/DR/CD) and Waterfront/Airport Overlay/Design Review (W/AO/DR) (southern parcel).

The project area is largely developed with urban and suburban land uses including roadways and residential, commercial, and industrial land uses. Specifically, surrounding land uses include the Half

Moon Bay Airport (east), the El Granada Mobile Home Park (north), the Pillar Point Headlands and Pillar Point Marsh (west), and the Princeton/Pillar Point Harbor industrial/commercial area (south). Additionally, the Fitzgerald Marine Reserve, which is bracketed by Maverick's Surf break to the south and Montara Beach to the north, is located approximately 0.25 miles to the west.

No residential communities would be displaced by project-related activities, nor would the physical arrangement of the surrounding residential communities be modified or divided. Thus, the project would not result in a division of an established community. Therefore, project impacts related to physical division of an established community would be *less than significant* and no mitigation measures are required.

### ***Impact LU-2 Conflict with Applicable Land Use Plans, Policies, or Regulations***

CEQA requires an analysis of consistency with plans and policies as part of the environmental setting (see CEQA Guidelines, Section 15125). An EIR uses the policy analysis as an indicator of the resources that might be affected by a project and considers the importance a policy gives a resource in determining the significance of the physical impact. Conversely, the EIR considers the potential significance of the related physical impacts when analyzing a particular policy. Inconsistency with a policy may indicate a significant physical impact, but the inconsistency is not itself an impact. Using this approach, this DEIR provides a detailed analysis of policies of the County of San Mateo General Plan and analyses of other applicable plans and policies, so that the decision-makers may determine project consistency. The physical impacts of the proposed project are analyzed in other sections of the DEIR.

The General Plan Guidelines published by the State Office of Planning and Research (OPR) defines consistency as, "An action, program, or project is consistent with the General Plan if, considering all its aspects, and it will further the objectives and policies of the General Plan and not obstruct their attainment." Therefore, the standard for analysis used in this DEIR is based on general agreement with the policy language and furtherance of the policy intent (as determined by a review of the policy context). The determination that the proposed project is consistent or inconsistent with applicable policies is ultimately the decision of the County of San Mateo.

### ***California Building Standards Commission - Green Building Standards***

Conceptual floor plans and elevations for the Office Park and Wellness Center properties have been proposed by the applicant. The proposed project would be Leadership in Energy and Environmental Design (LEED) certified at the Platinum level, and would qualify for Core and Shell Platinum LEED Certification. As noted in Section III (Project Description) of the DEIR, the LEED Green Building Rating System is a third party certification program and the nationally accepted benchmark for the design, construction and operation of high performance green buildings. LEED certification provides verification that a building project is environmentally responsible, profitable and a healthy place to live and work. Additionally, the proposed project would incorporate specific development standards in order to achieve environmental sustainability, as listed in Section III (Project Description) of the DEIR. The future buildings would incorporate green building requirements into the development and final site design that

would be reviewed as part of the building permit review process. Therefore, impacts would be *less than significant* and no mitigation measures are required.

#### *Bay Area Clean Air Plan (CAP)*

Modeling of the pollutant emissions associated with the project shows that the long-term operation of the project would not result in an exceedance of the BAAQMD thresholds for carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxides (NO<sub>x</sub>), and respirable particulate matter (PM<sub>10</sub>). As such, the proposed project would not have any significant air quality impacts during the operational phase.

The proposed project is located within the jurisdiction of the County of San Mateo, which has a General Plan that is consistent with the region's 2000 CAP. As discussed in Section IV.K (Population & Housing), when assuming a conservative scenario that all persons filling the jobs and housing units at the project site would be coming from outside of the unincorporated Half Moon Bay area, population growth associated with the proposed project is more than three times greater than the projected population growth in the unincorporated Half Moon Bay area between 2009 and 2013.

Assuming that some or all of the jobs created at the project site would be filled by persons relocating to the area, it appears that the local housing market does not contain sufficient vacancy to accommodate large amounts of population influx. As noted, vacancy rates indicate that there is a housing shortage both in the unincorporated portions and the County as a whole.

However, based on current market analysis, it is reasonable to assume that many of the jobs at the project site would be filled by persons living in the area as opposed to people relocating to the area. Unemployment data indicates a need for local employment opportunities. Current unemployment in the area ranges from 6.7 percent in unincorporated Half Moon Bay to 10.8 percent in nearby City of Half Moon Bay. Average unemployment for year 2008 was 3.5 percent for unincorporated Half Moon Bay, 5.8 percent for City of Half Moon Bay, and 5.5 percent for City of Pacifica. Therefore, based on current unemployment and vacancy rates, it is anticipated that the majority of jobs and housing created by the project would be filled by the existing population.

Additionally, housing to be provided at the project site is in conformity with area plans and policies because of its emphasis on providing affordable housing for developmentally disabled persons. The Housing Element, Local Coastal Program, and Montara-Moss Beach-El Granada Community Plan include as part of their goals to provide affordable housing options for special needs groups including the disabled. A related goal is to provide affordable housing in areas that reduce travel time between work and home. Since the housing at the project site is fulfilling a specific need identified in the local plans, this suggests that the housing at the project site is not contributing to substantial population growth in the area. Moreover, 37 of the jobs at the Wellness Center would be specifically provided for DD residents living at the project site. The jobs for DD residents would not affect the balance between jobs and housing in the local community. The proposed project would assist the area in achieving a jobs/housing balance by providing approximately 825 net new jobs and 70 new housing units, or approximately 12 jobs per dwelling unit. By providing a substantial number of new job opportunities along with a moderate

supply of new housing, the proposed project would not only provide adequate jobs to employ future project residents, but would provide a surplus of jobs to employ existing and future residents in the surrounding community.

The project would not add to the cumulative impact of housing-induced population growth of nearby projects since the project proposes housing for up to 70 DD residents and related staff, which has been identified as a need in local community plans and policies. There are no related residential projects in the unincorporated Half Moon Bay area. Residential development projects that are located in the Cities of Pacifica and Half Moon Bay do not appear to be designed for DD residents.

Regarding cumulative impacts contributing to substantial population growth, the employment potential of related projects needs to be considered. While on an individual basis, the impacts of the proposed project are not significant, cumulatively with other projects, the potential jobs created could induce substantial population growth in the area. The projects in the City of Half Moon Bay are not relevant to the cumulative impact discussion as they involve residential and park uses. Within the Mid-Coast area and the City of Pacifica, both of which contain insufficient local jobs for employed residents and those seeking work as indicated by the jobs/housing imbalance in those areas and by unemployment rates, approximately 33,155 square feet and 94,743 square feet of commercial, industrial and mixed-use projects have been proposed, respectively. Application of employee generation rates to these numbers indicates that the related projects would generate up to 448 employees. Along with the 825 employees expected to be generated at the proposed project, a total of 1,250 employees could be generated by projects in the area. In the year 2030, the population in unincorporated Half Moon Bay is projected to be 12,300 and projected to be 42,100 in City of Pacifica. The ratio of jobs to employed residents is projected to be one job per 2.9 residents in unincorporated Half Moon Bay and one job per 3.1 residents in the City of Pacifica. Therefore, given the imbalance in the number of jobs compared to the number of residents, impacts associated with the potential growth in jobs stemming from the related projects would be less than significant and would create local employment opportunities for residents currently working outside of the area and for unemployed residents seeking employment.

In April of 2001, the County of San Mateo published the Countywide Transportation Plan 2010. This transportation plan estimates that the vehicle miles traveled (VMT) increase for San Mateo County from 1990 to 2010 will be 19.8 percent. According to the California Department of Finance (Demographic Research) Unit, the population increase in San Mateo County from 1990 to 2010 will be approximately 13.7 percent (648,162 people to 736,667). As can be seen, the projected rate of VMT increase is already estimated to be larger than the rate of population increase in San Mateo County. Therefore, the project in combination with past, present, and reasonably foreseeable future projects would not cause the rate of increase in VMT to exceed the rate of increase in population, as it is already greater. In addition, the project would incorporate bus stops and shuttle services to help minimize the increase in VMT in San Mateo County.

Therefore, the proposed project would be consistent with the CAP and impacts would be *less than significant* and no mitigation measures are required.

*San Francisco Bay Water Quality Control Plan (Basin Plan)*

The proposed project would be required to comply with all State and federal regulations governing water quality. As part of the drainage plan for the project, all necessary NPDES permits would be obtained for both the construction and the ultimate development phase of the project. Best Management Practices (BMPs) would be incorporated into the development and final design of drainage facilities that would be reviewed as part of the building permit review process. Given the required compliance with applicable standards and regulations, the proposed project would be consistent with the Basin Plan; therefore, impacts would be **less than significant** and no mitigation measures are required. For a more detailed discussion of the project's impacts to hydrology and water quality, please refer to Section IV.H (Hydrology & Water Quality) of the DEIR.

*City/County Association of Governments of San Mateo County (C/CAG), Congestion Management Plan (CMP)*

As discussed in Section V.C (Impacts Found to be Less Than Significant) of this DEIR, potential impacts associated with Threshold (b) above were determined to have no impact because the roadway segments and intersections in the immediate vicinity of the project site are not designated roadways with established LOS standards in the County's 2007 Congestion Management Program (CMP); therefore, no monitoring or analysis under the CMP is required. Therefore, impacts would be **less than significant** and no mitigation measures are required.

*County of San Mateo General Plan*

The General Plan land use designation for the project site is General Industrial. The proposed project includes development of residential and mixed-use land uses, comprised of 40 percent general office, 25 percent research and development, 15 percent storage, and 20 percent light manufacturing. As such, the proposed project would be generally consistent with the General Plan land use designation. Therefore, impacts would be **less than significant** and no mitigation measures are required. Project consistency with individual General Plan policies is evaluated in Table IV.I-1 (County of San Mateo General Plan Consistency Analysis) at the end of this section.

*County of San Mateo Zoning Regulations*

The project site is zoned Light Industrial/Design Review (M-1/DR) and Light Industrial/Airport Overlay/Design Review (M-1/AO/DR) (northern parcel), and Waterfront/Design Review/Coastal Development District (W/DR/CD) and Waterfront/Airport Overlay/Design Review (W/AO/DR) (southern parcel). The proposed project would be designed and constructed in conformance with all applicable development regulations of the Zoning Regulations and would be subject to Design Review by the County's Coastside Design Review Committee. Additionally, the project would comply with all provisions of the Zoning Regulations, which regulate parking, fences, and accessory structures. Therefore, impacts would be **less than significant** and no mitigation measures are required.

*Montara-Moss Beach-El Granada Community Plan*

As previously discussed, the Montara-Moss Beach-El Granada Community Plan (Community Plan) served as the basis for the LCP Land Use Plan for the Mid-Coast. Project consistency with individual Community Plan policies is evaluated in Table IV.I-1 (County of San Mateo General Plan Consistency Analysis) at the end of this section. The proposed project would be designed and constructed in conformance with all applicable development regulations of the Community Plan. Therefore, impacts would be **less than significant** and no mitigation measures are required.

*County of San Mateo Local Coastal Program (LCP)*

The proposed project is located within the jurisdictional boundaries of the County of San Mateo Local Coastal Program (LCP). Project consistency with individual LCP policies is evaluated in Table IV.I-1 (County of San Mateo General Plan Consistency Analysis) at the end of this section. The proposed project would be designed and constructed in conformance with all applicable development regulations of the LCP. Therefore, impacts would be **less than significant** and no mitigation measures are required.

*Half Moon Bay Airport Land Use Plan*

The proposed project is subject to the provisions of the Half Moon Bay Airport Land Use Plan. The proposed project would be designed and constructed in conformance with all applicable development regulations of the Half Moon Bay Airport Land Use Plan. Therefore, impacts would be **less than significant** and no mitigation measures are required.

*County of San Mateo Community Design Manual*

As previously discussed, the Community Design Manual was created to provide guidelines by which individual building permits are evaluated. The Community Design Manual does not set forth rigid rules for designing structures but rather establishes general guidelines in which consideration latitude remains, so as not to stifle individual initiative. The project would be designed to be consistent with individual Community Design Manual guidelines. The proposed project would be designed and constructed in conformance with all applicable development regulations of the Community Design Manual and would be subject to Design Review by the County's Coastsides Design Review Committee. Therefore, impacts would be **less than significant** and no mitigation measures are required.

*County of San Mateo Green Building Ordinance*

As noted in Section III (Project Description) of the DEIR, all buildings and development proposed on the project site would be designed to meet Platinum-level Leadership in Energy and Environmental Design (LEED) certified construction and would include specific design standards in order to achieve environmental sustainability. Additionally, the proposed project would incorporate local green building requirements into the development and final site design that would be reviewed as part of the building



permit review process. Therefore, impacts would be *less than significant* and no mitigation measures are required.

*San Mateo Local Agency Formation Commission (LAFCO)*

As noted in Section III (Project Description) of the DEIR, the project applicant proposes to connect to the Coastside County Water District (CCWD). This proposed annexation to CCWD would require review and approval by LAFCO and approval of amendments to the Coastal Development Permits for the El Granada Pipeline replacement project. Any temporary or permanent extension of water services outside of the service boundary as defined on January 1, 2003 would require amendments to Coastal Development Permits A-1-HMB-99-20 and A-2-SMC-99-63 as well as amendment(s) to the County of San Mateo and Half Moon Bay Local Coastal Plans. LAFCO annexation would require:

- Application by property owner to the San Mateo LAFCO, including a map and legal description and LAFCO and State Board of Equalization Fees;
- Adoption of a property tax exchange resolution by the Board of Supervisors regarding amount of property tax to be transferred between the County General Property Tax and County governed districts;
- Approval by LAFCO and recordation of certificate of completion; and
- Approval of community onsite water by the California Department of Public Health (CDPH) and wastewater systems by the Regional Water Quality Control Board (RWQCB).

Therefore, impacts would be *less than significant* and no mitigation measures are required.

Overall, as stated previously and outlined in Table IV.I-1 (County of San Mateo Regional and Local Requirements Consistency Analysis), the proposed project would be generally consistent with applicable land use plans, policies, and regulations. Therefore, land use and planning impacts would be *less than significant* and no mitigation measures are required.

***Impact LU-3 Conflict with Applicable Habitat Conservation Plan or Natural Community Conservation Plan***

A significant impact would occur if a project is inconsistent with resource policies of any applicable habitat or conservation plan.

A Habitat Conservation Plan (HCP) is a legally binding plan under the Endangered Species Act (ESA) to protect a specified area as habitat for a threatened or endangered species. Section 10(a)(2)(A) of the ESA requires an applicant for an Incidental Take Permit to submit a Habitat Conservation Plan (HCP) that specifies, among other things, the impacts that are likely to result from the taking and the measures the

permit applicant will undertake to minimize and mitigate such impacts.<sup>19</sup> As previously discussed, the proposed project is subject to the provisions of the County of San Mateo Local Coastal Program (LCP) and would be designed and developed in accordance with the LCP.

The Natural Community Conservation Planning program of the Department of Fish and Game is an unprecedented effort by the State of California, including a number of private and public partners, which includes a broad-based ecosystem approach to planning for the protection and perpetuation of biological diversity. A Natural Community Conservation Plan (NCCP) identifies and provides for the regional or area-wide protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity.<sup>20</sup> NCCPs can only be initiated for large landscape areas, must address ecosystem integrity and function, and must provide for conservation of the covered species. Additionally, a NCCP must mitigate for impacts and make an additional contribution to recovery of the covered species.<sup>21</sup> The project site and surrounding area are not part of any draft or adopted NCCP.

As such, the project site and surrounding area would not conflict with any draft or adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. Therefore, **no impact** to any adopted habitat or conservation plans would occur and no mitigation measures are required.

## CUMULATIVE IMPACTS

According to the Natural Resource Conservation Services (NRCS) Land Use Conversion Table for San Mateo County, cumulative development that converted lands into urban and built-up lands amounted to approximately 492 acres of 353,450 total County acres between the years 2002 to 2004.<sup>22</sup> The conversion of lands to urban uses is an inevitable effect of regional population increases and shrinking housing availability.

Cumulative land use impacts could occur if other related projects in the vicinity of the project site would result in land use impacts in conjunction with the proposed project. The 37 related projects of various land uses are listed in Table III-1 (Related Projects) of this DEIR. The related projects, in conjunction with the proposed project, would result in the general intensification of land use and development density in the County. These projects would be required to either conform to the zoning and land use

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<sup>19</sup> U.S. Fish & Wildlife Service, *Endangered Species Program, Habitat Conservation Planning and Incidental Take Permit Processing Handbook*, November 4, 1996, Page I-2. Accessed by CAJA Staff at <http://www.fws.gov/endangered/hcp/hcpbook.html> on May 7, 2009.

<sup>20</sup> California Department of Fish and Game, *Resource Management, Conservation Planning, Natural Community Conservation Planning*. Accessed by CAJA Staff at <http://www.dfg.ca.gov/habcon/nccp/> on April 21, 2009.

<sup>21</sup> California Department of Fish and Game, *Resource Management, Conservation Planning, Natural Community Conservation Planning (NCCP), Status of NCCP Planning Efforts*. Accessed by CAJA Staff at <http://www.dfg.ca.gov/habcon/nccp/status.html#> on May 7, 2009.

<sup>22</sup> Division of Land Resource Protection, *San Mateo County Important Farmland Data Availability*. Accessed by CAJA Staff at [http://redirect.conservation.ca.gov/DLRP/fmmp/county\\_info\\_results.asp](http://redirect.conservation.ca.gov/DLRP/fmmp/county_info_results.asp) on October 28, 2008.

designations for each site or be subject to specific findings and conditions, which are based on maintaining general conformance with the land use plans applicable to the area. As such, development of the proposed project and related projects is not anticipated to substantially conflict with the intent of the County's General Plan regarding the future development of the area, or with other land use regulations required to be consistent with the General Plan, Zoning Regulations and Ordinance Codes. Development of the proposed project, in conjunction with related projects, would not be expected to result in cumulatively considerable effects with respect to land use. Therefore, cumulative impacts to land use would be *less than significant* and no mitigation measures are required.

#### **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

All land use and planning impacts would be *less than significant*.

**Table IV.I-1  
County of San Mateo Regional and Local Requirements Consistency Analysis**

Policy/Guideline	Project Consistency/Comments
<b>COUNTY OF SAN MATEO GENERAL PLAN</b>	
<b>Vegetative, Water, Fish and Wildlife Resources Element (Chapter 1)</b>	
<b>1.2 Protect Sensitive Habitats</b> - Protect sensitive habitats from reduction in size or degradation of the conditions necessary for their maintenance.	<b>Consistent:</b> Due to the occurrence of Northern Coastal Salt Marsh in the immediate vicinity of the project site as well as suitable habitat in Pillar Point Marsh, this sensitive natural community has a moderate potential to occur on the project site. In addition, Riparian Corridors and Wetlands are designated Sensitive Habitats under the San Mateo County LCP. Riparian habitat and its associated corridor are present on the project site along the drainage that separates the northern and southern project parcels. Jurisdictional waters and wetlands comprise 0.74 acres of the project site. Proposed grading and development would not result in impacts to northern salt marsh scrub or riparian habitat. Furthermore, the project proposes 9 acres of riverine wetland and riparian ecosystem restoration.
<b>1.3 Protection and Productive Use of Economically Valuable Vegetative, Water, Fish and Wildlife Resources</b> - Protect the availability and encourage the productive use of the County’s economically valuable vegetative, water, fish and wildlife resources in a manner which minimizes adverse environmental impacts.	<b>Consistent:</b> Refer to the consistency analysis for the County of San Mateo General Plan, Chapter 1, Vegetative, Water, Fish and Wildlife Resources, Policy No. 1.2. As discussed in Sections IV.D, Biological Resources, and IV.H, Hydrology & Water Quality, the proposed project would not significantly impact vegetative, water, fish or wildlife resources.
<b>1.4 Access to Vegetative, Water, Fish and Wildlife Resources</b> - Protect and promote existing rights of public access to vegetative, water, fish and wildlife resources for purposes of study and recreation consistent with the need to protect public rights, rights of private property owners and protection and preservation of such resources.	<b>Consistent:</b> The project proposes a wetland trail in the Office Park property for viewing restored wetland areas that would be available to the public. The proposed North Trail would also be available to the public and would run along the northern portion of the Office Park property and would connect to the wetlands trail as well as to existing trails in the headlands, which provide coastal access.
<b>1.20 Importance of Sensitive Habitats</b> - Consider areas designated as sensitive habitats as a priority resource requiring protection.	<b>Consistent:</b> Refer to the consistency analysis for the County of San Mateo General Plan, Chapter 1, Vegetative, Water, Fish and Wildlife Resources, Policy No. 1.2.
<b>1.21 Importance of Economically Valuable Vegetative, Water, Fish and Wildlife Resources</b> - Consider Vegetative, Water, Fish and Wildlife Resources which are economically valuable as a priority resource to be enhanced, utilized, managed and maintained for the needs of present and future generations.	<b>Consistent:</b> Refer to the consistency analysis for the County of San Mateo General Plan, Chapter 1, Vegetative, Water, Fish and Wildlife Resources, Policy No. 1.2. As discussed in Sections IV.D, Biological Resources, and IV.H, Hydrology & Water Quality, the proposed project would not significantly impact vegetative, water, fish or wildlife resources.
<b>1.22 Regulate Development to Protect Vegetative, Water, Fish and Wildlife Resources</b> - (a) Regulate land uses and development activities to prevent, and if infeasible mitigate to the extent possible, significant adverse impacts on vegetative, water, fish and wildlife resources; and (b) place a priority on the managed use and protection of vegetative, water, fish and wildlife	<b>Consistent:</b> As discussed in Sections IV.D, Biological Resources, and IV.H, Hydrology & Water Quality, the proposed project would not significantly impact vegetative, water, fish or wildlife resources.

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resources in rural areas of the County.	
<b>1.23 Regulate Location, Density and Design of Development to Protect Vegetative, Water, Fish and Wildlife Resources</b> - Regulate the location, density and design of development to minimize significant adverse impacts and encourage enhancement of vegetative, water, fish and wildlife resources.	<b>Consistent:</b> As discussed in Sections IV.D, Biological Resources, and IV.H, Hydrology & Water Quality, the proposed project would not significantly impact vegetative, water, fish or wildlife resources. Furthermore, the project proposes 9 acres of riverine wetland and riparian ecosystem restoration. The restored wetlands would extend both foraging and breeding habitat currently available in Pillar Point Marsh for project area special status species as well as provide a wider, protected movement corridor through the site.
<b>1.24 Protect Vegetative Resources</b> - Ensure that development will: (1) minimize the removal of vegetative resources and/or; (2) protect vegetation which enhances microclimate, stabilizes slopes or reduces surface water runoff, erosion or sedimentation; and/or (3) protect historic and scenic trees.	<b>Consistent:</b> The removal of vegetation would be limited to the extent possible during grading activities. The total area to be graded for buildings, walkways and parking lots would be approximately 9 acres on the Office Park property and approximately 2.6 acres on the Wellness Center property. As discussed in Section IV.H, Hydrology & Water Quality, a comprehensive erosion control plan, SWPPP, and NPDES permit will be prepared for the project to stabilize slopes and reduce surface water runoff in order to reduce erosion and sedimentation. No historic or scenic trees are located on the project site.
<b>1.25 Protect Water Resources</b> - Ensure that development will: (1) minimize the alteration of natural water bodies, (2) maintain adequate stream flows and water quality for vegetative, fish and wildlife habitats; (3) maintain and improve, if possible, the quality of groundwater basins and recharge areas; and (4) prevent to the greatest extent possible the depletion of groundwater resources.	<b>Consistent:</b> The project would not alter any natural water bodies. The project would comply with applicable regulations related to surface and groundwater quality and would therefore not result in significant impacts to groundwater quality. Additionally, the project proposes the reuse and recycling of wastewater as well as the infiltration of treated wastewater to minimize the depletion of groundwater as a result of the project.
<b>1.26 Protect Fish and Wildlife Resources</b> - Ensure that development will minimize the disruption of fish and wildlife and their habitats.	<b>Consistent:</b> Refer to the consistency analysis for the County of San Mateo General Plan, Chapter 1, Vegetative, Water, Fish and Wildlife Resources, Policy No. 1.23.
<b>1.27 Regulate Development to Protect Sensitive Habitats</b> - Regulate land uses and development activities within and adjacent to sensitive habitats in order to protect critical vegetative, water, fish and wildlife resources; protect rare, endangered, and unique plants and animals from reduction in their range or degradation of their environment; and protect and maintain the biological productivity of important plant and animal habitats.	<b>Consistent:</b> Refer to the consistency analysis for the County of San Mateo General Plan, Chapter 1, Vegetative, Water, Fish and Wildlife Resources, Policy No. 1.2.
<b>1.28 Establish Buffer Zones</b> - Establish necessary buffer zones adjacent to sensitive habitats which include areas that directly affect the natural conditions in the habitats.	<b>Consistent:</b> The project includes a 100-foot buffer planted as a riparian corridor and uplands coastal scrub/shrub between the proposed development and the proposed riverine wetland ecosystem restoration area.
<b>1.29 Permitted in Sensitive Habitats</b> - Within sensitive habitats, permit only those land uses and development activities that are compatible with the protection of	<b>Consistent:</b> Proposed uses within sensitive habitats would be limited to the allowable uses and include the proposed wetland trails on both the Office Park and

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sensitive habitats, such as fish and wildlife management activities, nature education and research, trails and scenic overlooks and, at a minimum level, necessary public service and private infrastructure.	Wellness Center properties.
<b>1.30 Uses Permitted in Buffer Zones</b> - Within buffer zones adjacent to sensitive habitats, permit the following land uses and development activities: (1) land uses and activities which are compatible with the protection of sensitive habitats, such as fish and wildlife management activities, nature education and research, trails and scenic overlooks, and at a minimum level, necessary public and private infrastructure; (2) land uses which are compatible with the surrounding land uses and will mitigate their impact by enhancing or replacing sensitive habitats; and (3) if no feasible alternative exists, land uses which are compatible with the surrounding land uses.	<b>Consistent:</b> Proposed uses within the proposed 100-foot buffer planted as a riparian corridor and uplands coastal scrub/shrub between the proposed development and the proposed riverine wetland ecosystem restoration area would be limited to the allowable uses and include the proposed wetland trails on both the Office Park and Wellness Center properties.
<b>1.31 Regulate the Location, Siting and Design of Development in Sensitive Habitats</b> - Regulate the location, siting and design of development in sensitive habitats and buffer zones to minimize to the greatest extent possible adverse impacts, and enhance positive impacts.	<b>Consistent:</b> Refer to the consistency analysis for the County of San Mateo General Plan, Chapter 1, Vegetative, Water, Fish and Wildlife Resources, Policy Nos. 1.2, 1.29, and 1.30. As discussed in Section IV.D, Biological Resources, the proposed project would not significantly impact sensitive habitats.
<b>1.32 Performance Criteria and Development Standards</b> - Establish performance criteria and development standards for development permitted within sensitive habitats and buffer zones, to prevent and if infeasible mitigate to the extent possible significant negative impacts, and to enhance positive impacts.	<b>Consistent:</b> Refer to the consistency analysis for the County of San Mateo General Plan, Chapter 1, Vegetative, Water, Fish and Wildlife Resources, Policy Nos. 1.2, 1.29, and 1.30. As discussed in Section IV.D, Biological Resources, the proposed project would not significantly impact sensitive habitats.
<b>1.33 Regulate Productive Uses of Vegetative, Water, Fish and Wildlife Resources</b> - Regulate resource productive uses which are subject to local control in order to prevent and if infeasible mitigate to the extent possible significant adverse impacts on vegetative, water, fish and wildlife resources and to maintain and enhance (1) productivity of forests and other vegetative resources; (2) productive capacity and quality of groundwater basins and recharge areas, streams, reservoirs, and other water bodies; (3) productivity of fisheries and other fish and wildlife resources; and (4) the recreational value and aesthetic value of these areas.	<b>Consistent:</b> Refer to the consistency analysis for the County of San Mateo General Plan, Chapter 1, Vegetative, Water, Fish and Wildlife Resources, Policy No. 1.25 regarding groundwater quality and capacity. As discussed in Sections IV.D, Biological Resources, and IV.H, Hydrology & Water Quality, the proposed project would not significantly impact vegetative, water, fish or wildlife resources.
<b>1.34 Protect Productive Uses of Vegetative, Water, Fish and Wildlife Resources</b> - Regulate development in order to protect and promote the managed use of vegetative, water, fish and wildlife resources.	<b>Consistent:</b> The project would replace current agricultural uses with residential and commercial uses while implementing an integrated trail system, water reuse and recycling program, and restoring riparian and wetland habitat.
<b>1.36 Protect the Productive Use of Water Resources</b> - Ensure that land uses and development on or near water resources will not impair the quality or productive capacity of these resources.	<b>Consistent:</b> As discussed in Section IV.H, Hydrology & Water Quality, the project would comply with applicable regulations related to surface and groundwater quality and would not result in significant impacts.

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<b>1.38 Control Incompatible Vegetative, Fish and Wildlife</b> - Encourage and support the control of vegetation, fish and wildlife resources which are harmful to the surrounding environment or pose a threat to public health, safety and welfare.	<b>Consistent:</b> The project does not propose any incompatible vegetation in the restoration of wetland and riparian habitat or in the proposed landscaping onsite.
<b>1.39 Minimize Adverse Impacts of Programs Controlling Incompatible Vegetation, and Fish and Wildlife</b> - Minimize the negative impacts and risks of programs controlling incompatible vegetation, fish, and wildlife.	<b>Consistent:</b> The project does not propose any incompatible vegetation in the restoration of wetland and riparian habitat or in the proposed landscaping onsite.
<b>Soil Resources Element (Chapter 2)</b>	
<b>2.17 Regulate Development to Minimize Soil Erosion and Sedimentation</b> - Regulate development to minimize soil erosion and sedimentation; including, but not limited to, measures which consider the effects of slope, minimize removal of vegetative cover, ensure stabilization of disturbed areas and protect and enhance natural plant communities and nesting and feeding areas of fish and wildlife.	<b>Consistent:</b> As discussed in Section IV.H, Hydrology & Water Quality, a comprehensive erosion control plan, SWPPP, and NPDES permit will be prepared for the project to stabilize slopes and reduce surface water runoff in order to reduce erosion and sedimentation.
<b>2.23 Regulate Excavation, Grading, Filling, and Land Clearing Activities Against Accelerated Soil Erosion</b> - Regulate excavation, grading, filling, and land clearing activities to protect against accelerated soil erosion and sedimentation.	<b>Consistent:</b> Refer to the consistency analysis for the County of San Mateo General Plan, Chapter 1, Vegetative, Water, Fish and Wildlife Resources, Policy No. 1.24.
<b>2.25 Regulate Topsoil Removal Operations Against Accelerated Soil Erosion</b> - Regulate topsoil removal operations to protect against accelerated soil erosion and sedimentation through measures which ensure slope stabilization and surface drainage control.	<b>Consistent:</b> Refer to the consistency analysis for the County of San Mateo General Plan, Chapter 1, Vegetative, Water, Fish and Wildlife Resources, Policy No. 1.24.
<b>Visual Quality Element (Chapter 4)</b>	
<b>4.1 Protection of Visual Quality</b> - Encourage positive visual quality for all development and minimize adverse visual impacts.	<b>Consistent:</b> The project includes an ornamental landscaping plan that would include climate and drought tolerant, native, biologically sensitive, and non-invasive plants such as California Big Leaf Maple with an understory of native grass and a perennial wildflower mix. As discussed in Section IV.A, Aesthetics, impacts to visual resources would be less than significant.
<b>4.4 Appearance of Rural and Urban Development</b> - Promote aesthetically pleasing development in rural and urban areas.	<b>Consistent:</b> Refer to the consistency analysis for the County of San Mateo General Plan, Chapter 4, Visual Quality, Policy No. 4.1.
<b>4.14 Appearance of New Development</b> - To (a) regulate development to promote and enhance good design, site relationships and other aesthetic considerations; and (b) regulate land divisions to promote visually attractive development.	<b>Consistent:</b> Refer to the consistency analysis for the County of San Mateo General Plan, Chapter 4, Visual Quality, Policy No. 4.1.
<b>4.16 Protection of Coastal Features</b> - Regulate coastal development to protect and enhance natural landscape features and visual quality through measures that ensure the basic integrity of sand dunes, cliffs, bluffs and wetlands.	<b>Consistent:</b> Sand dunes, cliffs and bluffs are not located on the project site. The project has incorporated the natural landscape into the design and includes an ornamental landscaping plan that would include climate and drought tolerant, native, biologically sensitive, and

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	non-invasive plants. Furthermore, the project proposes 9 acres of riverine wetland and riparian ecosystem restoration.
<p><b>4.20 Utility Structures</b> - Minimize the adverse visual quality of utility structures, including roads, roadway and building signs, overhead wires, utility poles, T.V. antennae, windmills and satellite dishes.</p>	<p><b>Consistent:</b> The project would result in minimal visibility of utility structures and other mechanical equipment. All utilities would be undergrounded. Solar panels and wind turbines would be installed on building roofs in both the northern and southern parcels and are anticipated to extend an additional four feet above the top of buildings. Two 36-inch microwave dishes are proposed and would be integrated into the wall and would not extend beyond 5 feet of the roofline as shown in Figure III-15. As discussed in Section IV.A, Aesthetics, impacts to visual resources would be less than significant.</p>
<p><b>4.21 Scenic Corridors</b> - Protect and enhance the visual quality of scenic corridors by managing the location and appearance of structural development.</p>	<p><b>Consistent:</b> Refer to the consistency analysis for the County of San Mateo General Plan, Chapter 4, Visual Quality, Policy No. 4.20.</p>
<p><b>4.35 Urban Area Design Concept</b> – To (a) maintain and, where possible, improve upon the appearance and visual character of development in urban areas; and (b) ensure that new development in urban areas is designed and constructed to contribute to the orderly and harmonious development of the locality.</p>	<p><b>Consistent:</b> Refer to the consistency analysis for the County of San Mateo General Plan, Chapter 4, Visual Quality, Policy No. 4.1.</p>
<p><b>4.39 Scenic Roads</b> - Give special recognition and protection to travel routes in rural and unincorporated urban areas which provide outstanding views of scenic vistas, natural landscape features, historical sites and attractive urban development.</p>	<p><b>Consistent:</b> The project site is visible from County designated scenic Highway 1 and is located with the County Coastal Zone Scenic Corridor. As shown in Figure IV.A-8, Highway 1 Visual Simulation, views of the Pillar Point, the forested hills, and the skyline views would remain substantially unchanged immediately following construction and in approximately fifteen years due to the elevation and distance from the project site from Highway 1. Views of the project site from this roadway segment constitute a small portion of the field of view and the project would not affect the overall value of the views from this scenic roadway. Impacts would be less than significant.</p>
<b>Historical and Archaeological Resources Element (Chapter 5)</b>	
<p><b>5.15 Character of New Development</b> - Encourage the preservation and protection of historic resources, districts and landmarks on sites which are proposed for new development.</p>	<p><b>Consistent:</b> The project site is currently utilized for agricultural production and is not developed with any buildings. View of historical maps revealed no indication of historical buildings, which was confirmed by a field survey. An archaeological site (CA-SMA-151) was identified on the site. Mitigation Measures CULT-2a is proposed to either exclude the area of CA-SMA-151, or perform additional fieldwork to determine the integrity of the site. Mitigation would reduce impacts to less than significant.</p>
<p><b>5.20 Site Survey</b> - Determine if sites proposed for new development contain archaeological/paleontological resources. Prior to approval of development for these</p>	<p><b>Consistent:</b> An archaeological site (CA-SMA-151) was identified on the site. Mitigation Measures CULT-2a is proposed to either exclude the area of CA-SMA-151, or</p>



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sites, require that a mitigation plan, adequate to protect the resource and prepared by a qualified professional, be reviewed and implemented as a part of the project.	perform additional fieldwork to determine the integrity of the site. Additionally, no known paleontological resources were identified on the project site, but the potential exists to encounter both unknown archeological and paleontological resources. Mitigation Measures CULT-2c and CULT-3 are proposed in the event that unknown resources are encountered. Mitigation would reduce impacts to less than significant.
<b>5.21 Site Treatment</b> - To (a) encourage the protection and preservation of archaeological sites; (b) temporarily suspend construction work when archaeological/paleontological sites are discovered. Establish procedures which allow for the timely investigation and/or excavation of such sites by qualified professionals as may be appropriate; and (c) cooperate with institutions of higher learning and interested organizations to record, preserve, and excavate sites.	<b>Consistent:</b> An archaeological site (CA-SMA-151) was identified on the site. Mitigation Measures CULT-2a is proposed to either exclude the area of CA-SMA-151, or perform additional fieldwork to determine the integrity of the site. Additionally, no known paleontological resources were identified on the project site, but the potential exists to encounter both unknown archeological and paleontological resources. Mitigation Measures CULT-2c and CULT-3 are proposed in the event that unknown resources are encountered. Mitigation would reduce impacts to less than significant.
<b>Park and Recreation Resources Element (Chapter 6)</b>	
<b>6.3 Build Upon Existing System</b> - Design all park and recreation systems on the strengths and potentials of existing facilities and develop programs for meeting current and future needs.	<b>Consistent:</b> The project would provide open space and recreation features including onsite walkways/trails, recreation/common area facilities, and wetlands restoration. A total of 71,000 square feet (or 1.6 acres) of walkways/trails are proposed on the project site. Onsite recreational opportunities would include a 12,601 square foot outdoor basketball court and game space, movie theatre, multipurpose rooms, indoor swimming pool, and fitness center for use by the onsite residents and staff. The Community Center would include the pool, fitness center and locker rooms, which would be available to the Coastside public.
<b>6.5 Access to Park and Recreation Facilities</b> - To (a) attempt to provide appropriate access and conveniences for all people in park and recreation facilities; (b) encourage access to the park and recreation system by transportation means other than private automobiles, where feasible; and (c) attempt to provide adequate access for emergency services.	<b>Consistent:</b> All parking generated by the proposed project would be provided onsite and would follow County guidelines for or request an exception to onsite parking requirements, and would be subject to design review by the Planning Director for approval. The project proposes to develop bus stops and shuttle services for residents and visitors. Fire lanes, turning radii and back up space around buildings would be designed in cooperation with local officials so as to be adequate for emergency and fire equipment vehicles.
<b>6.9 Locate Suitable Park and Recreation Facilities in Urban Areas</b> - Generally, encourage all providers to locate active park and recreation facilities in urban areas, taking advantage of existing service infrastructure systems and maximizing the recreational use of limited available land. Consider the following activities to be generally compatible with active park and recreation facilities such as group games, swimming, and tennis.	<b>Consistent:</b> The project is proposed within an urban unincorporated area of the County.

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<p><b>6.11 Coastal Recreation and Access</b> - To (a) regulate coastal development to delineate appropriate locations and development standards for recreation and visitor serving facilities; and (b) regulate development to increase public access to the shoreline and along the coast through measures which include, but are not limited to, establishing criteria for when and where access will be provided and how the access will be developed and maintained.</p>	<p><b>Consistent:</b> The proposed North Trail would be available to the public and would run along the northern portion of the Office Park property and would connect to the wetlands trail as well as to existing trails in the headlands, which provide coastal access.</p>
<p><b>6.12 Minimize Agricultural Land Use Conflicts</b> - Preserve the best agricultural land for agricultural uses. On other lands capable of supporting agriculture, permit the location of park and recreation facilities when efforts are made to lease land not needed for recreational purposes to farm operations, and clearly defined buffer areas such as strips of land are established between these two uses to minimize land use conflicts.</p>	<p><b>Consistent:</b> The proposed project is not located on prime agricultural land, although it is capable of supporting agriculture, and agriculture operations would continue as part of the project in conjunction with the proposed recreational facilities. Land use conflicts between proposed agricultural and recreational uses are not anticipated.</p>
<p><b>6.13 Development Plans</b> – To (a) encourage all providers to prepare development plans for proposed facilities which contain provisions that easily adapt to changing conditions; and (b) encourage all development plans to include restroom facilities and ensure that these correspond in size and detail to the type of park and recreation facility proposed.</p>	<p><b>Consistent:</b> Restroom facilities are proposed.</p>
<p><b>6.14 Site Planning for Public and Private Facilities</b> - To (a) encourage all providers to design sites to accommodate recreation uses that minimize adverse effects on the natural environment and adjoining private ownership; and (b) encourage all providers to design, where feasible, park and recreation sites that accommodate a variety of recreational activities.</p>	<p><b>Consistent:</b> The potential for environmental impact associated with implementation of the project, including the proposed recreational facilities is discussed throughout this DEIR. A variety of uses are proposed including onsite walkways/trails, recreation/common area facilities, and wetlands restoration.</p>
<p><b>6.15 Building Materials and Service Technology for Public and Private Facilities</b> - To (a) encourage the use of materials and technologies that achieve low development, maintenance and operation costs while maintaining environmental compatibility; and (b) encourage innovative technologies for conserving energy, water and other utilities for park and recreation facilities.</p>	<p><b>Consistent:</b> The project is seeking LEED certification at the Platinum level. In order to achieve this rating, the project is incorporating the use of materials that would reduce maintenance and operation costs. Additionally, the project proposes to reduce water consumption by 30 percent from current standards through the reuse and recycling of wastewater for toilet flushing and irrigation purposes.</p>
<p><b>6.17 Building Materials and Service Technology for Public and Private Facilities</b> – To (a) regulate development to provide new or improved park and recreation facilities. Use one or a combination of the following techniques: (1) offer of dedication, (2) grant of fee interest, and (3) in lieu fees; (b) encourage the dedication of easements to implement trails programs; and (c) base the requirements for the provision of park and recreation facilities on the: (1) size and type of development, (2) benefit to the developer, (3) burden to the public, and (4) within the Coastal Zone, priority given to the type of development under the Coastal Act.</p>	<p><b>Consistent:</b> The project would provide open space and recreation features including onsite walkways/trails, recreation/common area facilities, and wetlands restoration. A total of 71,000 square feet (or 1.6 acres) of walkways/trails are proposed on the project site. Onsite recreational opportunities would include a 12,601 square foot outdoor basketball court and game space, movie theatre, multipurpose rooms, indoor swimming pool, and fitness center for use by the onsite residents and staff. The Community Center would include the pool, fitness center and locker rooms, which would be available to the Coastside public.</p>

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<b>6.29 Protection, Operation and Maintenance</b> - Make provisions to protect, operate and maintain park and recreation systems and related easements.	<b>Consistent:</b> The project applicant would operate and maintain all proposed onsite facilities as applicable.
<b>6.30 Minimize Traffic and Litter Problems</b> - (a) coordinate with CalTrans and/or SamTrans to increase recreational transit through such programs as a Park and Ride service or increased weekend service for recreationists in order to lessen traffic and parking problems; (b) encourage recreationists to properly dispose of litter in park and recreation facilities; and (c) encourage the adequate maintenance and improvement of roads and highways needed to serve recreation facilities.	<b>Consistent:</b> The project proposes to develop bus stops and shuttle services for residents and visitors. Facilities for litter disposal would be provided as applicable.
<b>General Land Use Element (Chapter 7)</b>	
<b>7.16 Land Use Objectives for Urban Areas</b> - Locate land use designations in urban areas (urban unincorporated areas) in order to: (1) maximize the efficiency of public facilities, services and utilities, (2) minimize energy consumption, (3) encourage the orderly formation and development of local government agencies, (4) protect and enhance the natural environment, (5) revitalize existing developed areas, and (6) discourage urban sprawl.	<b>Consistent:</b> The project is proposed within an urban unincorporated area of the County.
<b>7.21 Suitable Land within City Sphere of Influence</b> - Consider that lands may be included within a city sphere of influence only if they are generally suitable for urban services (e.g., public sewer systems, public water supplies, fire and police protection) and urban land uses.	<b>Consistent:</b> The project is suitable for urban services including fire and police protection.
<b>Urban Land Use Element (Chapter 8)</b>	
<b>8.1 Urban Land Use Planning</b> - Plan for a compatible and harmonious arrangement of land uses in urban areas by providing a type and mix of functionally well-integrated land uses which meet general social and economics.	<b>Consistent:</b> The proposed project includes development of residential and mixed-use land uses, comprised of 40 percent general office, 25 percent research and development, 15 percent storage, and 20 percent light manufacturing. Refer to the consistency analysis for the County of San Mateo General Plan, Chapter 4, Visual Quality, Policy No. 4.1.
<b>8.14 Residential Land Use Compatibility</b> - To (a) protect and enhance the character of existing single-family areas; and (b) protect existing single-family areas from adjacent incompatible land use designations which would degrade the environmental quality and economic stability of the area.	<b>Partially Consistent:</b> The project proposes landscaping and fencing to provide a buffer between the residential uses to the north and the proposed Office Park property. Impacts related to aesthetics were found to be less than significant, while impacts related to light and glare were found to be significant but could be reduce to less-than-significant levels after mitigation. Noise and air quality impacts were found to be either less than significant, or less than significant after mitigation. Implementation of the project would not result in significant degradation of the environmental quality or economic stability of the area.

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<b>8.15 Commercial Land Use Compatibility</b> - Ensure that commercial development is compatible with adjacent land uses.	<b>Consistent:</b> Refer to the consistency analysis for the County of San Mateo General Plan, Chapter 8, Residential Land Use Compatibility, Policy No. 8.14.
<b>8.17 Buffers</b> - Buffer commercial land uses when needed to protect contiguous residential uses.	<b>Consistent:</b> The project proposes landscaping and fencing to provide a buffer between the residential uses to the north and the proposed Office Park property.
<b>8.27 Parcel Consolidation</b> - Where necessary to achieve quality site planning and greater design flexibility, encourage the consolidation of smaller parcels which are designed for intense land uses, including, but not limited to, Industrial, Medium High and High Density Residential.	<b>Consistent:</b> The County of San Mateo General Plan Mid-Coast Area Land Use map designates both the northern and southern parcels as General Industrial.
<b>8.29 Infilling</b> - Encourage the infilling of urban areas where infrastructure and services are available.	<b>Consistent:</b> The project is proposed within an urban unincorporated area of the County.
<b>8.36 Density</b> - Regulate maximum allowable densities in zoning districts in order to: (1) ensure a level of development that is consistent with land use designations, (2) plan for the efficient provision of public facilities, services, and infrastructure, and (3) minimize exposure to natural and man-made hazards.	<b>Consistent:</b> The proposed density is consistent with the maximum allowable density for the site.
<b>Rural Land Use (Chapter 9)</b>	
<b>9.28 Encourage Existing and Potential Agricultural Activities</b> – To (a) encourage the continuance of existing agricultural and agriculturally- related activities; (b) encourage agricultural activities on soils with agricultural capability that are currently not in production; (c) consider agricultural land use designations for parcels which have existing agricultural activities or which contain soils with agricultural capability that are presently designated General Open Space; and (d) consider open space designations for agricultural parcels that are no longer capable of agricultural activities during future reviews of area plans.	<b>Consistent:</b> Although the project proposes development on a site currently utilized for agricultural activities, continued agricultural activities are proposed both on and offsite including 32 acres of farming, 12 acres in row crop production in the immediate vicinity of the project site. The native plant nursery would include two 8,000-sf potting yards where approximately 30,000 pots would be raised under irrigation within their outside environment (no associated structures); one located in the east corner of the Office Park property and one located in the north east corner of the Wellness Center property.
<b>9.30 Development Standards to Minimize Land Use Conflicts with Agriculture</b> – To (a) avoid to the greatest extent possible locating non-agricultural activities on soils with agricultural capability or lands in agricultural production; (b) locate non-agricultural activities in areas of agricultural parcels which cause the least disturbance to feasible agricultural activities; (c) buffer any non-agricultural activities from agricultural activities by means of distance, physical barriers or other non-disruptive methods; (d) ensure that any extension of public services and facilities to serve non-agricultural activities will not impair feasible agricultural activities.	<b>Consistent:</b> Refer to the consistency analysis for the County of San Mateo General Plan, Chapter 9, Rural Land Use, Policy No. 9.28. Agricultural activities are proposed on parcels that are currently used for agricultural purposes. The project proposes landscaping and fencing to provide a buffer between the residential uses to the north and the proposed project.

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<b>Water Supply Element (Chapter 10)</b>	
<b>10.1 Coordinate Planning</b> – Coordinate water supply planning with land use and wastewater management planning to assure that the supply and quality of water is commensurate with the level of development planned for an area.	<b>Consistent:</b> The proposed project would not exceed the water supply availability or wastewater management capabilities of existing facilities. Additionally, the project proposes the reuse and recycling of wastewater as well as the infiltration of treated wastewater to minimize water use as a result of the project.
<b>10.3 Water Conservation</b> - Promote the conservation and efficient use of water supplies.	<b>Consistent:</b> The project proposes to reduce water consumption by 30 percent from current standards through the reuse and recycling of wastewater for toilet flushing and irrigation purposes.
<b>10.4 Development of Water Supplies</b> – Promote the development of water supplies to serve: (1) agricultural uses, as the highest priority; (2) domestic uses; and (3) recreational uses.	<b>Consistent:</b> The primary source of domestic water supply would be the existing onsite agricultural well. It would be utilized for irrigation as needed, as well as the drinking water supply for the site.
<b>10.7 Park and Recreation Water Supplies</b> – To (a) encourage the provision of water supplies in park and recreation areas commensurate with the desired level of development; and (b) encourage coastal recreation and visitor serving facilities to provide drinking water.	<b>Consistent:</b> Potable water would be provided onsite.
<b>10.10 Water Suppliers in Urban Areas</b> - Consider water systems as the preferred method of water supply in urban areas. Discourage use of wells to serve urban uses. However, allow wells to serve urban uses when: <ul style="list-style-type: none"> <li>a. No water is available from a water system to serve the area,</li> <li>b. There is no threat to public health, safety or welfare presented by the cumulative effects of well drilling in the area, and</li> <li>c. The following is demonstrated:                             <ul style="list-style-type: none"> <li>(1) Water quality meets County and State standards;</li> <li>(2) The water flow meets County and State standards and is sufficient to meet the needs of the requested use; and</li> <li>(3) The well is a safe distance from potential sources of pollution and other existing wells.</li> </ul> </li> </ul>	<b>Consistent:</b> The project proposes to annex to the CCWD for provision of water to meet fire flow requirements and as emergency back-up supply for domestic needs. The project is not presently within the CCWD service area, and would require annexation approval by San Mateo County LAFCO. The primary source of domestic water supply would be the existing onsite agricultural well. It would be converted to provide potable water for the project, and would also continue to be used to supply a portion of irrigation needs. The water supply to the site would be provided consistent with County requirements regarding water quality and flow.
<b>10.13 Water Suppliers in Urban Areas</b> - Support efforts to improve water distribution and storage systems in unincorporated neighborhoods and communities.	<b>Consistent:</b> The project proposes to annex to the CCWD. The primary source of domestic water supply would be the existing onsite agricultural well. Well water would be provided consistent with County requirements regarding quality and flow.
<b>10.25 Efficient Water Use</b> – To (a) encourage the efficient use of water supplies through effective conservation methods; (b) require the use of water conservation devices in new structural development; (c) encourage exterior water conservation; and (d) encourage water conservation for agricultural uses by using efficient irrigation practices.	<b>Consistent:</b> The project proposes to reduce water consumption by 30 percent from current standards through the reuse and recycling of wastewater for toilet flushing and irrigation purposes.

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<b>10.26 Wastewater Reuse</b> – To (a) encourage the reuse and recycling of water whenever feasible; and (b) encourage the use of treated wastewater that meets applicable County and State health agency criteria.	<b>Consistent:</b> The project proposes to reduce water consumption by 30 percent from current standards through the reuse and recycling of wastewater for toilet flushing and irrigation purposes.
<b>Transportation Element (Chapter 12)</b>	
<b>12.8 Additional Capacity</b> - When providing additional capacity for automobile traffic where needed, give priority to upgrading and expanding existing roads before developing new road alignments.	<b>Consistent:</b> The project does not propose the development of new road alignments, only internal circulation driveways and access ways.
<b>12.10 Urban Road Improvements</b> - In urban areas, where improvements are needed due to safety concerns or congestion, support the construction of interchange and intersection improvements, additional traffic lanes, turning lanes, redesign of parking, channelization, traffic control signals, or other improvements.	<b>Consistent:</b> Mitigation Measure TRANS-1 proposes the signalization of the intersection of Highway 1 and Cypress Avenue.
<b>12.14 Financing Local Road Improvements</b> - Utilize all available techniques for funding local road improvements in unincorporated areas, including assessment districts, developer contributions, and County road funds. Ensure road improvements are consistent with adopted land use plans and area plans.	<b>Consistent:</b> Mitigation Measure TRANS-1 proposes the signalization of the intersection of Highway 1 and Cypress Avenue. The applicant would pay a fair share portion of the cost of implementation of this improvement.
<b>12.15 Local Circulation Policies</b> - In unincorporated communities, plan for providing: <ul style="list-style-type: none"> <li>▪ Maximum freedom of movement and adequate access to various land uses;</li> <li>▪ Improved streets, sidewalks, and bikeways in developed areas;</li> <li>▪ Minimal through traffic in residential areas;</li> <li>▪ Routes for truck traffic which avoid residential areas and are structurally designed to accommodate trucks;</li> <li>▪ Access for emergency vehicles;</li> <li>▪ Bicycle and pedestrian travel;</li> <li>▪ Access by physically handicapped persons to public buildings, shopping areas, hospitals, offices, and schools;</li> <li>▪ Routes and turnouts for public transit;</li> <li>▪ Parking areas for ridesharing;</li> <li>▪ Coordination of transportation improvement with adjacent jurisdictions.</li> </ul>	<b>Consistent:</b> The project proposes access for emergency vehicles. The project would also provide for pedestrian and bicycle facilities and bus stops for public transit as applicable. Furthermore, the project would be designed to be Americans with Disabilities Act (ADA) compliant.
<b>12.16 Local Road Standards</b> - Allow for modification of road standards for sub-areas of the County, which respond to local needs and conditions as identified in area plans.	<b>Consistent:</b> The project does not propose the development of new roads. Internal circulation driveways and access ways would be developed consistent with County standards.
<b>12.19 Parking Standards</b> - Review and update the County's off-street and on-street parking standards in order to reflect current conditions and requirements. Consider the needs of each individual land use, the potential for joint use of parking areas, fees in lieu of parking, spaces for smaller cars, and parking management strategies.	<b>Consistent:</b> All parking generated by the proposed project would be provided onsite and would follow County guidelines for onsite parking requirements or request an exception, and would be subject to design review by the Planning Director for approval. The project proposes to provide 640 parking spaces for the mixed-use Office Park development on the northern

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	parcel. According to the current County requirement, 737 parking spaces would be required on this portion of the site. If the County approves a parking space exception for low-density office use, the requirement would be reduced to 635 parking spaces.
<b>12.23 Sam Trans Service</b> - Encourage SamTrans to continue to work toward improving service levels on both local and mainline routes through reevaluation and expansion of routes, increased service to the Coastside, provision of more satellite parking facilities, and evaluation of smaller buses for local routes.	<b>Consistent:</b> The project proposes to develop bus stops and shuttle services for residents and visitors.
<b>12.30 Population Groups with Special Needs</b> - Encourage and support SamTrans and the Paratransit Coordinating Council to work toward meeting the transportation needs of the mobility impaired, the young, and the elderly.	<b>Consistent:</b> The project proposes to develop bus stops and shuttle services for residents and visitors.
<b>12.39 Pedestrian Paths</b> - Encourage the provision of safe and adequate pedestrian paths in new development connecting to activity centers, schools, transit stops, and shopping centers.	<b>Consistent:</b> The project proposes to develop sidewalks and islands within the site to accommodate pedestrian traffic, including a pedestrian path along the project frontage. In addition, onsite walkways and a trail system would provide circulation within the proposed Office Park and Wellness Center properties.
<b>Solid Waste Element (Chapter 13)</b>	
<b>13.1 Management of Solid Waste Disposal</b> - Provide management of solid waste in the most efficient and economical manner which will provide adequate services, protect the public health, prevent the creation of nuisances, reduce waste generation and provide for maximum resource recovery.	<b>Consistent:</b> The proposed project would comply with the California Integrated Waste Management Act, as well as the other applicable regulations in order to reduce, recycle, and reuse solid waste generated to the maximum extent feasible.
<b>13.4 Maximize Energy Conservation</b> - Manage solid waste in such a way as to maximize energy conservation.	<b>Consistent:</b> The proposed project would comply with the California Integrated Waste Management Act, as well as the other applicable regulations in order to reduce, recycle, and reuse solid waste generated to the maximum extent feasible.
<b>13.5 Minimize Dependence on Landfills</b> - Reduce to a minimum the dependence on landfills by promoting recycling, resource recovery and reduction of residential and commercial wastes.	<b>Consistent:</b> Mitigation Measure UTIL-11 requires a facility recycling program for the collection and loading of recyclable materials and the provision of adequate space or enclosures for recycling bins at appropriate locations to promote recycling of paper, metal, glass, and other recyclable material.
<b>13.10 Long-Term Landfill Disposal Capability</b> - Provide long-term landfill disposal capability for non-renewable wastes and residues from resource recovery operations.	<b>Consistent:</b> The proposed project would comply with the California Integrated Waste Management Act, as well as the other applicable regulations in order to reduce, recycle, and reuse solid waste generated to the maximum extent feasible. Mitigation Measure UTIL-11 requires a facility recycling program for the collection and loading of recyclable materials and the provision of adequate space or enclosures for recycling bins at appropriate locations to promote recycling of paper, metal, glass, and other recyclable material.

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<b>13.23 Promoting Curbside Recycling</b> - Promote the establishment of curbside recycling programs as a means to increase recycling.	<b>Consistent:</b> Mitigation Measure UTIL-11 requires a facility recycling program for the collection and loading of recyclable materials and the provision of adequate space or enclosures for recycling bins at appropriate locations to promote recycling of paper, metal, glass, and other recyclable material.
<b>13.25 Locating Rubbish Collection Points</b> - Consider permitting the placement of receptacles for recyclables within appropriate residential and commercial areas.	<b>Consistent:</b> Mitigation Measure UTIL-11 requires a facility recycling program for the collection and loading of recyclable materials and the provision of adequate space or enclosures for recycling bins at appropriate locations to promote recycling of paper, metal, glass, and other recyclable material.
<b>Housing Element (Chapter 14)</b>	
<b>14.1 Maintain and Improve Quality and Affordability of Existing Housing Stock</b> - Maintain and improve the quality and affordability of the existing housing stock in order to minimize the displacement of existing residents.	<b>Consistent:</b> The project proposes the development of 70 new residential units, 50 of which would be available to developmental disabled adults at below market-rates.
<b>14.2 Promote Sufficient Production of New Housing</b> - Promote sufficient production of new housing of affordable cost and diverse size to accommodate the housing needs of all persons who reside, work, or who can be expected to work or reside in the County.	<b>Consistent:</b> The project proposes the development of 70 new residential units, 50 of which would be available to developmental disabled adults at below market-rates. The units would range from one to four bedroom units as defined in Section III.
<b>14.3 Provide Housing Near Employment, Transportation, and Community Services</b> - Strive to provide housing in balanced residential environments that combine access to employment opportunities, transportation, childcare and other community services.	<b>Consistent:</b> The project proposes the development of 70 new residential units, as well as office and agricultural uses that would provide employment opportunities for residents.
<b>14.4 Ensure Equal Access to Housing</b> - Ensure that housing is equally available to all persons regardless of age, race, sex, sexual orientation, marital status, ethnic background, income, disability or other arbitrary factors.	<b>Consistent:</b> The project proposes housing specifically for developmentally disabled adults and support staff.
<b>14.19 Encourage New Housing Near Employment and Services</b> - Encourage the provision of housing near employment centers and/or where adequate infrastructure and services exist or can be provided. Identify these areas, as well as their potential for additional residential and mixed-use development in future planning studies and documents.	<b>Consistent:</b> The project proposes the development of 70 new residential units, as well as office and agricultural uses that would provide employment opportunities for residents.
<b>14.48 Expand Housing Choices by Increasing the Diversity of Housing Types</b> - Expand the housing choices for special needs groups by using techniques in this chapter to help increase the variety in location, size, type and price of housing available. Special needs groups include, but are not limited to, the elderly, disabled, youth, large families, households headed by single parents, farm laborers, and the homeless.	<b>Consistent:</b> The project proposes housing specifically for developmental disabled adults and support staff. Of the 70 new residential units, 50 would be available to developmental disabled adults at below market-rates. The units would range from one to four bedroom units as defined in Section III.
<b>14.49 Provide Affordable Housing Opportunities and Supportive Services for the Elderly or Disabled</b> - Provide affordable housing opportunities and supportive	<b>Consistent:</b> The project proposes housing specifically for developmental disabled adults and support staff. Of the 70 new residential units, 50 would be available to



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<p>services for the elderly and disabled through programs including, but not limited to: (a) the construction of new housing units, including those that may be developed through the second unit, inclusionary and density bonus programs; (b) rehabilitation and retrofit of existing units; (c) support for existing and development of new shared housing and group homes; (d) administration of supportive housing subsidies; and (e) support for existing and development of new supportive services.</p>	<p>developmental disabled adults at below market-rates. The units would range from one to four bedroom units as defined in Section III.</p>
<p><b>14.50 Promote Housing for the Elderly or Disabled in Appropriate Locations</b> - Promote the development of housing for the elderly or disabled in all appropriate locations. Consider the following as high priority locations for the development of housing for the elderly or disabled: (a) lands within urban areas that are located close to public transportation and other essential services such as stores, banks and medical facilities; and (b) lands that do not have major topographic constraints.</p>	<p><b>Consistent:</b> The project proposes housing specifically for developmental disabled adults and support staff. Of the 70 new residential units, 50 would be available to developmental disabled adults at below market-rates. The units would range from one to four bedroom units as defined in Section III.</p>
<b>Natural Hazards Element (Chapter 15)</b>	
<p><b>15.12 Locating New Development in Areas Which Contain Natural Hazards</b> – To (a) as precisely as possible, determine the areas of the County where development should be avoided or where additional precautions should be undertaken during review of development proposals due to the presence of natural hazards; (b) give preference to land uses that minimize the number of people exposed to hazards in these areas; (c) determine appropriate densities and development standards for new development proposed in these areas; and (d) require detailed analysis of hazard risk and design of appropriate mitigation when development is proposed in these areas.</p>	<p><b>Consistent:</b> Seismic hazards, including the potential for fault rupture, cyclic densification, liquefaction, lateral spreading, and sand boils are the primary natural hazards associated with the project site. Implementation of the identified mitigation measures in Section IV.F, Geology &amp; Soils, and compliance with applicable regulations would reduce project impacts related to natural hazards to less than significant.</p>
<b>Geotechnical Hazards</b>	
<p><b>15.19 Appropriate Land Uses and Densities in Geotechnical Hazard Areas</b> - In urban areas, consider higher density land uses that are compatible with the surrounding pattern of development to be appropriate if adequate site-specific review of geotechnical hazards has been undertaken and appropriate mitigation measures can feasibly be incorporated into development projects.</p>	<p><b>Consistent:</b> Refer to the consistency analysis for the County of San Mateo General Plan, Chapter 15, Natural Hazards, Policy No. 15.12.</p>
<p><b>15.20 Review Criteria for Locating Development in Geotechnical Hazard Areas</b> – To (a) avoid the siting of structures in areas where they are jeopardized by geotechnical hazards, where their location could potentially increase the geotechnical hazard, or where they could increase the geotechnical hazard to neighboring properties; (b) wherever possible, avoid construction in steeply sloping areas (generally above 30%); (c) avoid unnecessary construction of roads, trails, and other means of public access into or through</p>	<p><b>Consistent:</b> Refer to the consistency analysis for the County of San Mateo General Plan, Chapter 15, Natural Hazards, Policy No. 5.12. The project site is relatively flat and does not contain steeply sloping areas except for a relatively steep topography change at the western edge of the project site boundary, which approaches the marsh.</p>

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<p>geotechnical hazard areas; and (d) in extraordinary circumstances when there are no alternative building sites available, allow development in geotechnically hazardous and/or steeply sloping areas when appropriate structural design measures to ensure safety and reduce hazardous conditions to an acceptable level are incorporated into the project.</p>	
<b>Fire Hazard</b>	
<p><b>15.29 Review Criteria for Locating Development Outside of Fire Hazard Areas</b> - Insure that fire safety is adequately addressed in the review of new development proposed in unincorporated areas located outside of fire hazard areas through measures including but not limited to referral of proposals for development to appropriate fire protection agencies for conditions of approval.</p>	<p><b>Consistent:</b> The applicant will be required to submit building plans and plot plans to the County and Coastside Fire Protection District to provide appropriate fire hazard management recommendations for inclusion as project conditions of approval.</p>
<p><b>15.30 Standards for Water Supply and Fire Flow for New Development</b> – To (a) require connection to a public water system or private water company or provision of an onsite water supply as a condition of approval for any new development proposal; (b) determine the quantity of onsite water supply, fire flow requirements and spacing and installation of hydrants in accordance with the standards of the agency responsible for fire protection for the site proposed for development; and (c) consider the use of additional onsite fire protection devices including but not limited to the use of residential sprinkler systems and contracting the services of private alarm companies for development proposed in remote areas.</p>	<p><b>Consistent:</b> The project proposes to annex to the CCWD for provision of water to meet fire flow requirements and as emergency back-up supply for domestic needs. The project is not presently within the CCWD service area, and would require annexation approval by San Mateo County LAFCO. The primary source of domestic water supply would be the existing onsite agricultural well. It would be converted to provide potable water for the project, and would also continue to be used to supply a portion of irrigation needs. The water supply to the site would be provided consistent with County requirements regarding water quality and flow.</p>
<p><b>15.31 Standards for Road Access for Fire Protection Vehicles to New Development</b> – To (a) consider the adequacy of access for fire protection vehicles during review of any new development proposal; (b) determine the adequacy of access through evaluation of length of dead end roads, turning radius for fire vehicles, turnout requirements, road widths and shoulders and other road improvement considerations for conformance with the standards of the agency responsible for fire protection for the site proposed for development; and (c) to the maximum extent possible, design access for fire protection vehicles in a manner which will not result in unacceptable impacts on visual, recreational and other valuable resources.</p>	<p><b>Consistent:</b> Fire lanes, turning radii and back up space around buildings would be designed in cooperation with local officials so as to be adequate for emergency and fire equipment vehicles.</p>
<p><b>15.32 Street Signing</b> - Support efforts to identify all roads, streets and major public buildings in a manner so that they are clearly visible to fire protection and other emergency vehicles.</p>	<p><b>Consistent:</b> The project would provide signage as applicable.</p>
<p><b>15.33 Road Patterns</b> – To (a) ensure road patterns that facilitate access for fire protection vehicles and provide secondary access and emergency evacuation routes when reviewing proposals for new subdivisions; and (b)</p>	<p><b>Consistent:</b> The project does not propose the development of new roads. Internal circulation driveways and access ways would be developed consistent with County standards.</p>

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encourage fire protection agencies to identify emergency access and evacuation routes for existing developed areas and to provide this information to area residents.	
<b>15.34 Vegetative Clearance Around Structures</b> – To (a) require clearance of flammable vegetation around structures as a condition of approval to new development in accordance with the requirements of the agency responsible for fire protection; and (b) conduct periodic inspections to ensure maintenance of required clearances.	<b>Consistent:</b> The project does not propose flammable vegetation. The applicant will be required to submit building plans and plot plans to the County and Coastside Fire Protection District to provide appropriate fire hazard management recommendations for inclusion as project conditions of approval.
<b>15.35 Fire Retardant Vegetation</b> - Encourage the use of fire retardant vegetation when reviewing new development proposals.	<b>Consistent:</b> The project would include live vegetation that is maintained, and is therefore more resistant to fire.
<b>Man-Made Hazards Element (Chapter 16)</b>	
<i>Noise</i>	
<b>16.11 Regulate Distribution of Land Uses</b> - Regulate the distribution of land uses to attain noise compatibility. Measures may include preference toward locating: (1) noise sensitive land uses within quiet areas, removed from Noise Impact Areas, and (2) noise generating land uses separate from noise sensitive land uses.	<b>Consistent:</b> Construction and operational noise impacts associated with the proposed project were found to be either less than significant, or less than significant after mitigation.
<b>16.12 Regulate Noise Levels</b> - Regulate noise levels emanating from noise generating land uses through measures which establish maximum land use compatibility and nuisance thresholds.	<b>Consistent:</b> Construction and operational noise impacts associated with the proposed project were found to be either less than significant, or less than significant after mitigation.
<b>16.14 Noise Barriers Noise Control</b> - Promote measures which incorporate use of noise barriers into the design of new development, particularly within Noise Impact Areas. Noise barriers may include earth berms, walls, fencing, or landscaping.	<b>Consistent:</b> Construction and operational noise impacts associated with the proposed project were found to be either less than significant, or less than significant after mitigation.
<b>16.16 Construction Techniques Noise Control</b> - Promote measures which incorporate noise control into the construction of existing and new buildings, including, but not limited to, use of dense noise insulating building materials.	<b>Consistent:</b> Construction and operational noise impacts associated with the proposed project were found to be either less than significant, or less than significant after mitigation.
<b>16.17 Promote Transportation Related Noise Reduction</b> - Promote measures which reduce transportation related noise, particularly aircraft and vehicle noise, to enhance the quality of life within San Mateo County.	<b>Consistent:</b> Construction and operational noise impacts associated with the proposed project were found to be either less than significant, or less than significant after mitigation.
<i>Airport Safety</i>	
<b>16.41 Regulate Land Uses to Assure Airport Safety</b> - Regulate land uses surrounding airports to assure airport safety. Measures may include restrictions on permitted land uses and development review height criteria.	<b>Consistent:</b> A portion of the project is located within the Airport Overlay zone. Storage facilities are proposed within this zone, consistent with allowable uses. The structures proposed within the AO setback do not include residential uses or uses with three or more persons occupying the use at one time. These buildings would also have an approximately 20-foot setback from the Airport Street Right-of-Way (ROW) line.

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<b>16.42 Limit Land Uses at Ends of Runways</b> - Limit land uses in approach zones, clear zones and other areas of high accident potential at ends of airport runways to low intensity, nonstructural uses, including, but not limited to, agriculture, open space, and storage.	<b>Consistent:</b> Refer to the consistency analysis for the County of San Mateo General Plan, Chapter 16, Man-Made Hazards, Policy No. 16.41.
<b>16.43 Regulate Location and Height of Development Surrounding Airports</b> - Regulate development location and height in areas surrounding airport activities to protect air navigation requirements. Measures may include height criteria based upon an approach surface or other representative aircraft flight path.	<b>Consistent:</b> Refer to the consistency analysis for the County of San Mateo General Plan, Chapter 16, Man-Made Hazards, Policy No. 16.41. Mitigation Measure HAZ-3 provides for the provision of a navigational easement, to the satisfaction of the County Director of Public Works.
<b>MONTARA-MOSS BEACH-EL GRANADA COMMUNITY PLAN</b>	
<b>1.2 Design Characteristics</b> - Encourage good design in new construction which reflects the character, and is compatible with the scale of the neighborhood in which it is located.	<b>Consistent:</b> Building heights for the office park would not exceed 45 feet 6 inches in height, which is lower than the permitted building heights for the northern parcel, but taller than the adjacent homes to the north. Refer to the consistency analysis for the County of San Mateo General Plan, Chapter 4, Visual Quality, Policy No. 4.1.
<b>1.8 Housing</b> - Accommodate a variety of dwelling styles within an economic range that serves the housing needs of the community.	<b>Consistent:</b> The project proposes 70 new residential units, 50 would be available to developmental disabled adults at below market-rates. The units would range from one to four bedroom units as defined in Section III, Project Description.
<b>Land Use</b>	
<b>2.5 Location of Multi-Family Development</b> - Locate multiple-family development adjacent to commercial centers as a transition to single-family development.	<b>Consistent:</b> The proposed residential uses are located between commercial uses to the south and the single-family residences to the north.
<b>2.7 Commercial Development Buffers</b> - Buffer commercial areas from surrounding residential development with landscaping, fencing, and/or buildings designed for compatibility between these land uses.	<b>Consistent:</b> The project proposes landscaping and fencing to provide a buffer for the residential uses to the north. As discussed in Section IV.A, Aesthetics, impacts would be less than significant.
<b>2.11 Desired Industrial Uses</b> - Encourage industrial uses which are in accord with the stated objectives of the community: greenhouses, strawflower processing, fish processing, boat building, warehousing, and aviation related uses.	<b>Consistent:</b> The proposed project includes a native plant nursery and a wastewater treatment facility.
<b>2.12 Location of Industrial Development</b> – (a) Locate industrial development in areas where it will have the lowest impact on surrounding land uses and on the environment; and (b) Concentrate industrial development in areas adjacent to the Half Moon Bay Airport and Pillar Point Harbor.	<b>Consistent:</b> The proposed project is located adjacent to the Half Moon Bay Airport and in the vicinity of Pillar Point Harbor.
<b>Infrastructure</b>	
<b>3.1 Circulation System</b> - Develop a circulation system, and road standards for residential streets, which complement the small-town character of the community.	<b>Consistent:</b> The project proposes internal circulation driveways and access ways.
<b>3.21 Airport Development</b> - Development surrounding Half Moon Bay Airport is to be consistent with the goals and policies of the adopted ALUC Plan.	<b>Consistent:</b> Refer to the consistency analysis for the County of San Mateo General Plan, Chapter 16, Man-Made Hazards, Policy No. 16.41.

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<b>Housing</b>	
<b>4.1 Housing Design</b> - Build housing that relates to its physical setting, does not destroy the natural features of the land, and is compatible with the neighborhood scale and coastal character of the community.	<b>Consistent:</b> The housing associated with the proposed project would not destroy natural features and is considered to be generally compatible with the neighborhood scale and coastal character of the community.
<b>4.2 Development Incentives</b> - Provide incentives that will encourage the development of an adequate housing base designed to meet the needs of all residents in the community, especially those with low and moderate incomes.	<b>Consistent:</b> The project proposes 70 new residential units, 50 would be available to developmental disabled adults at below market-rates.
<b>4.4 Provision of Affordable Housing</b> - Provision of housing affordable by low and moderate income families should be a priority of new residential construction, particularly if government subsidies are available.	<b>Consistent:</b> The project proposes 70 new residential units, 50 would be available to developmental disabled adults at below market-rates.
<b>4.5 Development Incentives</b> - Incentivize development of lower income housing, such as through density bonuses and reduced parking requirements.	<b>Consistent:</b> The project proposes 70 new residential units, 50 would be available to developmental disabled adults at below market-rates.
<b>4.6 Innovative Housing Programs</b> - Consider innovative housing programs that require a proportion of all new units be provided for low and moderate income families.	<b>Consistent:</b> The project proposes 70 new residential units, 50 would be available to developmental disabled adults at below market-rates.
<b>Natural Resources</b>	
<b>5.1 Protection of Agriculture</b> - Protect and enhance prime agricultural and open space lands within the community and maintain the existing balance between urban and open lands.	<b>Consistent:</b> The project site is not comprised of prime agricultural land and is not designated open space. The project proposes to continue some agricultural activities as well as restore wetlands and provide trails.
<b>5.2 Preservation of Agriculture</b> - Maintain agricultural production in all viable areas and encourage the placement of prime agricultural soils in agricultural preserves (Williamson Act).	<b>Consistent:</b> The proposed project is not located on prime agricultural land nor is it in agricultural preserve under the Williamson Act, although it is capable of supporting agriculture, and agriculture operations would continue as part of the project in conjunction with the proposed recreational facilities The project site is not comprised of prime agricultural soils.
<b>5.3 Residential Development in Agricultural Areas</b> - Restrict residential development in areas of prime agricultural soils to development regulated to agricultural production.	<b>Consistent:</b> Refer to the consistency analysis for the Montara-Moss Beach-El Granada Community Plan, Natural Resources, Policy No. 5.2.
<b>5.4 Zoning of Agricultural Land</b> - Retain prime agricultural land in A-1 (Agriculture) or RM (Resource Management) zoning for protection against urban development.	<b>Consistent:</b> Refer to the consistency analysis for the Montara-Moss Beach-El Granada Community Plan, Natural Resources, Policy No. 5.2.
<b>5.5 Leasing of Prime Soils</b> - Sublease areas of prime soils within publicly owned parks and the Half Moon Bay Airport for agricultural production.	<b>Consistent:</b> Refer to the consistency analysis for the Montara-Moss Beach-El Granada Community Plan, Natural Resources, Policy No. 5.2.
<b>Visual Quality</b>	
<b>7.1 Preserving Community Character</b> - Preserve and enhance the visual qualities of the coastal community which give it a unique character and distinguish it from other places.	<b>Consistent:</b> Refer to the consistency analysis for the County of San Mateo General Plan, Chapter 4, Visual Quality, Policy No. 4.1.

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<b>Policy/Guideline</b>	<b>Project Consistency/Comments</b>
<b>7.2 Preserving Community Character</b> - To (a) maintain community character and ensure that new developments are compatible with existing homes in scale, size and design; and (b) maintain the small-town character of the area by preventing construction of massive structures out of scale with the community.	<b>Partially Consistent:</b> Building heights for the office park would not exceed 45 feet 6 inches in height, which is lower than the permitted building heights for the northern parcel, but taller than the adjacent homes to the north. Refer to the consistency analysis for the County of San Mateo General Plan, Chapter 4, Visual Quality, Policy No. 4.1.
<b>7.3 Preserving Natural Amenities</b> - Preserve the natural amenities of the community through the appropriate location of new structures designed to harmonize with their surroundings.	<b>Consistent:</b> Refer to the consistency analysis for the County of San Mateo General Plan, Chapter 4, Visual Quality, Policy No. 4.1.
<b>7.6 Protection of Scenic Vistas</b> - Preserve and protect scenic vistas of ocean, beaches, and mountains for residents of the community.	<b>Consistent:</b> As discussed in Section IV.A, the project would not obstruct coastal views and impacts would be less than significant.
<b>7.7 Tree Planting</b> - Encourage the planting of trees along streets and walkways.	<b>Consistent:</b> The project proposes extensive landscaping and trails throughout the site as well as the restoration of wetland and riparian areas.
<b>7.8 Preservation of Landforms and Vegetation</b> - Preserve existing landforms and vegetation.	<b>Consistent:</b> The project proposes restoration of wetland and riparian areas.
<b>COUNTY OF SAN MATEO LOCAL COASTAL PROGRAM</b>	
<b>Locating and Planning New Development</b>	
<b>1.1 Coastal Development Permits</b> - After certification of the LCP, require a Coastal Development Permit for all development in the Coastal Zone subject to certain exemptions.	<b>Consistent:</b> The project would obtain a Coastal Development Permit.
<b>1.18 Location of New Development</b> – (a) Direct new development to existing urban areas and rural service centers in order to: (1) discourage urban sprawl, (2) maximize the efficiency of public facilities, services, and utilities, (3) minimize energy consumption, (4) encourage the orderly formation and development of local governmental agencies, (5) protect and enhance the natural environment, and (6) revitalize existing developed areas; (b) concentrate new development in urban areas and rural service centers by requiring the “infilling” of existing residential subdivisions and commercial areas; (c) allow some future growth to develop at relatively high densities for affordable housing in areas where public facilities and services are or will be adequate and where coastal resources will not be endangered; and (d) require the development of urban areas on lands designated as agriculture and sensitive habitats in conformance with Agriculture and Sensitive Habitats Component policies.	<b>Consistent:</b> The project is proposed on two vacant parcels between existing development to the north, south, and east.
<b>1.24 Protection of Archaeological/Paleontological Resources</b> - Based on County Archaeology/Paleontology Sensitivity Maps, determine whether or not sites proposed for new development are located within areas containing potential	<b>Consistent:</b> An archaeological site (CA-SMA-151) was identified on the site. Mitigation Measures CULT-2a is proposed to either exclude the area of CA-SMA-151, or perform additional fieldwork to determine the integrity of the site. Mitigation would reduce impacts to less than

**Table IV.I-1  
County of San Mateo Regional and Local Requirements Consistency Analysis**

Policy/Guideline	Project Consistency/Comments
archaeological/paleontological resources. Prior to approval of development proposed in sensitive areas, require that a mitigation plan, adequate to protect the resource and prepared by a qualified archaeologist/paleontologist be submitted for review and approval and implemented as part of the project.	significant.
<b>Public Works</b>	
<p><b>2.48 Capacity Limits -</b></p> <ul style="list-style-type: none"> <li>Limit expansion of roadways to capacity which does not exceed that needed to accommodate commuter peak period traffic when buildout of the Land Use Plan occurs.</li> <li>Use the requirements of commuter peak period traffic as the basis for determining appropriate increases in capacity.</li> </ul>	<b>Consistent:</b> With implementation of Mitigation Measure TRANS-1, this intersection would operate at an acceptable level of service and impacts would be less than significant.
<p><b>2.49 Desired Level of Service -</b> In assessing the need for road expansion, consider Service Level D acceptable during commuter peak periods and Service Level E acceptable during recreation peak periods.</p>	<b>Consistent:</b> With implementation of Mitigation Measure TRANS-1, this intersection would operate at an acceptable level of service and impacts would be less than significant.
<p><b>2.52 Phase I Monitoring -</b> Monitor the number and rate of new residential construction, particularly in the rural Mid-Coast.</p>	<b>Consistent:</b> The project would provide for 70 new residential dwelling units. With implementation of Mitigation Measure TRANS-1, impacts associated with traffic would be less than significant.
<p><b>2.60 Increased Service for Coastside Residents -</b> Encourage SamTrans to expand bus service to and along the Coastside to improve transit service to Coastside residents.</p>	<b>Consistent:</b> The project proposes to develop bus stops and shuttle services for residents and visitors.
<b>Housing</b>	
<p><b>3.1 Sufficient Housing Opportunities -</b> Through both public and private efforts, protect, encourage and, where feasible, provide housing opportunities for persons of low and moderate income who reside, work or can be expected to work in the Coastal Zone.</p>	<b>Consistent:</b> The project proposes the development of 70 new residential units, 50 of which would be available to developmental disabled adults at below market-rates.
<p><b>3.2 Non-Discrimination -</b> Strive to ensure that decent housing is available for low and moderate income persons regardless of age, race, sex, marital status or other arbitrary factors.</p>	<b>Consistent:</b> The project proposes housing specifically for developmentally disabled adults and support staff.
<p><b>3.3 Balanced Developments -</b> Strive to provide such housing in balanced residential environments that combine access to employment, community facilities and adequate services.</p>	<b>Consistent:</b> The project proposes the development of 70 new residential units, as well as office and agricultural uses that would provide employment opportunities for residents in addition to recreational facilities.
<p><b>3.4 Diverse Housing Opportunities -</b> Strive to improve the range of housing choices, by location, type, price and tenure, available to persons of low and moderate income.</p>	<b>Consistent:</b> The project proposes the development of 70 new residential units, 50 of which would be available to developmental disabled adults at below market-rates.
<p><b>3.13 Maintenance of Community Character -</b> Require that new development providing significant housing opportunities for low and moderate income persons contribute to maintaining a sense of community character by being of compatible scale, size and design.</p>	<b>Consistent:</b> The project proposes the development of 70 new residential units, 50 of which would be available to developmental disabled adults at below market-rates. The residential buildings would not exceed three stories in height. As discussed in Section IV.A, Aesthetics,

**Table IV.I-1  
County of San Mateo Regional and Local Requirements Consistency Analysis**

Policy/Guideline	Project Consistency/Comments
Limit the height to two stories to mitigate the impact of this development on the surrounding neighborhoods. Assess negative traffic impacts and mitigate as much as possible.	aesthetic impacts to the residential uses to the north would be less than significant.
<b>Energy</b>	
<b>4.42 Alternative Energy Sources</b> - Encourage the development of non-polluting alternative energy resources including but not limited to co-generation, biomass, wind and solar.	<b>Consistent:</b> The project proposes the implementation of solar and wind facilities for the generation of electricity.
<b>Sensitive Habitats</b>	
<b>7.4 Permitted Uses in Sensitive Habitats</b> - To (a) permit only resource dependent uses in sensitive habitats. Resource dependent uses for riparian corridors, wetlands, marine habitats, sand dunes, sea cliffs and habitats supporting rare, endangered, and unique species shall be the uses permitted in Policies 7.9, 7.16, 7.23, 7.26, 7.30, 7.33, and 7.44, respectively, of the County Local Coastal Program on March 25, 1986; and (b) in sensitive habitats, require that all permitted uses comply with U.S. Fish and Wildlife and State Department of Fish and Game regulations.	<b>Consistent:</b> Refer to the consistency analysis for County of San Mateo General Plan, Chapter 1, Vegetative, Water, Fish and Wildlife Resources, Policy No. 1.2. The restored wetlands would extend both foraging and breeding habitat currently available in Pillar Point Marsh for project area special status species as well as provide a wider, protected movement corridor through the site.
<b>7.9 Permitted Uses in Riparian Corridors</b> - (a) Within corridors, permit only the following uses: (1) education and research, (2) consumptive uses as provided for in the Fish and Game Code and Title 14 of the California Administrative Code, (3) fish and wildlife management activities, (4) trails and scenic overlooks on public land(s), and (5) necessary water supply projects; and (b) when no feasible or practicable alternative exists, permit the following uses: (1) stream dependent aquaculture, provided that non-stream dependent facilities locate outside of corridor, (2) flood control projects, including selective removal of riparian vegetation, where no other method for protecting existing structures in the floodplain is feasible and where such protection is necessary for public safety or to protect existing development, (3) bridges when supports are not in significant conflict with corridor resources, (4) pipelines, (5) repair or maintenance of roadways or road crossings, (6) logging operations which are limited to temporary skid trails, stream crossings, roads and landings in accordance with State and County timber harvesting regulations, and (7) agricultural uses, provided no existing riparian vegetation is removed, and no soil is allowed to enter stream channels.	<b>Consistent:</b> Proposed uses within the restored riparian corridor would be limited to the allowable uses and include the proposed wetland trails on both the Office Park and Wellness Center properties.
<b>7.11 Establishment of Buffer Zones</b> – (a) On both sides of riparian corridors, from the “limit of riparian vegetation” extend buffer zones 50 feet outward for perennial streams and 30 feet outward for intermittent streams; (b) where no riparian vegetation exists along both sides of riparian corridors, extend buffer zones 50	<b>Consistent:</b> The project includes a 100-foot buffer planted as a riparian corridor and uplands coastal scrub/shrub between the proposed development and the proposed riverine wetland ecosystem restoration area.



**Table IV.I-1  
County of San Mateo Regional and Local Requirements Consistency Analysis**

Policy/Guideline	Project Consistency/Comments
<p>feet from the predictable high water point for perennial streams and 30 feet from the midpoint of intermittent streams; and (c) along lakes, ponds, and other wet areas, extend buffer zones 100 feet from the high water point except for manmade ponds and reservoirs used for agricultural purposes for which no buffer zone is designated.</p>	
<p><b>7.16 Permitted Uses in Wetlands</b> - Within wetlands, permit only the following uses: (1) nature education and research, (2) hunting, (3) fishing, (4) fish and wildlife management, (5) mosquito abatement through water management and biological controls; however, when determined to be ineffective, allow chemical controls which will not have a significant impact, (6) diking, dredging, and filling only as it serves to maintain existing dikes and an open channel at Pescadero Marsh, where such activity is necessary for the protection of pre-existing dwellings from flooding, or where such activity will enhance or restore the biological productivity of the marsh, (7) diking, dredging, and filling in any other wetland only if such activity serves to restore or enhance the biological productivity of the wetland, (8) dredging manmade reservoirs for agricultural water supply where wetlands may have formed, providing spoil disposal is planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation, and (9) incidental public service purposes, including, but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.</p>	<p><b>Consistent:</b> Proposed uses within the restored wetlands would be limited to the allowable uses and include the proposed wetland trails on both the Office Park and Wellness Center properties.</p>
<p><b>7.18 Establishment of Buffer Zones</b> - Buffer zones shall extend a minimum of 100 feet landward from the outermost line of wetland vegetation. This setback may be reduced to no less than 50 feet only where (1) no alternative development site or design is possible; and (2) adequacy of the alternative setback to protect wetland resources is conclusively demonstrated by a professional biologist to the satisfaction of the County and the State Department of Fish and Game. A larger setback shall be required as necessary to maintain the functional capacity of the wetland ecosystem.</p>	<p><b>Consistent:</b> The project includes a 100-foot buffer planted as a riparian corridor and uplands coastal scrub/shrub between the proposed development and the proposed riverine wetland ecosystem restoration area.</p>
<p><b>7.36 San Francisco Garter Snake</b> - (a) Prevent any development where there is known to be a riparian or wetland location for the San Francisco garter snake with the following exceptions: (1) existing manmade impoundments smaller than one-half acre in surface, and (2) existing manmade impoundments greater than one-half acre in surface providing mitigation measures are taken to prevent disruption of no more than one half of the snake's known habitat in that location in accordance with recommendations from the State Department of</p>	<p><b>Consistent:</b> The San Francisco Garter Snake has been documented in the vicinity of the project site and has moderate potential to occur on the site. Mitigation Measure BIO-1a is proposed to reduce potential impacts to this species to less than significant.</p>

**Table IV.I-1  
County of San Mateo Regional and Local Requirements Consistency Analysis**

Policy/Guideline	Project Consistency/Comments
Fish and Game; and (b) require developers to make sufficiently detailed analyses of any construction which could impair the potential or existing migration routes of the San Francisco garter snake. Such analyses will determine appropriate mitigation measures to be taken to provide for appropriate migration corridors.	
<b>7.49 California Wild Strawberry</b> - Require any development, within one-half mile of the coast, to mitigate against the destruction of any California wild strawberry in one of the following ways: (a) prevent any development, trampling, or other destructive activity which would destroy the plant, or (b) after determining specifically if the plants involved are of particular value, successfully transplant them or have them successfully transplanted to some other suitable site. Determination of the importance of the plants can only be made by a professional doing work in strawberry breeding.	<b>Consistent:</b> The California Wild Strawberry was not identified on the project site.
<b>Visual Resources</b>	
<b>8.6 Streams, Wetlands, and Estuaries</b> - (a) Set back development from the edge of streams and other natural waterways a sufficient distance to preserve the visual character of the waterway; (b) prohibit structural development which will adversely affect the visual quality of perennial streams and associated riparian habitat, except for those permitted by Sensitive Habitats Component Policies; (c) retain the open natural visual appearance of estuaries and their surrounding beaches; and (d) retain wetlands intact except for public accessways designed to respect the visual and ecological fragility of the area and adjacent land.	<b>Consistent:</b> The project includes a 100-foot buffer planted as a riparian corridor and uplands coastal scrub/shrub between the proposed development and the proposed riverine wetland ecosystem restoration area.
<b>8.10 Vegetative Cover</b> - Replace vegetation removed during construction with plant materials (trees, shrubs, ground cover) which are compatible with surrounding vegetation and is suitable to the climate, soil, and ecological characteristics of the area.	<b>Consistent:</b> The project proposes extensive landscaping throughout the site as well as the restoration of wetland and riparian areas.
<b>8.15 Coastal Views</b> - Prevent development (including buildings, structures, fences, unnatural obstructions, signs, and landscaping) from substantially blocking views to or along the shoreline from coastal roads, roadside rests and vista points, recreation areas, trails, coastal accessways, and beaches.	<b>Consistent:</b> As discussed in Section IV.A, the project would not obstruct coastal views and impacts would be less than significant.
<b>8.16 Landscaping</b> – (a) Use plant materials to integrate the man-made and natural environments and to soften the visual impact of new development; and (b) protect existing desirable vegetation. Encourage, where feasible, that new planting be common to the area.	<b>Consistent:</b> The project proposes extensive landscaping throughout the site as well as the restoration of wetland and riparian areas.
<b>8.19 Colors and Materials</b> – (a) Employ colors and materials in new development which blend, rather than contrast, with the surrounding physical conditions of the site; and (b) prohibit highly reflective surfaces and colors except those of solar energy devices.	<b>Consistent:</b> The building finishes are proposed to be stucco/concrete in pale neutrals and colors, including: reddish beige and ivory. Metal roofs would be colonial red and hemlock green, with a matte finish. The proposed palette is shown in Figure III-14, Office Park

**Table IV.I-1  
County of San Mateo Regional and Local Requirements Consistency Analysis**

Policy/Guideline	Project Consistency/Comments
	Exterior Finishes and Figure III-22, Wellness Center Exterior Finishes. The chosen color palette is anticipated to blend with the surrounding area and is subject to Design Review approval, which will evaluate compliance with a similar policy.
<b>8.20 Scale</b> - Relate structures in size and scale to adjacent buildings and landforms.	<b>Inconsistent:</b> The proposed buildings would be larger in height and scale than adjacent uses.
<b>8.21 Commercial Signs</b> – (a) Prohibit off-premise commercial signs except for seasonal temporary agricultural signs; (b) design on-premise commercial signs as an integral part of structure they identify and which do not extend above the roof line; (c) prohibit brightly illuminated colored, rotating, reflective, blinking, flashing or moving signs, pennants, or streamers; and (d) design and minimize information and direction signs to be simple, easy-to-read, and harmonize with surrounding elements.	<b>Consistent:</b> Signage would be implemented in accordance with applicable regulations.
<b>Hazards</b>	
<b>9.10 Geological Investigation of Building Sites</b> - Require the County Geologist or an independent consulting certified engineering geologist to review all building and grading permits in designated hazardous areas for evaluation of potential geotechnical problems and to review and approve all required investigations for adequacy. As appropriate and where not already specifically required, require site specific geotechnical investigations to determine mitigation measures for the remedy of such hazards as may exist for structures of human occupancy and/or employment other than those considered accessory to agriculture as defined in Policy 5.6.	<b>Consistent:</b> All mitigations and final design recommendations associated with geology and soils would be reviewed and approved by the County prior to issuance of applicable permits per Mitigation Measure GEO-8.
<b>Recreation/Visitor-Serving Facilities</b>	
<b>11.4 Recreation and Visitor-Serving Facilities Permitted in the Coastal Zone</b> - Permit the following facilities in the Coastal Zone: (1) necessary visitor-serving facilities as defined in Policy 11.1, and (2) commercial recreation and public recreation facilities which (a) are designed to enhance public opportunities for coastal recreation, (b) do not substantially alter the natural environment, and (c) do not subvert the unique small town, rural character of the individual communities on the Coastside.	<b>Consistent:</b> The project would provide public recreation in the form of onsite walkways/trails, recreation/ common area facilities, and wetlands restoration.
<b>11.7 Urban Areas</b> – (a) Permit visitor-serving and commercial recreation facilities to locate within enclosed buildings in areas designated as Coastside Commercial Recreation and Neighborhood Commercial; and (b) permit public recreation facilities in urban areas.	<b>Consistent:</b> The project would provide public recreation in the form of onsite walkways/trails, recreation/ common area facilities, and wetlands restoration.
<b>11.10 Upland Locations in Urban and Rural Areas</b> - Permit uses which are consistent with Policy 11.4, but do not meet the criteria for location on oceanfront land	<b>Consistent:</b> The proposed North Trail would be available to the public and would run along the northern portion of the Office Park property and would connect to

**Table IV.I-1  
County of San Mateo Regional and Local Requirements Consistency Analysis**

Policy/Guideline	Project Consistency/Comments
to locate in upland areas. Encourage them to connect to the shoreline by bicycle path or trail.	the wetlands trail as well as to existing trails in the headlands, which provide coastal access.
<p><b>11.14 Public Recreational Facilities</b> – (a) Use the locational and development standards included throughout this component, the Agriculture Component and the applicable standards and planning and management guidelines of the <u>County’s Parks and Recreation Element</u> (contained in Appendix 11.A) as the development and management standards for public recreation facilities, including trails. LCP policies must predominate if there are conflicts. Seek any modifications in the classification of State Park Units which will conform their purposes and uses more closely to the policies of the LCP; and (b) use development standards of this component, the <u>County’s Parks and Recreation Element</u> standards and the criteria for trail development management contained in Appendix 11.A when constructing trails. When the route of a bike path in the County’s Bikeways Plan corresponds to the route of a trail included in the LCP trail program, construct the trail to accommodate both bicycle and pedestrian use, wherever possible.</p>	<p><b>Consistent:</b> Development of trails and recreational facilities on the project site would be completed consistent with applicable regulations.</p>
<p><b>11.15 Private Recreation and Visitor-Serving Facilities</b> - (a) Require that private recreation and visitor-serving facilities conform to: (1) the development and locational standards included throughout this component and as referred in other components, and (2) the design standards of the Visual Resources Component; and (b) require that private recreation and visitor-serving facilities conform to the intensities of use appropriate to the rural or urban setting and to the requirements of the individual site. In rural areas, visitor-serving uses shall require density credits based on daily water use in accordance with the requirements set forth in Local Coastal Program Policy 1.8.</p>	<p><b>Consistent:</b> Development of trails and recreational facilities on the project site would be completed consistent with applicable regulations. Consistency with the Visual Resources Component is discussed above.</p>
<p><b>11.17 Parking</b> - Use the parking standards contained in the Shoreline Access Component (Policy 10.22) and Chapter 3 of the Zoning Ordinance.</p>	<p><b>Consistent:</b> All parking generated by the proposed project would be provided onsite and would follow County guidelines for onsite parking requirements or request an exception, and would be subject to design review.</p>
<p><b>11.18 Sensitive Habitats</b> - Provide improvements and management adequate to protect sensitive habitats. These may include, but are not limited to, the following: (1) informative displays, brochures, and signs to minimize public intrusion and impact, (2) organized tours of sensitive areas, (3) landscaped buffers or fences and (4) staff to maintain improvements and manage the use of sensitive habitats.</p>	<p><b>Consistent:</b> Refer to the consistency analysis for the County of San Mateo General Plan, Chapter 1, Vegetative, Water, Fish and Wildlife Resources, Policy No. 1.2.</p>
<p><b>11.20 Utilities</b> - Require that sites for permitted recreation or visitor-serving facilities have or develop access to a public road in conformance with the policies</p>	<p><b>Consistent:</b> The project proposes access to Airport Street, a public road, via proposed driveways.</p>

**Table IV.I-1  
County of San Mateo Regional and Local Requirements Consistency Analysis**

<b>Policy/Guideline</b>	<b>Project Consistency/Comments</b>
of the Sensitive Habitats, Scenic Resources, and Hazards Components.	
<i>Source: San Mateo County General Plan Elements, Compiled by Christopher A. Joseph &amp; Associates.</i>	

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### J. NOISE

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#### INTRODUCTION

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential noise and groundborne vibration impacts associated with the implementation of the proposed Big Wave Wellness Center and Office Park project (“proposed project”). The purpose of this analysis is twofold: (1) to evaluate the project in terms of its design to ensure that noise levels at the project site will not exceed standards adopted by the County of San Mateo; and (2) to evaluate the noise and groundborne vibration impacts of the project on the surrounding (offsite) areas.

#### Fundamentals of Sound and Environmental Noise

Sound is technically described in terms of amplitude (loudness) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB). The decibel scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Since the human ear is not equally sensitive to a given sound level at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) provides this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Noise is typically defined as unwanted sound. A typical noise environment consists of a base of steady ambient noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources, such as an occasional aircraft or train passing by to virtually continuous noise sources like traffic on a major highway. Table IV.J-1 below illustrates representative noise levels in the environment.

**Table IV.J-1  
Representative Environmental Noise Levels**

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	—110—	Rock Band
Jet Fly-over at 100 feet		
	—100—	
Gas Lawnmower at 3 feet		
	—90—	
		Food Blender at 3 feet
Diesel Truck going 50 mph at 50 feet	—80—	Garbage Disposal at 3 feet
Noisy Urban Area during Daytime		
Gas Lawnmower at 100 feet	—70—	Vacuum Cleaner at 10 feet
Commercial Area		Normal Speech at 3 feet
Heavy Traffic at 300 feet	—60—	
		Large Business Office
Quiet Urban Area during Daytime	—50—	Dishwasher in Next Room

**Table IV.J-1  
Representative Environmental Noise Levels**

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Quiet Urban Area during Nighttime	—40—	Theater, Large Conference Room (background)
Quiet Suburban Area during Nighttime	—30—	Library
Quiet Rural Area during Nighttime	—20—	Bedroom at Night, Concert Hall (background)
	—10—	Broadcast/Recording Studio
	—0—	Lowest Threshold of Human Hearing
Lowest Threshold of Human Hearing	—0—	Lowest Threshold of Human Hearing
<i>Source: California Department of Transportation, Technical Noise Supplement, October 1998.</i>		

Several rating scales have been developed to analyze the adverse effect of community noise on people. Since environmental noise fluctuates over time, these scales consider that the effect of noise upon people is largely dependent upon the total acoustical energy content of the noise, as well as the time of day when the noise occurs. Those that are applicable to this analysis are as follows:

- $L_{eq}$  – The equivalent energy noise level is the average acoustic energy content of noise for a stated period of time. Thus, the  $L_{eq}$  of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
- $L_{min}$  – The minimum instantaneous noise level experienced during a given period of time.
- $L_{max}$  – The maximum instantaneous noise level experienced during a given period of time.
- CNEL – The Community Noise Equivalent Level is a 24-hour average  $L_{eq}$  with a 10 dBA “penalty” added to noise during the hours of 10:00 P.M. to 7:00 A.M., and an additional 5 dBA penalty during the hours of 7:00 P.M. to 10:00 P.M. to account for noise sensitivity in the evening and nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour  $L_{eq}$  would result in a measurement of 66.7 dBA CNEL.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day, night, or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60–70 dBA range, and high above 70 dBA. Noise levels greater than 85 dBA can cause temporary or permanent hearing loss. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet suburban residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate level noise environments are urban residential or semi-commercial areas (typically 55–60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with more noisy urban residential or residential-commercial areas (60–75 dBA) or dense urban or industrial areas (65–80 dBA).



When evaluating changes in 24-hour community noise levels, a difference of 3 dBA is a barely perceptible increase to most people. A 5 dBA increase is readily noticeable, while a difference of 10 dBA would be perceived as a doubling of loudness.

Noise levels from a particular source decline as distance to the receptor increases. Other factors, such as the weather and reflecting or shielding, also help intensify or reduce the noise level at any given location. A commonly used rule of thumb for roadway noise is that for every doubling of distance from the source, the noise level is reduced by about 3 dBA at acoustically “hard” locations (i.e., the area between the noise source and the receptor is nearly complete asphalt, concrete, hard-packed soil, or other solid materials) and 4.5 dBA at acoustically “soft” locations (i.e., the area between the source and receptor is earth or has vegetation, including grass). Noise from stationary or point sources is reduced by about 6 to 7.5 dBA for every doubling of distance at acoustically hard and soft locations, respectively. Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA. The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer homes is generally more than 30 dBA.

### **Fundamentals of Environmental Groundborne Vibration**

Vibration is sound radiated through the ground. Vibration can result from a source (e.g., train operations, motor vehicles, machinery equipment, etc.) causing the adjacent ground to move, thereby, creating vibration waves that propagate through the soil to the foundations of nearby buildings. This effect is referred to as groundborne vibration. The peak particle velocity (PPV) or the root mean square (RMS) velocity is usually used to describe vibration levels. PPV is defined as the maximum instantaneous peak of the vibration level, while RMS is defined as the square root of the average of the squared amplitude of the level. PPV is typically used for evaluating potential building damage, while RMS velocity in decibels (VdB) is typically more suitable for evaluating human response.

The background vibration velocity level in residential and commercial areas is usually around 50 VdB. The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people. Most perceptible indoor vibration is caused by sources within buildings, such as operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings.

The general human response to different levels of groundborne vibration velocity levels is described below in Table IV.J-2.

**Table IV.J-2  
Human Response to Different Levels of Groundborne Vibration**

<b>Vibration Velocity Level</b>	<b>Human Reaction</b>
65 VdB	Approximate threshold of perception for many people.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.

*Source: Harris Miller Miller & Hanson, Transit Noise and Vibration Impact Assessment, May 2006.*

## **METHODOLOGY**

The potential noise and groundborne vibration impacts associated with the implementation of the project are evaluated using noise level measurements, noise prediction modeling, and empirical observations. The existing (ambient) daytime noise levels within and around the project site were measured using a Larson Davis 820 precision sound level meter, which satisfies the American National Standards Institute (ANSI) for general environmental noise measurement instrumentation. Sources of construction related noise and groundborne vibration, which include construction equipment and various construction activities, were estimated using information provided by the United States Environmental Protection Agency (U.S. EPA) and the Federal Transit Administration (FTA). Noise modeling procedures involved the calculation of existing and future vehicular noise levels along individual roadway segments in the site vicinity. This task was accomplished using the Federal Highway Administration (FHWA) Highway Noise Prediction Model (FHWA-RD-77-108) and traffic volumes presented in Section IV.M, Transportation/Traffic of this DEIR. The FHWA Model was used to evaluate future noise levels along roadway segments in the vicinity that would be primarily affected by traffic generated by the project. This model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (energy rates) utilized in the FHWA Model have been modified to reflect average vehicle noise rates identified for California by Caltrans. The Caltrans data show that California automobile noise is 0.8 to 1.0 dBA higher than national levels and that medium and heavy truck noise is 0.3 to 3.0 dBA lower than national levels.

## **ENVIRONMENTAL SETTING**

### **Nearby Sensitive Receptors**

Sensitive receptors are populations that are more susceptible to the effects of noise and vibration than others, such as the elderly and children. Locations that may contain high concentrations of sensitive receptors include long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, child care centers, and libraries. The nearest sensitive receptors to the project site are the residents in the El Granada Mobile Home Park located to the immediate north of the site.

## Existing Conditions

### *Ambient Daytime Noise Levels*

Existing daytime noise levels were measured at five locations within and in the immediate vicinity of the project site. At each of these locations, the microphone was placed at a height of approximately five feet above the local grade and the sound level meter was programmed to record the average sound levels over a cumulative period of 15 minutes. The average noise levels and sources of noise measured at these locations are shown in Table IV.J-3, with the locations identified in Figure IV.J-1. Although other noise sources occur in the vicinity, vehicular traffic on Airport Street and aircraft activity at Half Moon Bay Airport are the primary sources of noise at, and around, the project site.

**Table IV.J-3  
Existing Daytime Noise Levels at Sensitive Offsite Locations**

Noise Measurement Location	Primary Noise Sources	Noise Level Statistics		
		L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>
1. Southeast corner of site, along Airport Street (north of Stanford Ave.)	Birds chirping; sparse vehicular traffic on Airport Street; aircraft overhead	64.6	49.2	83.3
2. Along Airport Street (opposite side of the street from the project site), north of W. Point Ave.	Sparse vehicular traffic on Airport Street; sprinklers	61.9	50.2	78.3
3. Corner of El Granada Mobile Park Home Entrance and Airport Street	Sparse vehicular traffic on Airport Street, aircraft overhead	64.5	54.1	86.7
4. El Granada Mobile Home Park, Barranca Lane	Birds chirping, background plane noise	57.4	45.8	70.5
5. El Granada Mobile Home Park, corner of Barranca Lane and Codo Lane	Sparse vehicular traffic on Barranca Lane, dogs barking, background aircraft noise	57.1	46.4	72.4

*Source: Christopher A Joseph & Associates, 2009. Noise measurement data are provided in Appendix I of this DEIR.*

### *Existing Airport and Roadway Noise Levels*

Half Moon Bay Airport is located northeast of the project site, directly across Airport Street. The airport is home to approximately 80 aircraft and several aviation related businesses. In addition, this airport provides a variety of emergency service and response functions including: Air-Ambulance and Medivac flights; law enforcement and homeland security patrols; Coast Guard sea-rescue operations; and use as a disaster relief staging site for the airlifting of emergency supplies. In an effort to reduce the airport's potential noise impact on nearby uses, the following noise abatement procedures have been implemented:<sup>1</sup>

- No intersection takeoffs.
- No turns until reaching 500' MSL.

<sup>1</sup> *Half Moon Bay – Noise Abatement Procedures brochure, 1992.*

- Reduce power/rpm as soon as safe and practical.
- Pattern work, especially touch-and-goes, is discouraged at night and on weekend and holiday mornings.
- No stop and goes.
- Fly Right Traffic for Runway 30 and Left Traffic for Runway 12.
- Avoid flying over Seton-Coastside Hospital, located just North of the airport.
- Maintain pattern altitude (1000' MSL) until necessary to descend for landing.
- Avoid flying over homes whenever possible.
- No straight-in arrivals.
- Arrivals from the west fly overhead the airport at or above 1,500 MSL; continue outbound until clear of the traffic pattern and make a normal 45° entry into the downwind leg at 1000' MSL.
- Aircraft over 12,500 pounds prohibited without prior approval from the airport manager.
- Use common sense and be considerate to airport neighbors.

According to the San Mateo County Comprehensive Airport Plan (1981) and the Noise Element of the San Mateo County General Plan, noise levels associated with operations at Half Moon Bay Airport are less than 60 dBA CNEL at the project site.

Within the vicinity of the project site, existing ambient noise levels were calculated for the study-area roadway segments that have existing sensitive receptors located along their frontage. The roadway segments selected for analysis are those that are expected to be most directly impacted by project-related traffic, which is based on the information provided in Section IV.M, Transportation/Traffic of this DEIR. The average daily noise levels along these roadway segments are presented in Table IV.J-4.



**Table IV.J-4  
Existing (2009) Roadway and Airport Noise Levels at Location Offsite**

<b>Roadway</b>	<b>Roadway Segment</b>	<b>Existing Land Uses Located Along Roadway Segment</b>	<b>dBA CNEL<sup>a</sup></b>
Cabrillo Highway (SR 1)	Between Cypress Ave and Capistrano Rd (north)	Residential	70.0 <sup>b</sup>
	Between Capistrano Rd (north) and Capistrano Rd (south)	Residential	69.3
	North of Cypress Ave	Residential	70.0 <sup>b</sup>
	South of Capistrano Rd (south)	Residential	69.8
Airport Street	Between Los Banos Ave and La Granada Ave	Residential	62.0 <sup>b</sup>
	Between La Granada Ave and Stanford Ave	Residential	61.8 <sup>b</sup>
	North of Los Banos Ave	Residential	61.0 <sup>b</sup>
<sup>a</sup> Values represent noise levels at 50 feet from the centerline of each roadway.			
<sup>b</sup> Includes noise levels from aircraft operations at Half Moon Bay Airport.			
Source: Christopher A. Joseph & Associates, 2009. Calculation data and results provided in Appendix I of this DEIR.			

### **Groundborne Vibration Levels**

The only sources of groundborne vibration in the vicinity of the project site are heavy-duty vehicular travel (e.g., refuse trucks, delivery trucks, and transit buses) on local roadways and the occasional small aircraft at the Half Moon Bay Airport. Trucks and buses typically generate groundborne vibration velocity levels of around 63 VdB, and these levels could reach 72 VdB where trucks and buses pass over bumps in the road.<sup>2</sup> In terms of PPV levels, a heavy-duty vehicle traveling at a distance of 50 feet can result in a vibration level of approximately 0.001 inch per second.

## **REGULATORY SETTING**

### **Federal**

There are no federal standards that are applicable to the proposed project.

### **State**

Title 24 of the California Code of Regulations codifies Sound Transmission Control requirements, which establishes uniform minimum noise insulation performance standards for new residential dwelling units, hotels, motels, and dormitories. The noise limit is a maximum interior noise level of 45 dBA CNEL.

<sup>2</sup> Harris Miller Miller & Hanson, *Transit Noise and Vibration Impact Assessment*, May 2006.

Where exterior noise levels exceed 60 dBA CNEL, a report must be submitted with the building plans describing the noise control measures that have been incorporated into the design of the project to meet the interior noise limit.

## Local

### *San Mateo County General Plan*

The California Government Code requires that a noise element be included in the general plan of each county and city in the state. Each local government's goals, objectives, and policies for noise control are established by the noise element of the general plan and the passage of specific noise ordinances.

The Noise Element of the San Mateo County General Plan takes into consideration the Land Use Compatibility Guidelines established by the California Department of Health Services in the State of California General Plan Guidelines.<sup>3</sup> These guidelines for land use and noise exposure compatibility are shown in Table IV.J-5.

The following policies from the Noise Element of the San Mateo County General Plan are applicable to this project:

#### 16.11 Regulate Distribution of Land Uses

- Regulate the distribution of land uses to attain noise compatibility. Measures may include preference toward locating: (1) noise sensitive land uses within quiet areas, removed from Noise Impact Areas, and (2) noise generating land uses separate from noise sensitive land uses.

#### 16.12 Regulate Noise Levels

- Regulate noise levels emanating from noise generating land uses through measures which establish maximum land use compatibility and nuisance thresholds.

#### 16.14 Noise Barriers Noise Control

- Promote measures which incorporate use of noise barriers into the design of new development, particularly within Noise Impact Areas. Noise barriers may include earth berms, walls, fencing, or landscaping.

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<sup>3</sup> *Office of Planning and Research, State of California General Plan Guidelines, October 2003 (in coordination with the California Department of Health Services).*

16.16 Construction Techniques Noise Control

- Promote measures which incorporate noise control into the construction of existing and new buildings, including, but not limited to, use of dense noise insulating building materials.

16.17 Promote Transportation Related Noise Reduction

- Promote measures which reduce transportation related noise, particularly aircraft and vehicle noise, to enhance the quality of life within San Mateo County.

**Table IV.J-5  
Land Use Compatibility Guidelines**

Land Use	Noise Levels in dBA CNEL			
	Normally Acceptable <sup>a</sup>	Conditionally Acceptable <sup>b</sup>	Normally Unacceptable <sup>c</sup>	Clearly Unacceptable <sup>d</sup>
Single-family, Duplex, Mobile Homes	50 - 60	55 - 70	70 - 75	above 75
Multi-Family Homes	50 - 65	60 - 70	70 - 75	above 75
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 - 70	60 - 70	70 - 80	above 80
Transient Lodging – Motels, Hotels	50 - 65	60 - 70	70 - 80	above 75
Auditoriums, Concert Halls, Amphitheaters	–	50 - 70	–	above 70
Sports Arena, Outdoor Spectator Sports	–	50 - 75	–	above 75
Playgrounds, Neighborhood Parks	50 - 70	–	67 - 75	above 75
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 - 75	–	70 - 80	above 80
Office Buildings, Business and Professional Commercial	50 - 70	67 - 77	above 75	–
Industrial, Manufacturing, Utilities, Agriculture	50 - 75	70 - 80	above 75	–

<sup>a</sup> *Normally Acceptable:* Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.

<sup>b</sup> *Conditionally Acceptable:* New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

<sup>c</sup> *Normally Unacceptable:* New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

<sup>d</sup> *Clearly Unacceptable:* New construction or development should generally not be undertaken.

Source: Office of Planning and Research, State of California General Plan Guidelines, October 2003 (in coordination with the California Department of Health Services).

**San Mateo County Ordinance Code**

In order to control unnecessary and excessive noise in the incorporated and unincorporated portions of the County of San Mateo, the Board of Supervisors approved the noise provisions as outlined in Chapter 4.88 (Noise Control) in the San Mateo County Ordinance Code. The sections of Chapter 4.88 that are applicable to this project are as follows:



*Section 4.88.330 Exterior Noise Standards:* It is unlawful for any person at any location within the unincorporated area of the County to create any noise, or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person which causes the exterior noise level when measured at any single or multiple family residence, school, hospital, church, public library situated in either the incorporated or unincorporated area to exceed the noise level standards as set forth in Table IV.J-6:

**Table IV.J-6  
Noise Level Standards (dBA) for Single or Multiple Family Residence,  
School, Hospital, Church, or Public Library Properties**

Category	Cumulative Number of Minutes in any one hour time period	Daytime 7 A.M.–10 P.M.	Nighttime 10 P.M.–7 A.M.
1	30	55	50
2	15	60	55
3	5	65	60
4	1	70	65
5	0	75	70

*In the event the measured background noise level exceeds the applicable noise level standard in any category above, the applicable standard shall be adjusted in five (5) dBA increments so as to encompass the background noise level.*

*Section 4.88.340 Interior Noise Standards:* No person shall, at any location within the unincorporated area of the County operate, or cause to be operated within a dwelling unit, any source of sound, or create, or allow the creation of, any noise which causes the noise level when measured inside a receiving dwelling unit with windows in their normal seasonal configuration to exceed the following noise level standards as set forth in Table IV.J-7:

**Table IV.J-7  
Interior Noise Level Standards – Dwelling Unit  
Noise Level Standards (dBA)**

Category	Cumulative Number of Minutes in any one hour time period	Daytime 7 A.M.–10 P.M.	Nighttime 10 P.M.–7 A.M.
1	5	45	40
2	1	50	45
3	0	55	50

*In the event the measured background noise level exceeds the applicable noise level standard in any category above, the applicable standard shall be adjusted in five (5) dBA increments so as to encompass the background noise level.*

*Section 4.88.360 Exemptions:* The following activities are exempt from Chapter 4.88 of the San Mateo County Ordinance Code:

- Noise sources associated with demolition, construction, repair, remodeling, or grading of any real property, provided said activities do not take place between the hours of 6:00 P.M. and 7:00 A.M. weekdays, 5:00 P.M. and 9:00 A.M. on Saturdays or at any time on Sundays, Thanksgiving and Christmas.
- Mobile noise sources associated with agricultural operations provided such operations do not take place between the hours of 8:00 P.M. and 7:00 A.M.
- Mobile noise sources associated with agricultural pest control through pesticide application provided that the application is made in accordance with restricted material permits issued by or regulations enforced by the Agricultural Commissioner.
- Noise sources associated with the maintenance of real property used for residential purposes provided said activities take place between the hours of 7:00 A.M. and 8:00 P.M.

## **ENVIRONMENTAL IMPACTS**

### **Thresholds of Significance**

Based on the Appendix G of the State *CEQA Guidelines*, a project could have a significant noise impact if it would cause any of the following conditions to occur:

- (a) 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;
- (b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
- (c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- (d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- (e) For a project located 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 airstrip, expose people residing or working in the project area to excessive noise levels; or
- (f) For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

### **County Noise Standards**

The noise standards adopted by the County of San Mateo are discussed previously in this DEIR section. These standards would apply to the proposed land uses at the project site. Specifically, noise levels within the exterior activity areas of the proposed residential uses may not exceed 70 dBA CNEL and interior noise levels within the proposed residential uses may not exceed 45 dBA CNEL. This would include the noise levels associated with Half Moon Bay Airport. Noise levels within the exterior activity areas of the proposed office uses may not exceed 75 dBA CNEL.

### **Groundborne Vibration Levels**

The State *CEQA Guidelines* also do not define the levels at which groundborne vibration or groundborne noises are considered “excessive.” In addition, the County of San Mateo has not adopted any thresholds for groundborne vibration impacts. Therefore, this analysis uses the Federal Transit Administration (FTA) vibration impact thresholds for potential building damage and human reaction. The vibration damage criteria adopted by the FTA are shown below in Table IV.J-8.

**Table IV.J-8  
Construction Vibration Damage Criteria**

<b>Building Category</b>	<b>PPV (in/sec)</b>
I. Reinforced-concrete, steel or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12
<i>Source: Harris Miller Miller &amp; Hanson, Transit Noise and Vibration Impact Assessment, May 2006.</i>	

The FTA has adopted standards associated with human annoyance for groundborne vibration impacts for the following three land-use categories: Vibration Category 1 – High Sensitivity, Vibration Category 2 – Residential, and Vibration Category 3 – Institutional. The FTA defines Category 1 as buildings where vibration would interfere with operations within the building, including vibration-sensitive research and manufacturing facilities, hospitals with vibration-sensitive equipment, and university research operations. Vibration-sensitive equipment includes, but is not limited to, electron microscopes, high-resolution lithographic equipment, and normal optical microscopes. Category 2 refers to all residential land uses and any other buildings where people sleep, such as hotels and hospitals. Category 3 refers to institutional land uses such as schools, churches, other institutions, and quiet offices that do not have vibration-sensitive equipment, but still have the potential for activity interference. The groundborne vibration thresholds for these three land-use categories are shown in Table IV.J-9.

**Table IV.J-9  
Human Annoyance Groundborne Vibration Thresholds (VdB)**

Frequency of Events	Groundborne Vibration Threshold (VdB)		
	Category 1	Category 2	Category 3
Infrequent	65	80	83
Occasional	65	75	78
Frequent	65	72	75

*“Infrequent events” is defined by the Federal Transit Administration as being fewer than 30 vibration events of the same kind per day.*  
*“Occasional events” is defined by the Federal Transit Administration as between 30 and 70 vibration events of the same source per day.*  
*“Frequent events” is defined by the Federal Transit Administration as over 70 vibration events of the same kind per day.*  
*Source: Harris Miller Miller & Hanson, Transit Noise and Vibration Impact Assessment, May 2006.*

### ***Permanent Increase in Noise Levels***

The State *CEQA Guidelines* also do not define the levels at which a permanent increase in ambient noise is considered “substantial.” As discussed previously in this report, a noise level increase of 3 dBA is barely perceptible to most people, a 5 dBA increase is readily noticeable, and a difference of 10 dBA would be perceived as a doubling of loudness. Based on this information, the following thresholds would apply to permanent increases in noise due to the operational characteristics of the proposed project:

- Less than 3 dBA: not discernable, not significant.
- Between 3 dBA and 5 dBA: noticeable but not significant if noise levels remain below the normally acceptable noise level standards of the County of San Mateo General Plan; significant if the noise increase would meet or exceed these noise level standards.
- 5 dBA or greater: significant.

### ***Temporary or Periodic Increase in Noise***

The State *CEQA Guidelines* do not define the levels at which a temporary increase in noise is considered “excessive.” In addition, the County of San Mateo has not adopted any thresholds for construction noise impacts. Therefore, this analysis uses the FTA construction noise impact criteria for residential, commercial, and industrial land uses to determine if a potentially significant impact would occur. These criteria are identified in Table IV.J-10. According to the FTA, there may be adverse community reaction if these criteria are exceeded.<sup>4</sup>

<sup>4</sup> Harris Miller Miller & Hanson, *Transit Noise and Vibration Impact Assessment*, May 2006, pp. 12-7 and 12-8.

**Table IV.J-10  
FTA General Construction Noise Criteria**

Land Use	One-Hour $L_{eq}$ (dBA)		Eight-Hour $L_{eq}$ (dBA)	
	Day	Night	Day	Night
Residential	90	80	80	70
Commercial	100	100	85	85
Industrial	100	100	90	90

*Source: Harris Miller Miller & Hanson, Transit Noise and Vibration Impact Assessment, May 2006.*

### ***Airport Noise***

As discussed in Section V.D (Impacts Found To Be Less Than Significant) of this DEIR, the project site is not located within the vicinity of a private airstrip; therefore, the proposed project would have no impact under threshold of significance (f). Hence, only Thresholds (a-e) listed above are addressed in the following discussion.

### **Project Details**

As stated in Section III (Project Description) of the DEIR, the project site includes a northern parcel of approximately 14.25 acres in size and a southern parcel consisting of approximately 5.28 acres. The two primary components of the proposed project include: (1) the Office Park property (northern parcel) development consisting of four, three-story buildings (225,000 sf total) planned for mixed office use, and a 640-space parking lot; and (2) the Wellness Center property development with a maximum of 70 units for approximately 50 DD adults and 20 live-in staff members, other onsite living and recreation facilities for residents, associated fencing, a separate storage building, and a 73-space parking lot.

The primary sources of noise and groundborne vibration associated with the proposed project would be construction activities at the project site, and project-related traffic volumes and new stationary sources (such as heating, ventilation, and air conditioning units) associated with operation of the proposed mixed-use development.

### **Project Impacts and Mitigation Measures**

#### ***Impact NOISE-1 Construction Noise***

Construction of the proposed project would require grading and excavation, installation of utilities, and construction and finishing of the proposed structures and facilities. The project construction time schedule would be between approximately 30 and 36 months to fully complete the Wellness Center and Office Park property development. Overall, the initial grading and sorting of materials would take approximately three weeks, utilities installation approximately one month, and foundation construction approximately two months. After the construction of the foundations, the placement of the prefabricated Wellness Center units and the erection of the structures for the Office Park would take approximately 18 months. It would take another 12 months for finish work, including the installation of the water recycling system and the solar system. The construction of the permeable parking lots and wetland trails would take

about three weeks to complete while the construction of the wetlands and landscaping would take approximately six months (assumed to begin after the completion of the Wellness Center and Office Park construction).

These types of construction activities would require the use of heavy equipment, smaller power tools, generators, and other sources of noise. During each stage of development, there would be a different mix of equipment operating and noise levels would vary based on the amount of equipment operating and the location of the activity. The proposed activity, time schedule, and anticipated construction equipment is listed in Table IV.J-11.

**Table IV.J-11  
Construction Schedule and Equipment**

Activity	Schedule	Equipment
Initial Grading/Material Sorting	3 weeks	2 Push-Pull Scrapers, 1 Cat Crawler, 2 Pickup Trucks, 1 Water Truck
Utilities Installation	1 month	2 Excavators, 1 Backhoe, 3 Dump Trucks, Two Pickup Trucks, 1 Water Truck
Foundation Construction	2 months	2 Excavators, 1 Backhoe, 3 Dump Trucks, 10 Pickup Trucks, 1 Water Truck, 1 Pile Driver
Wellness Center/Office Park	30 months	2 Cranes, 5 Extended-Lift Trucks, 15 Small Vehicles
Permeable Parking Lot/Fire Trails	3 weeks	1 Concrete Pump Truck, 5 Concrete Trucks
Wetlands/Landscaping	6 months	2 Backhoes, 4 Pickup Trucks

*Source: Big Wave, LLC, Facilities Plan: Draft #2, Big Wave Property, January 2009.*

The U.S. EPA has compiled data regarding the noise generating characteristics of specific types of construction equipment and typical construction activities. The U.S. EPA's data pertaining to the typical noise range of construction equipment is presented in Table IV.J-12 and the data pertaining to the typical outdoor noise levels for specific construction activities is presented in Table IV.J-13.

**Table IV.J-12  
Noise Range of Typical Construction Equipment**

Construction Equipment	Noise Level in dBA $L_{eq}$ at 50 Feet <sup>a</sup>
Front Loader	73-86
Trucks	82-95
Cranes (moveable)	75-88
Cranes (derrick)	86-89
Vibrator	68-82
Saws	72-82
Pneumatic Impact Equipment	83-88
Jackhammers	81-98
Pumps	68-72
Generators	71-83
Compressors	75-87
Concrete Mixers	75-88

**Table IV.J-12  
Noise Range of Typical Construction Equipment**

Construction Equipment	Noise Level in dBA $L_{eq}$ at 50 Feet <sup>a</sup>
Concrete Pumps	81-85
Back Hoe	73-95
Pile Driver (Impact)	95-107
Pile Driver (Sonic)	90-102
Tractor	77-98
Scraper/Grader	80-93
Paver	85-88

<sup>a</sup> Machinery equipped with noise control devices or other noise-reducing design features does not generate the same level of noise emissions as that shown in this table.  
Source: United States Environmental Protection Agency, *Noise from Construction Equipment and Operations, Building Equipment and Home Appliances*, PB 206717, 1971.

**Table IV.J-13  
Typical Outdoor Construction Noise Levels**

Construction Phase	Noise Levels at 50 Feet (dBA $L_{eq}$ )	Noise Levels at 50 Feet with Mufflers (dBA $L_{eq}$ )
Ground Clearing	84	82
Excavation, Grading	89	86
Foundations	78	77
Structural	85	83
Finishing	89	86

Source: United States Environmental Protection Agency, *Noise from Construction Equipment and Operations, Building Equipment and Home Appliances*, PB 206717, 1971.

The noise levels shown in Table IV.J-13 represent composite noise levels associated with typical construction activities, which take into account both the number and spacing of heavy construction equipment that are typically used during each phase of construction. As shown in Table IV.J-13, on average (with installation of mufflers), construction noise can reach a maximum of 86 dBA  $L_{eq}$  when measured at a reference distance of 50 feet from the center of the construction activities. Noise levels such as these would be generated at the project site during the construction phases of development. These noise levels would diminish rapidly with distance from the construction site at a rate of approximately 6 dBA to 7.5 dBA per doubling of distance for acoustically hard and soft sites, respectively.

The nearest and most notable offsite sensitive receptors would be the residential uses located approximately 20 feet north of the project site boundary (El Granada Mobile Home Park). The nearest building to the residential area is proposed to be located about 225 from the property line. Based on the information presented above, construction noise levels could exceed the 80 dBA  $L_{eq}$  eight-hour daytime threshold of significance used for this analysis during the three-week periods when grading and paving activities occur within 100 feet of the nearest existing residences. In addition, the possible use of impact pile drivers during the foundation construction phase could result in noise levels of up to 95 dBA  $L_{eq}$  at the nearest residential and non-residential (to the south of the site) units during the three month foundation construction phase. Construction activities would be limited to the hours of 7:00 A.M. to 6:00

P.M. on weekdays and 9:00 A.M. and 5:00 P.M. on Saturdays in accordance with Section 4.88.360 of the San Mateo County Ordinance Code, so no nighttime construction would be generated at the project site.

The Wellness Center property is proposed to be constructed and occupied prior to construction of the Office Park property. As such, residents and employees of the Wellness Center would also be exposed to noise levels associated with construction of the Office Park property. The southern-most Wellness Center building would be approximately 150 feet from the nearest Office Park grading area and 225 feet from the nearest construction area. The resulting noise levels at the residential building would be less than 80 dBA  $L_{eq}$  for grading and general construction activities, but up to 95 dBA  $L_{eq}$  when impact pile drivers operate.

It should be noted that the increase in noise levels at the nearby locations during construction at the project site would be temporary in nature and would not generate continuously high noise levels, although occasional single-event disturbances from construction are possible, with the exception of pile driving. Additionally, the majority of the construction activities would take place at a distance farther than 100 feet from the residences to the north and the occupied Wellness Center buildings. In the later phases of project construction (during interior building construction), noise levels are typically reduced due to the newly erected physical structures that interrupt noise transmission from the project to nearby receptors. Thus, the highest noise levels that would be experienced by the sensitive receptors would only occur for a limited duration during construction of the proposed project. General construction activities occurring more than 100 feet from the existing residences would not exceed 80 dBA and would not be significant. However, the temporary or periodic impact when grading or construction activities (e.g. paving and concrete installation) occur within 100 feet of an occupied residence would generate noise levels of up to 86 dBA, which would be *significant*. Also, the noise levels generated by pile driving operations at the site would generate substantial noise levels at the nearby residential units that would be highly disturbing and result in a *significant* impact. Therefore, the implementation of the following mitigation measure is required, to reduce construction noise impacts to a less-than-significant level:

#### ***Mitigation Measure NOISE-1 Construction Noise***

The construction contractor shall implement measures to reduce the noise levels generated by construction equipment operating at the project site during project grading and construction phases. The construction contractor shall include in construction contracts the following requirements or measures shown to be equally effective:

- All construction equipment shall be equipped with improved noise muffling, and maintain the manufacturers' recommended noise abatement measures, such as mufflers, engine covers, and engine isolators in good working condition.
- Stationary construction equipment that generates noise levels in excess of 65 dBA  $L_{eq}$  shall be located as far away from existing residential areas as possible. The equipment shall be shielded from noise sensitive receptors by using temporary walls, sound curtains, or other similar devices.



- Heavy-duty vehicle storage and start-up areas shall be located a minimum of 150 feet from occupied residences where feasible.
- All equipment shall be turned off if not in use for more than five minutes.
- Drilled piles or the use of sonic or vibratory pile drivers shall be used instead of impact pile drivers. The driving heads of sonic or vibratory pile drivers shall be screened on all sides by acoustic blankets capable of reducing noise levels by at least 15 dBA.
- Temporary barriers such as flexible sound control curtains shall be erected between the proposed project and the El Granada Mobile Home Park to minimize the amount of noise during construction. The sound control curtains shall reduce construction-related noise levels at the El Granada Mobile Home Park to less than 80 dBA  $L_{eq}$ .
- Two weeks prior to the commencement of grading or construction at the project site, notification must be provided to the immediate surrounding offsite residential uses that discloses the construction schedule, including the various types of activities and equipment that would be occurring throughout the duration of the grading and construction periods.
- Two weeks prior to the commencement of grading or construction at the project site, an information sign shall be posted at the entrance to each construction site that identifies the permitted construction hours and provides a telephone number to call and receive information about the construction project or to report complaints regarding excessive noise levels. The applicant shall rectify all reasonable complaints within 24 hours of their receipt. The County may be required to determine whether a complaint is reasonable and subject to being rectified. Should the applicant consider a complaint to be unreasonable, the applicant shall contact the County Planning Department within 24 hours of the receipt of the complaint to discuss how the complaint should be addressed.

### ***Impact NOISE-2 Construction-Related Groundborne Vibration***

Project-related construction activities would include grading, excavation, and building construction, which would have the potential to generate low levels of groundborne vibration. In addition, Section IV.F, Geology and Soils of this DEIR also states that pile driving may be required to offset the potential liquefaction-induced ground failures. Table IV.J-14 identifies various PPV and RMS velocity (in VdB) levels for the types of construction equipment that would operate during the construction of the proposed project. Based on the information presented in Table IV.J-14, vibration velocities could reach as high as approximately 0.031 inches per second PPV at a distance of 50 feet from the source activity. This corresponds to a RMS velocity level (in VdB) of 78 VdB at 50 feet from the source activity.

**Table IV.J-14  
Vibration Source Levels for Typical Construction Equipment**

Equipment	Approximate PPV (in/sec)					Approximate RMS (VdB)				
	25 Feet	50 Feet	60 Feet	75 Feet	100 Feet	25 Feet	50 Feet	60 Feet	75 Feet	100 Feet
Large Bulldozer	0.089	0.031	0.024	0.017	0.011	87	78	76	73	69
Caisson Drilling	0.089	0.031	0.024	0.017	0.011	87	78	76	73	69
Loaded Trucks	0.076	0.027	0.020	0.015	0.010	86	77	75	72	68
Jackhammer	0.035	0.012	0.009	0.007	0.004	79	70	68	65	61
Small Bulldozer	0.003	0.001	0.0008	0.0006	0.0004	58	49	47	44	40

*Note: in/sec = inches per second.  
Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, Final Report, 2006; Christopher A. Joseph & Associates, July 2009.*

General construction activities associated with the project would have the potential to impact the nearest surrounding offsite sensitive receptors and existing structures, which would include the residents/residences at the El Granada Mobile Home Park approximately 20 feet north of the project site and the commercial buildings approximately 50 feet south of the project site. The potential exposure to 0.031 inches per second PPV and a RMS velocity level of 78 VdB at 50 feet from the source activity would not exceed the FTA existing structure threshold of 0.5 PPV for reinforced-concrete, steel or lumber buildings such as the existing structures in the vicinity of the project site. However, the RMS velocity level of 78 VdB could exceed the FTA occasional residential vibration exposure (human annoyance) threshold of 75 VdB. This would occur when heavy construction equipment operates within about 75 feet of an occupied residential unit.

As to the use of pile drivers at the project site, this machinery would operate at a given location for the majority of a day. Therefore, the evaluation of this impact to the nearby residences uses the 72 VdB FTA threshold for frequent events. The nearest building to the residential area is proposed to be located about 225 feet from the property line. The use of an impact pile driver at this distance would generate vibration levels of approximately 75.4 VdB, which would exceed the 72 VdB threshold. It would not be until the pile driving activity occurs about 300 feet from the nearest residence that the vibration levels would be less than 72 VdB. Therefore, as Building A would be located within 300 feet of the mobile home park, impact pile driving activities for Building A of the Office Park could result in a significant noise impact to sensitive receptors at the mobile home park. The use of sonic or vibratory pile drivers at a distance of 225 feet would generate groundborne vibration levels of approximately 65 VdB, which would not exceed the 72 VdB threshold of significance.

Residents and employees of the Wellness Center would also be exposed to substantial groundborne vibration levels associated with construction of the Office Park property. The southern-most Wellness Center building would be approximately 225 feet from the nearest construction area (Building D) and, similar to the mobile home park to the north, could be exposed to a significant impact if vibration levels exceed the 72 VdB threshold.

As stated previously, construction activities would be limited to the hours of 7:00 A.M. to 6:00 P.M. on weekdays and 9:00 A.M. and 5:00 P.M. on Saturdays in accordance with Section 4.88.360 of the Mateo County Ordinance Code. Construction activities are also prohibited at any time on Sundays, Thanksgiving and Christmas. While the use of impact pile drivers at the project site would not occur during recognized sleep hours for residences, the impact of daytime groundborne vibration levels during construction of Building A or the Office Park would still be considered *significant*. However, Mitigation Measure NOISE-1 identified above requires the use of drilled piles or the use of sonic or vibratory pile drivers instead of impact pile drivers if at all feasible based on geological conditions. With implementation of this mitigation measure, the potential groundborne vibration impacts would be reduced to a less-than-significant level.

### ***Impact NOISE-3 Operational Noise Levels at the Project Site***

#### *Airport and Roadway Noise Levels*

Noise levels at the project sites would continue to be dominated by vehicular traffic on Airport Street and aircraft activity at Half Moon Bay Airport. Table IV.J-15 presents the future average daily exterior and interior noise levels for the nearest proposed residential (Building 1) and office buildings (Building A) to Airport Street. As discussed previously, the exterior-to-interior noise reduction of new residential units in California is more than 30 dBA. Similar reductions are typically provided for new office buildings. With this assumption, Table IV.J-15 indicates that future exterior and interior noise levels associated with roadway traffic would not exceed County standards at the project site. The future noise levels at the site would also be well below the 75 dBA exterior standard for warehouse uses. This is a *less-than-significant* impact and no mitigation measures are required.

**Table IV.J-15  
Predicted Future Airport and Roadway Noise Levels at the Project Site**

Roadway Segment	Proposed Land Use	Noise Levels in dBA CNEL				
		Future Exterior Noise Level	County Exterior Noise Standards	Assumed Exterior-to-Interior Reduction	Future Interior Noise Level	County Interior Noise Standard
Airport Street, Between La Granada Ave and Stanford Ave	Residential	58.8	70.0	-30.0	<45.0	45.0
	Office	58.5	75.0	-30	<45.0	–

*Source: Christopher A. Joseph & Associates, 2009. Calculation data and results are provided in Appendix I of this DEIR.*

#### *Mechanical Equipment Noise levels*

As part of the proposed project, new rooftop mechanical equipment and heating, ventilation, and air conditioning (HVAC) units and exhaust fans may be installed on the proposed buildings. Large HVAC systems can result in noise levels that average between 50 and 65 dBA  $L_{eq}$  at 50 feet from the equipment. Standard building parapets typically reduce these noise levels by around 10 to 15 dBA and this type of equipment is generally not audible from nearby uses. The noise levels from this equipment would be less than the ambient noise levels associated with automobile and aircraft traffic and would not exceed the ‘Normally Acceptable’ noise level standard of 60 dBA CNEL for residential uses or the County of San

Mateo Ordinance Code noise threshold of 55 dBA (Category 1: cumulative 30 minute noise level increase in a 1 hour period). Therefore, the potential impacts to residents of the Wellness Center or the mobile home park would be *less than significant*.

#### *MBR Wastewater Treatment Plant*

The project would also involve the construction and operation of a membrane bioreactor (MBR) wastewater treatment plant (i.e., MBR plant; with associated mechanical equipment). However, the MBR plant would be completely covered with aluminum plates and hatches, and sealed with rubber gaskets. Therefore, the potential noise associated with the MBR plant would be negligible.

#### *Parking Lot Noise*

Onsite vehicular noise would be generated mainly by activities within the Office Park parking lot and the Wellness Center parking lot. The Office Park parking lot is located along the northern border of the site adjacent to the El Granada Mobile Home Park, and consists of 640 parking spaces. The Wellness Center parking lot is located in the southern parcel along Airport Street and consists of 73 parking spaces. Sources of noise within the parking areas would include engines accelerating, doors slamming, car alarms, and people talking. Noise levels within the parking areas would fluctuate based on the amount of automobile and human activity, with noise levels highest in the early morning and evening when the largest number of people would enter and exit the project site.

Based on methodology provided by the FTA,<sup>5</sup> the maximum hourly  $L_{eq}$  and 24-hour  $L_{eq}$  for the Office Park parking lot and the Wellness Center parking lot at 50 feet away would be approximately 51.1 dBA (assuming 2,123 daily trips, with 292 trips during the AM peak hour and 268 trips during the PM peak hour). The identified threshold of significance for the mobile home ‘Normally Acceptable’ noise level established by the California Department of Health Services is 60 dBA (based on a 24-hour average) and the infrequent noise level threshold established under Section 4.88.330 of the County of San Mateo Ordinance Code is 55 dBA (Category 1: A cumulative 30 minute exposure in a 1 hour period; most conservative). Since the maximum hourly  $L_{eq}$  and 24-hour  $L_{eq}$  for the Office Park parking lot and the Wellness Center parking lot at 50 feet away are less than these established thresholds of significance, the potential noise impacts associated with parking from implementation of the proposed project would be *less than significant*.

#### ***Impact NOISE-4 Operational Roadway Noise Levels***

Locations in the vicinity of the project site would experience a slight increase in noise resulting from the additional traffic generated by the proposed project. As stated in Section IV.M, Transportation/Traffic of this DEIR, the proposed project would generate approximately 2,123 vehicle trips per day. The changes in future noise levels along the study-area roadway segments in the project vicinity are identified in Table

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<sup>5</sup> Harris Miller Miller & Hanson, *Transit Noise and Vibration Impact Assessment*, May 2006, p. 5-11.

IV.J-16. As shown, the traffic generated by the proposed project would increase local noise levels by a maximum of 1.0 dBA CNEL, which would be imperceptible to most people and would not exceed the 3.0 dBA threshold of significance. Therefore, this impact would be *less than significant*.

**Table IV.J-16  
Predicted Future Roadway Noise Level Impacts at Locations Offsite**

Roadway Segment	Existing Sensitive Land Uses Along Roadway Segment	Noise Levels in dBA CNEL			
		Future Traffic Without Project	Future Traffic With Project	Increase	Significance Threshold
Cabrillo Highway (SR 1), between Cypress Ave and Capistrano Rd (north)	Residential	70.8	70.8	0.0	3.0
Cabrillo Highway (SR 1), between Capistrano Rd (north) and Capistrano Rd (south)	Residential	70.4	70.4	0.0	3.0
Cabrillo Highway (SR 1), north of Cypress Ave	Residential	70.7	70.9	0.2	3.0
Cabrillo Highway (SR 1), south of Capistrano Rd (south)	Residential	71.0	71.2	0.2	3.0
Airport Street, between Los Banos Ave and La Granada Ave	Residential	62.2	63.1	0.9	5.0
Airport Street, between La Granada Ave and Stanford Ave	Residential	62.2	63.2	1.0	3.0
Airport Street, north of Los Banos Ave	Residential	61.1	62.0	0.9	3.0

Source: Christopher A. Joseph and Associates, 2009. Calculation data and results are provided in Appendix I of this DEIR.

## CUMULATIVE IMPACTS

This cumulative impact analysis considers development of the proposed project in combination with ambient growth and other development projects within the vicinity of the proposed project. As noise is a localized phenomenon, and drastically reduces in magnitude as distance from the source increases, only projects and ambient growth in the nearby area could combine with the proposed project to result in cumulative noise impacts.

Future construction associated with the related projects could result in a cumulatively significant impact with respect to temporary or periodic increases in ambient noise levels and/or groundborne vibration. As stated before, construction noise and groundborne vibration is localized in nature and decreases substantially with distance. Consequently, in order to achieve a substantial cumulative increase in construction noise levels, more than one source emitting high levels of construction noise would need to be in close proximity to the proposed project. As shown in Table III-1 on page III-19, the nearest related project to the site is the proposed industrial development at 151 Vassar Avenue, which is located approximately 0.13 miles (685 feet) southeast of the project site. Due to this distance, and along with the numerous intervening structures located between these two sites, a substantial increase in construction noise levels and/or groundborne vibration would not occur should construction for this related project

occur at the same time as the proposed project. Therefore, this cumulative impact would be *less than significant*.

Cumulative noise impacts would occur primarily as a result of increased traffic on local roadways due to the proposed project and related projects within the study area. Therefore, cumulative traffic-generated noise impacts have been assessed based on the contribution of the proposed project to the future cumulative base traffic volumes on the roadway segments in the project vicinity. The noise levels associated with existing traffic volumes and cumulative base traffic volumes with the proposed project (i.e., future cumulative traffic volumes) along with airport noise levels are identified in Table IV.J-17.

**Table IV.J-17  
Cumulative Roadway Noise Level Impacts at Locations Offsite**

Roadway Segment	Existing Sensitive Land Uses Along Roadway Segment	Noise Levels in dBA CNEL			
		Existing Traffic Volumes	Future Traffic With Project	Increase	Significance Threshold
Cabrillo Highway (SR 1), between Cypress Ave and Capistrano Rd (north)	Residential	70.0	70.8	0.8	3.0
Cabrillo Highway (SR 1), between Capistrano Rd (north) and Capistrano Rd (south)	Residential	69.3	70.4	1.1	3.0
Cabrillo Highway (SR 1), north of Cypress Ave	Residential	70.0	70.9	0.9	3.0
Cabrillo Highway (SR 1), south of Capistrano Rd (south)	Residential	69.8	71.2	1.4	3.0
Airport Street, between Los Banos Ave and La Granada Ave	Residential	62.0	63.1	1.1	5.0
Airport Street, between La Granada Ave and Stanford Ave	Residential	61.8	63.2	1.4	3.0
Airport Street, north of Los Banos Ave	Residential	61.0	62.0	1.0	3.0

*Source: Christopher A. Joseph and Associates, 2009. Calculation data and results are provided in Appendix I of this DEIR.*

As shown in Table IV.J-16, cumulative development along with the proposed project would increase local noise levels by a maximum of 1.4 dBA CNEL at the roadway segment of Airport Street, between Los Banos Avenue and Stanford Avenue. The increases in noise levels at the existing residential areas located along the study area roadways would not exceed the thresholds of significance utilized for this analysis and the cumulative impact would be *less than significant*.

## LEVEL OF SIGNIFICANCE AFTER MITIGATION

By complying with Sections 4.88.330, 4.88.340, and 4.88.360 of the San Mateo County Noise Ordinance and the implementation of the Mitigation Measure NOISE-1, construction-related noise and groundborne vibration impacts associated with the proposed project would be reduced to *less-than-significant* levels.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### K. POPULATION & HOUSING

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#### INTRODUCTION

This section of the Draft Environmental Impact Report (DEIR) addresses the subject of population and housing with respect to the proposed Big Wave Wellness Center and Office Park Project (“proposed project”), including: (1) the potential of the proposed project to induce population and/or housing growth; (2) the degree to which the proposed project would cause growth in comparison to adopted population and housing growth forecasts; (3) the consistency of the proposed project with adopted regional and local policies; and (4) the potential of the proposed project to affect the balance between jobs and housing. In addition, the potential cumulative population and housing impacts of the proposed project in combination with all known related projects are evaluated in this section.

#### METHODOLOGY

The analysis in this section is based primarily on data provided by the Association of Bay Area Governments (ABAG), the United States Census Bureau (U.S. Census Bureau), the California Department of Finance (DOF), and the County of San Mateo (County). This section uses data collected and provided at the county level wherever available and feasible in an effort to provide comprehensive analysis.

#### ENVIRONMENTAL SETTING

##### Existing Onsite Conditions

The two parcels which comprise the project site where development is proposed are currently undeveloped and have recently been in agricultural use. As such, these portions of the proposed project site do not contain any existing residents or housing units. The person who is farming the site currently also farms other sites, including the nearby airport property. A maximum of 10 day laborers assist with the farming operations for approximately 40 days out of the year, which equates to approximately 0.64 full-time employees per year.<sup>1</sup>

##### Population

Table IV.K-1 shows the historical and projected population data for the County as well as unincorporated Half Moon Bay where the proposed project site would be located, including the projected population for year 2013 when the project buildout is expected to be complete. Unincorporated Half Moon Bay includes the coastal communities of Moss Beach, El Granada, Montara, Miramar and Princeton by the Sea, which are all located within a 5-to-6 mile long area along the San Mateo County Coastline. The population in

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<sup>1</sup> E-mail correspondence from Scott Holmes, Member of Board of Directors, Big Wave Project, on May 16, 2009.

2013 is projected to increase to 758,910 in San Mateo County and increase to 11,750 in unincorporated Half Moon Bay.

**Table IV.K-1  
County of San Mateo  
Historical and Projections Population Data  
2000 – 2020**

Year	Entire County	Unincorporated Half Moon Bay
2000	707,163	10,627
2009	745,858 <sup>1</sup>	11,503 <sup>2</sup>
2010	741,000	11,600
2013 <sup>3</sup>	758,910	11,750
2020	800,700	12,100

<sup>1</sup> State of California, Department of Finance, Population Estimates for Cities, Counties and State, 2001-2009, website: [http://www.dof.ca.gov/research/demographic/reports/estimates/e-4/2001-09/documents/E-4\\_2009%20Internet%20Version.xls](http://www.dof.ca.gov/research/demographic/reports/estimates/e-4/2001-09/documents/E-4_2009%20Internet%20Version.xls), accessed on August 11, 2009.

<sup>2</sup> Calculated by adding 90 percent of the difference between 2000 and 2010 population to the 2000 population.

<sup>3</sup> Calculated by adding 30 percent of the difference between 2010 and 2020 population to the 2010 population.

Source: ABAG, Projections 2007, and Christopher A. Joseph & Associates, August 2009.

## Employment

Local employment data is relevant to population impact analysis due to the relationship between employment and population growth. In June 2009, San Mateo County had an unemployment rate of 8.9 percent.<sup>2</sup> This is an increase from a 4.7 percent average unemployment rate in 2008.<sup>3</sup> However, most counties in California are experiencing similar increases in unemployment. Statewide unemployment has risen to 8.9 percent as of June 2009 compared to 4.7 percent in June 2008.<sup>4</sup>

Table IV.K-2 shows current employment data for unincorporated Half Moon Bay where the project site is located, surrounding communities, and San Mateo County as a whole. Included in the table are the cities of Pacifica, 10 miles north of the proposed project, and Half Moon Bay, 4 miles south of the site. Access between Pacifica and unincorporated Half Moon Bay is expected to improve with the construction of Devil's Slide tunnel on Highway 1 scheduled to open summer 2011, thereby improving access to

<sup>2</sup> State of California, Employment Development Department, Monthly Labor Force Data for Cities and Census Designated Places, June 2009 -- Preliminary, March 2008 Benchmark, website: <http://www.labormarketinfo.edd.ca.gov/?pageid=133>, accessed on August 11, 2009. Data is not seasonally adjusted.

<sup>3</sup> State of California, Employment Development Department, Monthly Labor Force Data for Cities and Census Designated Places (CDP), Annual Average 2008 - Revised, March 2008 Benchmark, website: <http://www.labormarketinfo.edd.ca.gov/?pageid=133>, accessed on August 11, 2009. Data is not seasonally adjusted.

<sup>4</sup> State of California, Employment Development Department, California Labor Market Review, June 2009, website: <http://www.calmis.ca.gov/file/lfmonth/Calmr.pdf>, page 12-13, accessed on August 11, 2009.



employment opportunities in unincorporated Half Moon Bay for residents of Pacifica.<sup>5</sup> Average unemployment for year 2008 was 3.5 percent for unincorporated Half Moon Bay, 5.8 percent for City of Half Moon Bay, and 5.5 percent for City of Pacifica. Current unemployment in the area shows an increase from 2008, ranging from 6.7 percent in unincorporated Half Moon Bay, 10.8 percent in the City of Half Moon Bay, and 10.2 percent for the City of Pacifica.

**Table IV.K-2**  
**Current Employment Data**

Area	Average 2008 Unemployment Rate <sup>1</sup> (%)	June 2009 Unemployment Rate <sup>2</sup> (%)
Unincorporated Half Moon Bay <sup>3</sup>	3.5	6.7
City of Half Moon Bay	5.8	10.8
City of Pacifica	5.5	10.2
San Mateo County	4.7	8.9

Source:  
<sup>1</sup> State of California, Employment Development Department, Monthly Labor Force Data for Cities and Census Designated Places (CDP), Annual Average 2008 - Revised, March 2008 Benchmark, website: <http://www.labormarketinfo.edd.ca.gov/?pageid=133>, accessed on August 11, 2009. Data is not seasonally adjusted.  
<sup>2</sup> State of California, Employment Development Department, Monthly Labor Force Data for Cities and Census Designated Places, June 2009 -- Preliminary, March 2008 Benchmark, website: <http://www.labormarketinfo.edd.ca.gov/?pageid=133>, accessed on August 11, 2009. Data is not seasonally adjusted.  
<sup>3</sup> As represented by El Granada Census Designated Place.

Data from ABAG indicates that for the year 2005, many employed residents were traveling outside of their communities for employment. For example, unincorporated Half Moon Bay had a total number of 1,960 jobs but the employed residents in the community consisted of 5,530 persons.<sup>6</sup> This represents a ratio of one job per 2.8 employed residents.

As shown in Table IV.K-3, projection data for years 2010 and 2015 similarly indicate that there will be almost three times the number of employed residents to the number of jobs in unincorporated Half Moon Bay as well as the nearby City of Pacifica. This suggests that residents of these communities will continue to travel to other communities for employment. The ratio of jobs to employed residents is almost 1 to 1 for the City of Half Moon Bay suggesting that these residents will be able to find work within their community.

<sup>5</sup> See, *Highway 1 Tunnel Bores Ahead*, Mike Aldax, *San Francisco Examiner*, March 11, 2009.

<sup>6</sup> ABAG, *Projections 2007*.

**Table IV.K-3  
Projected Employment Data**

Area	Ratio of Jobs to Employed Residents		
	2010	2015	2030
Unincorporated Half Moon Bay	1:2.7	1:2.8	1:2.9
City of Half Moon Bay	1:1.1	1:1.2	1:1.4
City of Pacifica	1:2.9	1:3.0	1:3.1
San Mateo County	1:0.9	1:1.0	1:0.9

*Source: ABAG, Projections 2007, and Christopher A. Joseph & Associates, May 2009.*

Table IV.K-4 shows employment by major sector for the County in 2007.<sup>7</sup> As shown, employment in the County is diversified across a variety of sectors, with ‘professional and business services’ and ‘trade, transportation, and utilities’ jobs comprising approximately 40 percent of the County’s employment. In addition, ‘manufacturing’, ‘government’, ‘educational and health services’, and ‘leisure and hospitality’, each comprise approximately 10 percent of the County’s employment.

**Table IV.K-4  
County of San Mateo  
Employment by Industry  
2007 Annual Average**

Industry	Jobs	Percent of Total
Trade, Transportation, & Utilities	75,100	21.9
Professional & Business Services	63,400	18.5
Leisure & Hospitality	35,000	10.2
Government	32,600	9.5
Educational & Health Services	32,100	9.4
Manufacturing	30,800	9.0
Financial Activities	21,600	6.3
Natural Resources, Mining, & Construction	20,800	6.1
Information	17,400	5.1
Other Services	11,800	3.4
Agriculture	2,000	0.6
<b>Total</b>	<b>342,600</b>	<b>100</b>

*Source: California Employment Development Department, Industry Employment & Labor Force - by Annual Average, March 2008 Benchmark, website: <http://www.calmis.ca.gov/file/indhist/sanmahaw.xls>, accessed on May 14, 2009; California Employment Development Department, Quarterly Census of Employment and Wages, San Mateo County Third Quarter 2008, website: [http://www.labormarketinfo.edd.ca.gov/qcew/CEW-Major\\_NAICS.asp](http://www.labormarketinfo.edd.ca.gov/qcew/CEW-Major_NAICS.asp), accessed on May 14, 2009; phone interview with Ruth Kavanagh, Labor Market Consultant, California Employment Development Department, on May 6, 2009; and Christopher A. Joseph & Associates, May 2009.*

<sup>7</sup> 2008 annual industry employment data not available, as confirmed by Ruth Kavanagh, Labor Market Consultant, California Employment Development Department, on May 12, 2009.

## Housing

As defined by the U.S. Census Bureau, household is another term for an occupied dwelling unit.<sup>8</sup> A housing unit is a group of rooms or a single room occupied as separate living quarters where occupants live separately from other persons in the building and have direct access from outside the building or through a common hall. The population of an area includes household population as well as “group quarters population”. Group quarters population refers to persons in nursing homes, hospitals, jails, educational institutions, etc.<sup>9</sup>

Information on current vacancy rates in the project area is limited. According to the San Mateo County Housing Element, which addresses the housing needs of the unincorporated portions of the County, rental vacancy rates in the area surrounding the proposed project site in the year 2000 ranged from 0.8 percent to 3.7 percent and homeowner vacancy rates ranged from 0.4 percent to 0.8 percent.<sup>10</sup> The U.S. Department of Housing and Urban Development considers that a rental vacancy rate of 5 percent allows ordinary mobility and choice within the rental market but a vacancy rate below 5 percent indicates a housing shortage.<sup>11</sup> A vacancy rate of 2 percent is generally considered normal for ownership housing.<sup>12</sup> This suggests that at least in the year 2000, the area surrounding the project site was facing a housing shortage. Department of Finance data, which does not specify whether vacancy rates are due to rental or ownership property, indicates that the total vacancy rate as of January 2009 for the entire County was 1.9 percent (5,060 vacant units available out of a total of 268,908 housing units) and for unincorporated portions of the County was 2.8 percent (627 vacant units available out of a total of 22,703 housing units).<sup>13</sup> These vacancy rates indicate that there is a housing shortage both in the unincorporated portions and the County as a whole. According to the Housing Element, the midcoast urban area, the region in which the proposed project site is located, contains a significant amount of vacant undeveloped land, and therefore opportunities for new development to accommodate population growth.<sup>14</sup> However, major

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<sup>8</sup> U.S. Census Bureau, *State & County QuickFacts*, website:  
[http://quickfacts.census.gov/qfd/meta/long\\_HSD310200.htm](http://quickfacts.census.gov/qfd/meta/long_HSD310200.htm), accessed February 17, 2009.

<sup>9</sup> U.S. Census Bureau, *Terms & Definitions, Housing Unit Estimates*, website:  
[http://www.census.gov/popest/topics/terms/housing\\_unit.html](http://www.census.gov/popest/topics/terms/housing_unit.html), accessed February 17, 2009.

<sup>10</sup> County of San Mateo, *General Plan Housing Element adopted December 2003, amended July 2004, Exhibit 14.16, page 14.30*, website:  
[http://www.co.sanmateo.ca.us/vgn/images/portal/cit\\_609/26/7/1367882591SMCo%20Housing%20Element%201-%20Intro\\_Background.pdf](http://www.co.sanmateo.ca.us/vgn/images/portal/cit_609/26/7/1367882591SMCo%20Housing%20Element%201-%20Intro_Background.pdf), accessed on August 11, 2009.

<sup>11</sup> County of San Mateo, *General Plan Housing Element adopted December 2003, amended July 2004, page 14.11*, website:  
[http://www.co.sanmateo.ca.us/vgn/images/portal/cit\\_609/26/7/1367882591SMCo%20Housing%20Element%201-%20Intro\\_Background.pdf](http://www.co.sanmateo.ca.us/vgn/images/portal/cit_609/26/7/1367882591SMCo%20Housing%20Element%201-%20Intro_Background.pdf), accessed on May 15, 2009.

<sup>12</sup> *Id.*

<sup>13</sup> State of California, Department of Finance, *Demographic Research Unit*, website:  
<http://www.dof.ca.gov/HTML/DEMOGRAP/ReportsPapers/ReportsPapers.php>, accessed on May 15, 2009.

<sup>14</sup> See County of San Mateo, *General Plan Housing Element adopted December 2003, amended July 2004, page 14.170*, website:  
[http://www.co.sanmateo.ca.us/vgn/images/portal/cit\\_609/26/8/1367882587SMCo%20Housing%204-%20Element%20Resources.pdf](http://www.co.sanmateo.ca.us/vgn/images/portal/cit_609/26/8/1367882587SMCo%20Housing%204-%20Element%20Resources.pdf), accessed on August 11, 2009.

development in the Montara and Moss Beach area, at least in the short term, will continue to be constrained by limited infrastructure.<sup>15</sup>

In 2007, only 15 percent of Bay Area households could afford a median-priced home; in San Mateo County, only 12 percent of households could afford a median-priced home.<sup>16</sup> Affordability is also an issue for low and moderate-income households renting in San Mateo County.

## **REGULATORY SETTING**

### **Federal**

No federal plans, policies, regulations or laws related to population and housing are applicable to the proposed project.

### **State**

#### ***Government Code Section 65580-65590 (Housing Element Law)***

All California localities are required by Article 10.6 of the Government Code (Sections 65580-65590) to adopt housing elements as part of their general plans and to submit draft and adopted elements to the California Department of Housing and Community Development (HCD) for review and compliance with state law.

#### ***Government Code Section 65588(c) (Coastal Zone)***

State Government Code Section 65588(c) requires the Housing Element review to take into account low or moderate-income housing converted or demolished in or near the Coastal Zone, pursuant to State Government Code Section 65590. Generally, replacement units are required if a residential structure containing three or more dwelling units is demolished or converted. Additionally, low and moderate-income housing must be provided either on the site of new housing developments or on other sites in or near the Coastal Zone. In addition, all large developments permitted in the Coastal Zone since the adoption of the County's LCP in 1980 have been required to provide affordable housing.

### **Regional and Local**

#### ***Regional Housing Needs Allocation (RHNA)***

The HCD works with regional Councils of Governments (COGs) to determine the amount of housing needed within a region. ABAG is this region's COG. The County of San Mateo, in partnership with all twenty cities in the County, formed a subregion. The formation of a subregion, for the purposes of

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<sup>15</sup> *Id.*

<sup>16</sup> ABAG, *San Francisco Bay Area Housing Needs Plan 2007-2014*, page 9 at website: <http://www.abag.ca.gov/planning/pdfs/SFHousingNeedsPlan.pdf>.

conducting the Regional Housing Needs Allocation (RHNA), is allowed by state law. The San Mateo subregion designated the City/County Association of Governments (C/CAG) as the entity responsible for coordinating and implementing the subregional RHNA process. ABAG publishes an annual report that discusses housing issues of importance to the San Francisco Bay Area. The 2008 report, San Francisco Bay Area Housing Needs Plan, 2007-2014, explains the RHNA process and outcomes.

The determination of housing need is based on existing need and estimated population growth. Need is determined for households in all income categories: very-low, low, moderate and above-moderate incomes. Once the total regional need is determined, ABAG works with local governments to allocate the total need to individual cities and counties. Local governments are then required to plan where and how the allocated housing units will be developed within their communities. This is done through the Housing Element of each local government's General Plan.

Based on a methodology that weighs a number of factors (e.g., projected population growth, employment, commute patterns, available sites), quantifiable needs for housing units in the region are determined according to various income categories. The San Francisco Bay Area Housing Needs Plan, 2007-2014, allocates 15,738 housing units to the County of San Mateo. Of that, C/CAG allocated 1,506 housing units to unincorporated San Mateo County.

### ***San Mateo County General Plan Housing Element***

San Mateo County is updating the Housing Element of its General Plan. The County's last Housing Element was adopted in 2003 and amended in 2004. State law mandates that the next update be submitted to the HCD by June 30, 2009. The planning area for the Housing Element consists of unincorporated lands under County jurisdiction. As of 2003, half of the County's land area, but only 8.7 percent of its population, is in unincorporated areas.<sup>17</sup>

Relevant goals and objectives for the unincorporated areas of the County as specified in the Housing Element include:

- HE 14.1 To maintain and improve the quality and affordability of the existing housing stock in order to minimize the displacement of existing residents;
- HE 14.2 To promote sufficient production of new housing of affordable cost and diverse size to accommodate the housing needs of all persons who reside, work, or who can be expected to work or reside in the County;
- HE 14.3 To strive to provide housing in balanced residential environments that combine access to employment opportunities, transportation, childcare and other community services;

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<sup>17</sup> County of San Mateo, *General Plan Housing Element adopted December 2003, amended July 2004, page 14.6, website:*  
[http://www.co.sanmateo.ca.us/vgn/images/portal/cit\\_609/26/7/1367882591SMCo%20Housing%20Element%201-%20Intro\\_Background.pdf](http://www.co.sanmateo.ca.us/vgn/images/portal/cit_609/26/7/1367882591SMCo%20Housing%20Element%201-%20Intro_Background.pdf), accessed on May 12, 2009.

- HE 14.4 To ensure that housing is equally available to all persons regardless of age, race, sex, sexual orientation, marital status, ethnic background, income, disability or other arbitrary factors;
- HE 14.19 To encourage the provision of housing near employment centers and/or where adequate infrastructure and services exist or can be provided;
- HE 14.48 To expand the housing choices for special needs groups by using techniques to help increase the variety, location, size and price of housing available;
- HE 14.49 To provide affordable housing opportunities and supportive services for the elderly and disabled through programs including the construction of new housing units; and
- HE 14.50 To promote the development of housing for the elderly or disabled in all appropriate locations, considering locations within urban areas that are located close to public transportation and other essential services and lands that do not have major topographical constraints.

### ***San Mateo County Local Coastal Program***

The San Mateo County Local Coastal Program (LCP), an area plan adopted June 1998 was prepared in response to the 1976 Coastal Act and guides existing and future development in the 88,000-acre San Mateo Coastal Zone. This region stretches along 55 miles of shoreline from the San Francisco County border to the Santa Cruz County border. Most of the land within the planning area is rural, although several small communities exist including Montara, Moss Beach, El Granada, Miramar, and Princeton by the Sea.

Relevant goals and objectives for the coastal area of the County as specified in the LCP are similar to the goals of the Housing Element and include:

- LCP 3.1 To protect, encourage and, where feasible, provide housing opportunities for persons of low and moderate income who reside, work or can be expected to work in the Coastal Zone;
- LCP 3.2 To strive to ensure that decent housing is available for low and moderate income persons regardless of age, race, sex, marital status or other arbitrary factor;
- LCP 3.3 To strive to provide such housing in balanced residential environments that combine access to employment, community facilities and adequate services;
- LCP 3.4 To strive to improve the range of housing choices, by location, type, price and tenure, available to persons of low and moderate income; and
- LCP 3.6 To allocate affordable housing in part in order to reduce home-to-work travel distance within the Coastal Zone.

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**Montara - Moss Beach - El Granada Community Plan**

The Montara-Moss Beach-El Granada Community Plan covers the portions of the County that extend along the Pacific Coast from Martini Creek, at the base of Montara Mountain, to the northerly city limits of the City of Half Moon Bay. The plan indicates that preservation of the community's existing character is important to residents because it gives a sense of identity that is unique to the area.

Relevant goals and objectives related to housing for the Montara-Moss Beach-El Granada Community Plan include:

- CP 1.8 To accommodate a variety of dwelling styles within an economic range that serves the housing needs of the community;
- CP 4.1 To build housing that relates to its physical setting, does not destroy the natural features of the land, and is compatible with the neighborhood scale and coastal character of the community;
- CP 4.2 To provide incentives that will encourage the development of an adequate housing base designed to meet the needs of all residents in the community, especially those with low and moderate incomes;
- CP 4.4 To prioritize the provision of housing affordable to low and moderate income families in new residential construction, particularly if government subsidies are available;
- CP 4.5 To incentivize development of lower income housing, such as through density bonuses and reduced parking requirements; and
- CP 4.6 To consider innovative housing programs that require a proportion of all new units be provided for low and moderate income families.

**ENVIRONMENTAL IMPACTS****Thresholds of Significance**

As stated in §15126.2(d) of the *CEQA Guidelines*, "It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment." Based on Appendix G of the *CEQA Guidelines*, a project could have a significant impact on population and housing resources if the proposed project would:

- a) 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);
- b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; or

- c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

As discussed in Section V.C (Impacts Found To Be Less Than Significant) of this DEIR, the potential impacts associated with Thresholds (b) and (c) listed above were determined to result in a less-than-significant (or no) impact. Therefore, only Threshold (a) listed above is addressed in the following discussion.

## **Project Impacts and Mitigation Measures**

### ***Impact POP-1 Induce Substantial Population Growth in the Area***

#### *Population Growth Due to Project Construction*

Construction of the proposed project would take place over approximately 30 to 36 months. Construction-related employment opportunities would not likely result in household relocation by construction workers to the vicinity of the proposed project site for various reasons, including the following:

- Construction employment has no regular place of business; rather, construction workers commute to job sites that may change several times a year.
- Many construction workers are highly specialized (e.g., crane operators, steelworkers, masons, etc.) and move from job site to job site as dictated by the demand for their skills.
- The work requirements of most construction projects are also highly specialized, and workers are employed on a job site only as long as their skills are needed to complete a particular phase of the construction process.
- Some construction workers would likely be drawn from the construction employment labor force (6.1 percent of the total labor force in the County when combined with natural resources and mining industries) already present in the County.

Consequently, the project-related construction workforce would not likely relocate as a consequence of working on the proposed project. Therefore, impacts to population growth associated with temporary jobs would be ***less than significant*** and no mitigation measures are required.

#### *Population Growth Due to Project Operation*

#### New Jobs Associated with the Proposed Project

The project consists of two components, an Office Park and a Wellness Center. The Office Park would consist of a total of 225,000 square feet of mixed use comprised of 40 percent general office, 25 percent research and development, 15 percent storage, and 20 percent light manufacturing. It is not expected that employees would be generated from the 15 percent of the Office Park that would be used for storage. Based on an analysis of the types of uses proposed at the project site, it is expected that an average of 650



workers would be employed at the Office Park portion of the project site, with a peak of 780 workers in very robust economic times.<sup>18</sup> The Wellness Center would include several programs that are designed to provide employment opportunities for up to 37 low-income developmentally disabled (DD) adults living onsite, as well as an additional four full-time and four part-time jobs for staff to manage the various operations. Therefore, as shown in Table IV.K-5 below, the proposed project, including both components, has the potential to employ approximately 825 persons per year, at full operation. Population impacts related to project-related jobs growth is discussed further below in conjunction with impacts related to project-related housing growth.

#### New Housing Associated with the Proposed Project

The proposed project would result in construction of a maximum of 70 apartment and single-story units for use by up to 50 DD residents and 20 staff members. These units would be available to own, rent, or for staff housing. The majority of the units (50) are intended for DD residents and would be available as separate living quarters in the form of single units (one-bedroom/bathroom module) or multiple units containing separate living room and dining room/kitchen area. Additionally, the units would have direct access from the outside. Because these units are in keeping with the definition of a housing unit occupied as a separate living quarter as opposed to group quarters housing, comparison of these types of units is more consistent with household population as opposed to group quarters population for purposes of analyzing population growth associated with new housing.

#### Total Population Growth Associated with the Proposed Project

Taking into account new housing and new jobs associated with the proposed project, it is assumed that a total of 858 people could potentially contribute to the population growth of the area, as shown in Table IV.K-5. This is derived from the 825 jobs created plus 70 housing units minus the 37 housing units for DD residents that would also be employed by 37 of the 45 jobs on the Wellness Center portion of the project site. This number represents the most conservative analysis in which it is assumed that all persons to fill the new housing and jobs created from the project site would be relocating from outside of San Mateo County and that 780 workers would be employed at the Office Center portion of the project site rather than the more likely scenario in which 650 workers would be employed.

**Table IV.K-5**  
**Population Growth Associated with the Proposed Project**

Source	Jobs
<b>Office Park Employment</b>	780 (Peak)
<b>Wellness Center Employment</b>	
Developmentally Disabled	37
Full-Time Staff	4
Part-Time Staff	4
<b>Employment Subtotal</b>	<b>825</b>
<b>Wellness Center Housing</b>	

<sup>18</sup> E-mail correspondence from Scott Holmes, Member of Board of Directors, Big Wave Project, on May 16, 2009.

**Table IV.K-5  
Population Growth Associated with the Proposed Project**

Source	Jobs
Developmentally Disabled	50
Staff	20
<b>Housing Subtotal</b>	<b>70</b>
Overlap Due to Portion of Housing Provided for a Developmentally Disabled Employees	(37)
<b>Total Minus Overlap</b>	<b>858</b>
<i>Source: Project Applicant; and Christopher A. Joseph &amp; Associates, August 2009.</i>	

Project buildout is expected to be complete in year 2013. The projected population in 2013 is 758,910 persons for the entire San Mateo County and 11,754 persons in the unincorporated Half Moon Bay area where the project site would be located, as shown in Table IV.K-1. Extrapolating from ABAG projections data, population between 2009 and 2013 is projected to increase in San Mateo County by 19,441 persons and increase in the unincorporated Half Moon Bay area by 247 persons. Representing 4.2 percent of the County population growth between 2009 and 2013, the proposed project's contribution to the increase in population in the County would be within ABAG's population projections. However, under this conservative analysis where it is assumed that all persons filling the jobs and housing units at the project site would be coming from outside of the unincorporated Half Moon Bay area, the population growth associated with the proposed project is more than three times greater than the projected population growth in the unincorporated Half Moon Bay area between 2009 and 2013.

Assuming that some or all of the jobs created at the project site would be filled by persons relocating to the area, it appears that the local housing market does not contain sufficient vacancy to accommodate large amounts of population influx. As noted, vacancy rates indicate that there is a housing shortage both in the unincorporated portions and the County as a whole.

However, based on current market analysis, it is reasonable to assume that many of the jobs at the project site would be filled by persons living in the area as opposed to people relocating to the area. Unemployment data indicates a need for local employment opportunities. Current unemployment in the area ranges from 6.7 percent in unincorporated Half Moon Bay to 10.8 percent in nearby City of Half Moon Bay. Average unemployment for year 2008 was 3.5 percent for unincorporated Half Moon Bay, 5.8 percent for City of Half Moon Bay, and 5.5 percent for City of Pacifica.

In addition, projections data indicates that many employed residents of these communities are traveling outside of their communities for work. In 2005, unincorporated Half Moon Bay had a total number of 1,960 jobs but 5,530 employed residents, which equates to one job per 2.8 employed residents. Projections data for years 2010 and 2015 similarly indicate that for the communities of unincorporated Half Moon Bay and City of Pacifica there will be almost three times the number of employed residents to the number of jobs. This suggests that there exists a local market for jobs that can be held by residents who are currently traveling outside of the area for employment. Also, according to the Year 2000 U.S. Census, 53 percent of employees in the project vicinity travel from outside the area to work in the Half

Moon Bay Area and 47 percent of the employees in the project vicinity live within the Half Moon Bay area.

Therefore, when assuming a conservative scenario that all persons filling the jobs and housing units at the project site would be coming from outside of the unincorporated Half Moon Bay area, population growth associated with the proposed project is more than three times greater than the projected population growth in the unincorporated Half Moon Bay area between 2009 and 2013. However, based on current unemployment and vacancy rates, it is anticipated that the majority of jobs and housing created by the project would be filled by the existing population.

Additionally, housing to be provided at the project site is in conformity with area plans and policies because of its emphasis on providing affordable housing for developmentally disabled persons. The Housing Element, Local Coastal Program, and Montara - Moss Beach - El Granada Community Plan include variously as part of their goals to provide affordable housing options for special needs groups including the disabled. A related goal is to provide affordable housing in areas that reduce travel time between work and home. Since the housing at the project site is fulfilling a specific need identified in the local plans, this suggests that the housing at the project site is not contributing to substantial population growth in the area. Moreover, 37 of the jobs at the Wellness Center would be specifically provided for DD residents living at the project site. These jobs would not affect the balance between jobs and housing in the local community. The proposed project would assist the area in achieving a jobs/housing balance by providing approximately 825 net new jobs and 70 new housing units, or approximately 12 jobs per dwelling unit. By providing a substantial number of new job opportunities along with a moderate supply of new housing, the proposed project would not only provide adequate jobs to employ future project residents, but provide a surplus of jobs to employ existing and future residents in the surrounding community.

Therefore, as discussed above, impacts related to population growth associated with project operations would therefore be *less than significant* and no mitigation measures are required.

## **CUMULATIVE IMPACTS**

The housing-induced population growth of nearby projects is not relevant since the project proposes housing for up to 70 DD residents and related staff, which has been identified as a need in local community plans and policies. There are no related residential projects in the unincorporated Half Moon Bay area. Residential development projects that are located in the cities of Pacifica and Half Moon Bay do not appear to be designed for DD residents.

Regarding cumulative impacts contributing to substantial population growth, the employment potential of related projects needs to be considered. While on an individual basis, the impacts of the proposed project are not significant, cumulatively with other projects, the potential jobs created could induce substantial population growth in the area. The projects in the City of Half Moon Bay are not relevant to the cumulative impact discussion as they concern residential and park uses. Within the midcoast area and the City of Pacifica, both of which contain insufficient local jobs for employed residents and those seeking

work, as indicated by the jobs/housing imbalance in those areas and by unemployment rates, approximately 33,155 square feet and 94,743 square feet of commercial, industrial and mixed-use projects have been proposed, respectively.<sup>19</sup> Application of employee generation rates to these numbers indicates that the related projects would generate up to 448 employees.<sup>20</sup> Along with the 825 employees expected to be generated at the proposed project, a total of 1,250 employees could be generated by projects in the area. In the year 2030, the population in unincorporated Half Moon Bay is projected to be 12,300 and projected to be 42,100 in City of Pacifica.<sup>21</sup> The ratio of jobs to employed residents is projected to be one job per 2.9 residents in unincorporated Half Moon Bay and one job per 3.1 residents in the City of Pacifica. Therefore, given the imbalance in the number of jobs compared to the number of residents, impacts associated with the potential growth in jobs stemming from the related projects would be less than significant and would create local employment opportunities for residents currently working outside of the area and for unemployed residents seeking employment. Cumulative impacts related to population growth would be *less than significant* and no mitigation measures are required.

### LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts to population and housing would be *less than significant*.

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<sup>19</sup> Within the midcoast area, projects 1 through 7, as described in Table III-1 in Section III, Project Description, consist of commercial, industrial, and mixed uses. Within the City of Pacifica, projects 8 through 13 consist of mixed and commercial uses.

<sup>20</sup> Los Angeles Unified School District, Commercial/Industrial Development School Fee Justification Study, September 2002. Generation Rate = 0.0034965 employee/square foot of office use. (It is assumed that the related projects designated as mixed-use will contain office uses. Office uses generally yield a higher number of employees than other types of commercial uses including industrial uses.)

<sup>21</sup> ABAG, Projections 2007.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### L. PUBLIC SERVICES

#### 1. POLICE

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#### INTRODUCTION

This section of the Draft Environmental Impact Report (DEIR) addresses the subject of public services with respect to the proposed project and includes an examination of the existing services provided to the project site and the impacts that the proposed project would have on those services. The public services section is subdivided into the following five sections: 1) police; 2) fire protection; 3) schools; 4) parks and recreation, and 5) libraries.

#### METHODOLOGY

Potential project impacts on police protection services were evaluated based on the adequacy of existing and planned staffing, equipment, and facilities of the County of San Mateo Sheriff's Department to meet the additional demand for police protection services resulting from development of the proposed project. The following factors were taken into consideration in performing the impact analysis: effects of the proposed project on response times, calls for service, and levels of service; the need for new officers, associated equipment, and facility space. The responsible agency was contacted regarding the potential impacts on its facilities. Responses from public service agencies are included in Appendix C to this DEIR. In addition, various public service policies and guidelines as defined by the County of San Mateo (County) were also reviewed and considered during the project impact analysis.

#### ENVIRONMENTAL SETTING

The primary agency responsible for serving the project site and surrounding area with police protection services is the County of San Mateo Sheriff's Department (Sheriff's Department), headquartered in Redwood City.

The Sheriff's Department is divided into six separate divisions, including: Administration & Finance; Corrections; Operations; Investigations; Support Services; and Crime Lab.<sup>1</sup> The Operations Division contains four separate bureaus, including the following:<sup>2</sup>

- the Patrol Bureau, which provides general law enforcement services to unincorporated areas of the County and the contract cities of Portola Valley and Woodside;

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<sup>1</sup> *San Mateo County Sheriff's Office, Organization Chart, accessed by CAJA Staff at [http://www.co.sanmateo.ca.us/Attachments/sheriffs/pdfs/so\\_details.pdf](http://www.co.sanmateo.ca.us/Attachments/sheriffs/pdfs/so_details.pdf) on September 24, 2009.*

<sup>2</sup> *Ibid.*

- the Office of Emergency Services/Homeland Security, which provides emergency planning, training, preparedness exercises and field response to the County and its cities;
- the Emergency Services Bureau, providing Search and Rescue (SAR), Law Enforcement Support Services and Emergency Management planning, preparedness, training and coordination to reduce injury, loss of life and property during emergencies and to support the mission of law enforcement, responding to approximately 65 major emergency incidents every year, and works closely with Environmental Health and the Hazardous Materials Response Team to respond to hazardous spills and contamination/cleanup incidents; and
- the Investigations/Detective Bureau, which provides thorough and effective investigative and specialized services to the public and County criminal justice agencies to ensure a safer community and provide a foundation for investigation and prosecution while promoting Countywide and area-wide collaborative partnerships.<sup>3</sup>

The Sheriff's Department operates many different community organizations, including: school-based resource officers, youth programming, family counseling, and community-based sub-stations. In addition, the Sheriff's Department offers several specialized crime enforcement units to protect the citizens and property of the County of San Mateo (County). The Community Policing Unit actively maintains citizen and community oriented programs such as the Citizens Police Academy, Neighborhood Watch programs, several youth programs such as bicycle helmet and car seat inspections, including providing helmets and car seats to low-income families, and, in conjunction with Aging and Adult Services, assistance with food delivery to homebound seniors. Deputies regularly attend community and advisory council meetings to hear and help address community concerns, and work closely with County Code Enforcement to help implement community cleanup programs. The Sheriff's Activities League (SAL) provides elementary school children opportunities in athletics and visual and performing arts activities during after school hours and occasional weekend events.<sup>4</sup>

The Sheriff's Department patrols more than 70 percent of the geographic area of the County, including the unincorporated areas of North County, Burlingame Hills, San Mateo Highlands, West Menlo, North Fair Oaks, Laderas, and Coastside, and the contracting cities of Woodside, Portola Valley, and East Palo Alto.<sup>5</sup> The project area is currently served by the Coastside Patrol Unit (Unit), which is responsible for law enforcement activities for over 60 percent of the County. The Unit is staffed with 27 full time deputy sheriffs, four Sergeants, and one Lieutenant, which allows the Unit to consistently supply enforcement

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<sup>3</sup> County of San Mateo Sheriff's Office, Operations Division, accessed by CAJA Staff at [http://www.co.sanmateo.ca.us/smc/departement/home/0,2151,14095463\\_120677473,00.html](http://www.co.sanmateo.ca.us/smc/departement/home/0,2151,14095463_120677473,00.html) on May 1, 2009.

<sup>4</sup> County of San Mateo Sheriff's Office, Community Policing - Patrol Division, accessed by CAJA Staff at [http://www.co.sanmateo.ca.us/smc/departement/home/0,,14095463\\_14132044\\_59181917,00.html](http://www.co.sanmateo.ca.us/smc/departement/home/0,,14095463_14132044_59181917,00.html) on May 1, 2009.

<sup>5</sup> County of San Mateo Sheriff's Office, Patrol Bureau, accessed by CAJA Staff at [http://www.co.sanmateo.ca.us/smc/departement/home/0,2151,14095463\\_188877833,00.html](http://www.co.sanmateo.ca.us/smc/departement/home/0,2151,14095463_188877833,00.html) on April 27, 2009.

resources at any time of day, for any emergency. Additionally, two full-time Community Policing deputies are dedicated to the entire San Mateo County Coast.<sup>6</sup>

There is one dispatch center, San Mateo County Public Safety Communications (SMCPSC), for all areas of the County, including the project area. SMCPSC provides dispatching services to 23 public safety agencies, including five police/sheriff departments, 16 fire departments/fire protection districts, the AMR/San Mateo County 911 Paramedic Transport Provider, and the Peninsula Humane Society.<sup>7</sup>

### **Sheriff's Station**

The station that currently serves the project area is the Moss Beach Substation<sup>8</sup>, located at 500 California Street in Moss Beach, approximately 1.6 miles northwest of the project site. The Moss Beach Substation offers the largest law enforcement facility on the coast.<sup>9</sup> Existing staffing levels and equipment inventory for this station include two Sergeants, eight deputies, and one civilian staff member, and enough vehicles for current staff. As per the Sheriff's Department, the station's staffing and equipment inventory are adequate to meet the current demand for police protection services in the project area.<sup>10</sup>

### **Service Ratio**

The project area is located within Reporting District (RD) Coast Patrol Bureau 70 Beat ("70 Beat"), which includes the North Coast areas of El Granada, Princeton, Montara, Moss Beach, and Miramar. The Sheriff's Department currently employs 303 sworn officers and 286 civilian employees, which equates to four sworn and four civilian employees per 10,000 persons.<sup>11</sup> The current deputy-to-population ratio of the "70 Beat" RD is one full-time employee per 2,245 persons, which meets the desired service ratio standard of the Sheriff's Department.<sup>12</sup>

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<sup>6</sup> County of San Mateo Sheriff's Office, Moss Beach Substation/Patrol Division, accessed by CAJA Staff at [http://www.co.sanmateo.ca.us/smc/departments/home/0,,14095463\\_14132044\\_59222338,00.html](http://www.co.sanmateo.ca.us/smc/departments/home/0,,14095463_14132044_59222338,00.html) on May 1, 2009.

<sup>7</sup> San Mateo County Public Safety Communications - 911 Dispatch, revised April 4, 2009, accessed by CAJA Staff at <http://www.smc911dispatch.org/> on April 28, 2009.

<sup>8</sup> County of San Mateo Sheriff's Office, Captain Mark S. Hanlon, Operations, Response to Service Letter, April 29, 2009.

<sup>9</sup> County of San Mateo Sheriff's Office, Moss Beach Substation/Patrol Division, accessed by CAJA Staff at [http://www.co.sanmateo.ca.us/smc/departments/home/0,,14095463\\_14132044\\_59222338,00.html](http://www.co.sanmateo.ca.us/smc/departments/home/0,,14095463_14132044_59222338,00.html) on May 1, 2009.

<sup>10</sup> County of San Mateo Sheriff's Office, Captain Mark S. Hanlon, Operations, Response to Service Letter, April 29, 2009.

<sup>11</sup> U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics Local Agency Profile, California, San Mateo County Sheriff Department, July 27, 2006, accessed by CAJA Staff at <http://bjsdata.ojp.usdoj.gov/dataonline/Search/Law/Local/LocalAgencyProfile.cfm> on April 28, 2009.

<sup>12</sup> County of San Mateo Sheriff's Office, Captain Mark S. Hanlon, Operations, Response to Service Letter, April 29, 2009.

## Crime Statistics

Table IV.L-1 (County of San Mateo Crime Index (CCI), 2004-2006) shows crime trends in San Mateo County for the years 2004, 2005, and 2006. As shown in Table IV.L-1, the total number of violent and property crimes increased between 2004 and 2005, but decreased between 2005 and 2006.

**Table IV.L-1**  
**County of San Mateo Crime Index (CCI), 2004-2006**

Crimes	2004*		2005*		2006*	
	Number of Crimes	Crimes/100,000 Population	Number of Crimes	Crimes/100,000 Population	Number of Crimes	Crimes/100,000 Population
<b>Violent Crimes</b>						
Homicide	26	3.6	30	4.2	22	3.0
Forcible rape	156	21.6	155	21.5	155	21.3
Robbery	685	95.0	715	99.1	716	98.2
Aggravated assault	1,301	180.5	1,547	214.4	1,302	178.5
<b>Total violent crimes</b>	<b>2,168</b>	<b>300.8</b>	<b>2,447</b>	<b>339.2</b>	<b>2,195</b>	<b>300.9</b>
<b>Property Crimes</b>						
Burglary	2,935	407.2	3,335	462.3	2,969	407.0
Motor vehicle theft	2,943	408.4	2,732	378.7	2,749	376.9
Larceny-Theft (over \$400)	3,832	531.7	3,677	509.7	3,786	519.1
<b>Total property crimes</b>	<b>9,710</b>	<b>1,347.3</b>	<b>9,744</b>	<b>1,350.7</b>	<b>9,504</b>	<b>1,303.0</b>
Notes:						
* The population of San Mateo County in 2004, 2005, and 2006 was 720,700, 721,400, and 729,400, respectively.						
Source: Office of the Attorney General, Criminal Justice Statistics Center, Table 1: Crimes and Crime Rates by Category and Crime, San Mateo County, 1997-2006. Accessed by CAJA Staff at <a href="http://stats.doj.ca.gov/cjsc_stats/prof06/41/1.htm">http://stats.doj.ca.gov/cjsc_stats/prof06/41/1.htm</a> on April 27, 2009.						

Crime rates for 2005 and 2006 for the “70 Beat” RD indicate that the total number of violent crimes reported increased by approximately 88 percent between 2005 and 2006, while the total number of property crimes reported decreased by approximately 0.7 percent (refer to Table IV.L-2 [Crimes Reported in the 70 Beat Reporting District, 2005-2006]). The Sheriff’s Department responded to 9,885 calls for service from January 1, 2008, through January 1, 2009, in the 70 Beat RD.<sup>13</sup>

<sup>13</sup> County of San Mateo Sheriff’s Office, Captain Mark S. Hanlon, Operations, Response to Service Letter, April 29, 2009.



**Table IV.L-2  
Crimes Reported in the 70 Beat Reporting District, 2005-2006**

Crimes	Number of Crimes		Crimes/100,000 Population*		Percent Change
	2005	2006	2005	2006	
<b>Violent Crimes</b>					
Homicide	0	1	0	9.6	+100.0
Rape	0	0	0	0	--
Robbery	1	0	9.6	0	-100.0
Assault	15	29	144.8	280	+93.3
<b>Total Violent Crimes</b>	<b>16</b>	<b>30</b>	<b>154.5</b>	<b>289.6</b>	<b>+87.5</b>
<b>Property Crimes</b>					
Burglary - Other	44	46	424.9	444.2	+4.5
Burglary - Auto	49	59	473.2	570.0	+20.4
Theft	49	37	473.2	357.3	-24.5
Auto Theft	1	0	9.6	0	-100.0
<b>Total Property Crimes</b>	<b>143</b>	<b>142</b>	<b>1,380.8</b>	<b>1,371.2</b>	<b>-0.70</b>
Notes:					
* Based on the Mid-Coast Recreational Needs Assessment (October 2002), the population of the Mid-Coast area is 10,356.					
Source: San Mateo County Sheriff's Office, North Coast Areas including El Granada, Princeton, Montara, Moss Beach, Miramar, Beat 70, Crime Activity Report, 2005 and 2006 Yearly Summaries, received by CAJA Staff from the San Mateo County Sheriff's Office Headquarters Patrol on April 17, 2007.					

As Table IV.L-1 and IV.L-2 show, despite population increasing, the overall crime rate (including violent and property crimes) in the County of San Mateo decreased from 2005 to 2006. While the number of violent crimes reported increased and the number of property crimes reported decreased from 2005 to 2006 in the "70 Beat" RD, the overall proportion of violent crimes per population remained lower in the "70 Beat" RD than the County as a whole, while the overall proportion of property crimes per population in the "70 Beat" RD remained similar to the County as a whole. However, as noted above, the existing staffing levels and equipment inventory for the Moss Beach Substation is adequate to meet current demands for police protection services in the project area.<sup>14</sup>

### Response Times

Unlike fire protection services, police units are often in a mobile state. Hence, actual distance between a headquarters facility and the project site is often of little relevance. Instead, the number of officers out on the street is more directly related to the realized response time. Response time is defined as the total time from when a call requesting assistance is placed until the time that a police unit responds to the scene. Patrol deputies respond from their "Beat" area. Average response time for the "70 Beat" RD is 13.5

<sup>14</sup> County of San Mateo Sheriff's Office, Captain Mark S. Hanlon, Operations, Response to Service Letter, April 29, 2009.

minutes, which meets the Sheriff's Department preferred response time goal of 15 minutes for non-emergency calls.<sup>15</sup>

### **Emergency Access**

Emergency vehicle access to the project site is provided from major roadways near and adjacent to the site. Major roadways near the project site include: State Route (SR) 1 (Cabrillo Highway) and Airport Street. The project site can be directly accessed from the surrounding streets, including: Cypress Avenue, Marine Boulevard; Capistrano Road, Prospect Way; and California and Cornell Avenues, located to the west, east and south of the site, respectively.

## **REGULATORY SETTING**

### **Federal and State**

Currently no Federal or State policies and/or mandates related to police services exist. Therefore, in addition to the thresholds of significance outlined in Appendix G of the State *CEQA Guidelines*, the local policies and guidelines associated with police services as defined by the County of San Mateo will be utilized for this analysis.

### **Local**

#### ***County of San Mateo General Plan***

The County of San Mateo General Plan (General Plan) contains the following policies related to police protection services that are applicable to the proposed project (project consistency with the following is discussed in Section IV.I, Land Use & Planning):

#### *General Land Use (Chapter 7)*

##### ***Urban Areas***

#### 7.16 Land Use Objectives for Urban Areas

Locate land use designations in urban areas (urban unincorporated areas) in order to: (1) maximize the efficiency of public facilities, services and utilities, (2) minimize energy consumption, (3) encourage the orderly formation and development of local government agencies, (4) protect and enhance the natural environment, (5) revitalize existing developed areas, and (6) discourage urban sprawl.

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<sup>15</sup> County of San Mateo Sheriff's Office, Captain Mark S. Hanlon, Operations, Response to Service Letter, April 29, 2009.

### ***Spheres of Influence***

#### 7.21 Suitable Land within City Sphere of Influence

Consider that lands may be included within a city sphere of influence only if they are generally suitable for urban services (e.g., public sewer systems, public water supplies, fire and police protection) and urban land uses.

#### *Urban Land Use (Chapter 8)*

### ***Regulation of Development in Urban Areas***

#### 8.29 Infilling

Encourage the infilling of urban areas where infrastructure and services are available.

#### *General Development Standards*

#### 8.36 Density

Regulate maximum allowable densities in zoning districts in order to: (1) ensure a level of development that is consistent with land use designations, (2) plan for the efficient provision of public facilities, services, and infrastructure, and (3) minimize exposure to natural and man-made hazards.

## **ENVIRONMENTAL IMPACTS**

### **Threshold of Significance**

Based on Appendix G of the State *CEQA Guidelines*, the proposed project could have a significant environmental impact related to police protection services if it would:

- a) 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 (i.e., Sheriff's Station), the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police services.

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## Project Impacts and Mitigation Measures

### *Impact PS-1 Police Services*

Implementation of the proposed project could result in an increased need for police services during both the short-term construction phase and long-term operational phase.

#### *Construction*

Construction sites can be sources of attractive nuisances, providing hazards, and inviting theft and vandalism. Therefore, when not properly secured, construction sites can become a distraction for local law enforcement from more pressing matters that require their attention. Consequently, developers typically take precautions to prevent trespassing through construction sites. Most commonly, temporary fencing is installed around the construction site to keep out the curious. Deployment of roving security guards is also an effective strategy in preventing problems from developing. The proposed project would employ construction security features, such as fencing, which would serve to minimize the need for Sheriff's Department services. Traffic generated by construction workers and trucks would occur primarily during off-peak traffic hours. Although minor traffic delays may result from construction activities at times, these impacts would be temporary in nature and would be coordinated with local police and emergency officials. Therefore, impacts associated with police services during construction would be ***less than significant*** and no mitigation measures are required.

#### *Operation*

Implementation of the proposed project would increase the demand for police services in the project area. As noted in Section IV.K (Population & Housing) of the DEIR, the proposed project would result in approximately 70 permanent residents and approximately 825 employees. Implementation of the proposed project would also increase the number of site visitors within the project site. However, the Sheriff's Department would not need to construct a new facility or expand existing facilities in order to accommodate the project's demand for police services.<sup>16</sup>

Although there is not a direct proportional relationship between increases in land use activity and increases in demand for police protection, it is logical, to some extent, to anticipate that the number of calls for police response to home burglaries, vehicle burglaries, damage to vehicles, traffic-related incidents, and crimes against persons would be anticipated to increase with the increase in onsite activity and population and increased traffic on adjacent streets and arterials. However, because a number of other factors also contribute to the resultant crime rate such as police presence, crime prevention measures, and on-going legislation/funding, the potential for increased crime rates is not necessarily directly proportional to increases in land use activity. Although the project would increase the number of persons and level of activity on the project site, given the type of use and its similarity to the surrounding

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<sup>16</sup> County of San Mateo Sheriff's Office, Captain Mark S. Hanlon, Operations, Response to Service Letter, April 29, 2009.

area, it is reasonable to expect that the project would not result in a meaningful increase in the amount of crime in the project area.

The discussion below considers the major criteria for determining the proposed project's potential impacts on police protection services, including Sheriff's Department staffing levels and response times in the project area.

### Service Ratio

As noted in Section IV.K (Population & Housing) of the DEIR, the proposed project would result in approximately 70 permanent residents and approximately 825 employees. With the construction of the proposed project, the new persons introduced to the project site on a daily basis would not require any additional officers in order to maintain the current deputy-to-population ratio of approximately one officer per 2,245 persons in the "70 Beat" RD.<sup>17</sup> Whether the proposed project would require the Sheriff's Department to hire more deputies or staff or purchase more equipment ultimately depends on the calls for service generated by the proposed project.<sup>18</sup> Because the proposed project's demand for police services would not result in a need for new officers to maintain the current deputy-to-population ratio, the proposed project would not likely require any expansion, consolidation, or relocation of the Moss Beach Substation. Additionally, as noted in Section III (Project Description) of this DEIR, the project would provide security measures, including illumination of the parking lots areas, basketball court, and all developed walkways, security outdoor lighting, indoor lighting, and fencing along the southern and western boundaries of the Wellness Center property and adjacent to the northern two breezeway units, to reduce demands of the Sheriff's Department. Therefore, operation impacts related to the officer-to-population ratio would be *less than significant* and no mitigation measures are required.

### Response Times

Given that the project is not expected to generate a considerable increase in crime, the effect that the project would have on response times would be minimal, if at all.

As noted in Section IV.M (Transportation/Traffic) of the DEIR, all eight study intersections currently operate at an acceptable Level of Service (LOS) D or better. It is estimated that under background conditions (existing conditions plus the addition of traffic generated by other approved developments in the vicinity of the project site), all eight study intersections would continue to operate at an acceptable LOS D or better. With implementation of the proposed project, the eastbound left-turn movement at the intersection of Highway 1 and Cypress Avenue would operate at unacceptable LOS F with a delay of 61.9 seconds, while all other study intersections would continue to operate at an acceptable LOS. However, as previously discussed police units are most often in a mobile state; therefore, it is unknown precisely

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<sup>17</sup>  $[(10,356 \text{ estimated residents in the Mid-Coast Area} + 70 \text{ project residents}) \div (5 \text{ deputies})] = 2,085 \text{ people per deputy}$

<sup>18</sup> County of San Mateo Sheriff's Office, Captain Mark S. Hanlon, Operations, Response to Service Letter, April 29, 2009.

which route the Sheriff's Department would use to access the project site when responding to an emergency call. Therefore, a police unit accessing the project site from the surrounding area may or may not pass through the impacted study intersection. None of the study intersections are expected to be significantly impacted by project traffic volumes. As such, emergency response times would not be affected, given that implementation of the proposed project would not result in a significant traffic impact. Therefore, operational impacts related to response time would be *less than significant* and no mitigation measures are required.

#### Summary of Impacts to Police Services

While the project would increase the number of persons and level of activity on the project site, given the type of use, it is reasonable to expect that the project would not result in a meaningful increase in the amount of crime in the project area. Further, given that the project is not expected to generate a considerable increase in crime, the affect that the project would have on response times would be minimal. Additionally, according to the Sheriff's Department, although additional deputies and equipment could be necessary to accommodate the project, the additional demand for police services created by the project would not require the need for new or altered police facilities. Therefore, project impacts on police services would be *less than significant* and no mitigation measures are required.

Although impacts were found to be less than significant, the following mitigation measure is recommended by the Sheriff's Department to further reduce impacts related to an increased demand for police services associated with the proposed project.

#### **Mitigation Measure PS-1      Police Services**

Provide onsite manned<sup>19</sup> security with clear lines of communication to fire and emergency medical response.<sup>20</sup>

### **CUMULATIVE IMPACTS**

Implementation of the project in combination with the 37 related projects (see Table III-1, Related Projects List) would further increase the demand for police services. However, as seen in Table III-1, all but seven of the projects are located in the City of Pacifica, City of San Bruno, City of Half Moon Bay, and the Town of Hillsborough, each of which have their own police department and provide police services to all areas located within their jurisdiction's boundaries.

Similar to the proposed project, each of the related projects would be individually subject to review by the applicable police department, and would be required to comply with all safety requirements of the applicable jurisdiction to adequately address police protection service demands. Furthermore, each

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<sup>19</sup> County of San Mateo Sheriff's Office, Captain Mark S. Hanlon, Operations, telephone conversation, September 24, 2009.

<sup>20</sup> County of San Mateo Sheriff's Office, Captain Mark S. Hanlon, Operations, Response to Service Letter, April 29, 2009.

related project would contribute additional tax revenue that could be used for commensurate expansion of police services, the hiring of additional police officers/sheriff deputies, and the purchase of additional equipment. Therefore, cumulative impacts with respect to police protection would be ***less than significant*** and no mitigation measures are required.

Although impacts were found to be less than significant, implementation of Mitigation Measure PS-1 would further reduce impacts related to an increased demand for police services associated with implementation of the project; therefore, the project would not contribute to a cumulative impact to police protection in combination with the 37 related projects.

### **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

Project impacts on police services would be ***less than significant***.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### L. PUBLIC SERVICES

#### 2. FIRE PROTECTION

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#### METHODOLOGY

Potential project impacts associated with fire protection services were evaluated based on the adequacy of existing and planned staffing, equipment, and facilities of the Coastside Fire Protection District to meet the additional demand for fire protection and emergency medical services resulting from development of the proposed project. The responsible agency was contacted regarding the potential impacts on their facilities. Responses from public services agencies are included in Appendix C to this DEIR. In addition, various public service policies and guidelines as defined by the County of San Mateo (County) and the Coastside Fire Protection District were also reviewed and considered during the project impact analysis.

#### ENVIRONMENTAL SETTING

The primary agency responsible for serving the project site and surrounding area with fire protection services is the Coastside Fire Protection District (District), which serves the City of Half Moon Bay and the communities of El Granada, Miramar, Princeton, Moss Beach, and Montara, in addition to the surrounding unincorporated areas with a total District size of 50 square miles and a service population of 30,000 residents. The mission of the District is to protect the lives, environment, and property of the community through fire suppression, fire prevention, emergency medical services, rescue services, public education and other related services.<sup>21</sup> The District is a signatory of the San Mateo County Automatic Aid agreement, which provides for aid from all the fire agencies in the County.<sup>22</sup> The District's Board of Directors is comprised of nine publicly elected or appointed representatives who establish policy that is implemented by staff.<sup>23</sup> The District is a part of Fire Net 6, a consolidated dispatch system of six fire agencies within the County by means of a Joint Powers Agreement (JPA).<sup>24</sup>

The District operates three fire stations, including: Fire Station 40, located within the downtown area of the City of Half Moon Bay; Fire Station 41, located within the unincorporated area of El Granada; and Fire Station 44, located within the Moss Beach area (see Table IV.L-3 (Coastside Fire Protection District Fire Protection Services) below).<sup>25</sup> Fire Station 40 serves as the District headquarters, and responded to

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<sup>21</sup> *Coastside Fire Protection District, About Us, accessed by CAJA Staff at <http://www.coastsidefire.org/about> on April 28, 2009.*

<sup>22</sup> *Coastside Fire Protection District, Paul Cole, Chief, Response to Service Letter, May 14, 2009.*

<sup>23</sup> *Coastside Fire Protection District, Board of Directors, accessed by CAJA Staff at <http://coastsidefire.org/node/2> on May 15, 2009.*

<sup>24</sup> *Coastside Fire Protection District, Allied Agencies, accessed by CAJA Staff at <http://coastsidefire.org/allied> on May 18, 2009.*

<sup>25</sup> *Coastside Fire Protection District, About Us, accessed by CAJA Staff at <http://www.coastsidefire.org/about> on April 28, 2009.*

1,191 of the 55,122 incidents in the County of San Mateo in 2008.<sup>26</sup> Station 41 (El Granada) would provide initial fire and emergency medical service response to the project site, and Stations 40 (Half Moon Bay) and 44 (Moss Beach) would support the initial response. Apparatus at Station 40 includes one Type 1 fire engine, one 75-foot ladder truck (Quint), one patrol, and one light-duty rescue. Both Station 41 and Station 44 have one Type 1 fire engine and reserve engine each.<sup>27</sup>

**Table IV.L-3  
Coastside Fire Protection District Fire Protection Services**

<b>Station</b>	<b>Location<sup>1</sup></b>	<b>Equipment<sup>2</sup></b>	<b>Staff<sup>3</sup></b>	<b>Approximate Distance from Project Site (miles)</b>
Station 41	531 Obispo Road El Granada, CA 94018	2 Type 1 Engines 1 Breathing Support	Three (3) personnel	1.2
Station 44	501 Stetson Street Moss Beach, CA 94038	2 Type 1 Engines 1 Type 3 Engine	Three (3) personnel	1.9
Station 40 (District Headquarters)	1191 Main Street Half Moon Bay, CA 94019	1 Type 1 Engine 1 Type 1 Quint 1 Type 3 Engine 1 Antique Engine 1 Water Rescue Unit 1 Command Vehicle 1 Technical Rescue 3 Staff Cars	Five (5) personnel	5.1

*Source:*  
<sup>1</sup> *Coastside Fire Protection District, Fire Stations, accessed by CAJA Staff at <http://www.coastsidefire.org/stations> on April 28, 2009.*  
<sup>2</sup> *Coastside Fire Protection District, Apparatus and Equipment, accessed by CAJA Staff at <http://www.coastsidefire.org/apparatus> on April 28, 2009.*  
<sup>3</sup> *Coastside Fire Protection District, Paul Cole, Chief, Response to Service Letter, May 14, 2009. Christopher A. Joseph & Associates, May 2009.*

The District has eighteen volunteer firefighter positions along with twenty paid positions that include one Division Chief, three Battalion Chiefs, one Fire Prevention Inspector, one Training Division Captain, two Administrative support positions and one Mechanic. All stations are staffed with one Fire Captain and two Fire Apparatus Engineers, one of which is a paramedic to provide advance life support service. Shift personnel work a scheduled three-day/72-hour work week. In addition to traditional fire service, the District provides Advance Life Support, Cliff Rescue, Water Rescue, Confined Space Rescue, Ambulance

<sup>26</sup> *FireDispatch.com, Reports, Incidents by Type and Incidents by District (Top 20), San Mateo County, accessed by CAJA Staff at <http://www.firedispatch.com/> on May 5, 2009.*

<sup>27</sup> *Coastside Fire Protection District, Paul Cole, Chief, Response to Service Letter, May 14, 2009.*

Transport Services, Vehicle and Residential Lock-Out.<sup>28</sup> The District does not currently have plans to develop any new fire stations or increase staffing or equipment levels at any of its three stations.<sup>29</sup>

### **Half Moon Bay Volunteer Fire Department**

The Half Moon Bay Volunteer Fire Department (Volunteer Fire Department) is a Volunteer Division of the District. The Volunteer Fire Department is comprised of approximately 18 members and is under the direction of the Fire Chief. The objectives of the Volunteer Fire Department are to operate within the boundaries of the District as a supplemental force to the regular paid department and to operate as a trained unit for suppression and non-suppression situations. Volunteers participate in rigorous training and respond to many emergencies.<sup>30</sup> The number of volunteers reflects the current needs of the Volunteer Fire Department and is determined by the Chief of the Volunteer Division. The Volunteer Fire Department hires new volunteers on an as-needed-basis.<sup>31</sup>

### **Dispatching**

Dispatching for the County of San Mateo involves one dispatch center, San Mateo County Public Safety Communications (SCMPSC) for all areas of the County including the project area. SCMPSC serves and dispatches all branches of emergency first response, including law enforcement, fire and paramedic services in a consolidated operation, and fields over 280,000 calls for service annually.<sup>32</sup> SCMPSC provides dispatching services to 23 public safety agencies, including five police/sheriff departments, 16 fire departments/fire protection districts, AMR (the County's 911 paramedic transport provider), and the Peninsula Humane Society.<sup>33</sup> All fire jurisdictional boundaries have been dropped for emergency response. The purpose of this boundary drop is to have the closest available equipment respond, and provide immediate emergency services. The type and severity of the emergency will dictate the actual number and type of emergency equipment that is dispatched to respond.

### **Response Times**

As noted above, depending on what type of emergency is called in, the proposed project would primarily be served by Station 41 (El Granada), located approximately 1.2 miles southeast of the project site. Station 41 would provide initial fire and emergency medical service response and Stations 40 and 44,

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<sup>28</sup> *Coastside Fire Protection District, About Us, accessed by CAJA Staff at <http://www.coastsidefire.org/about> on April 28, 2009.*

<sup>29</sup> *Coastside Fire Protection District, Paul Cole, Chief, Response to Service Letter, May 14, 2009.*

<sup>30</sup> *Coastside Fire Protection District, Half Moon Bay Volunteer Fire Department, accessed by CAJA Staff at <http://coastsidefire.org/volunteers> on May 15, 2009.*

<sup>31</sup> *Coastside Fire Protection District, Half Moon Bay Volunteer Fire Department, Recruitment, accessed by CAJA Staff at <http://coastsidefire.org/vrecruitment> on May 15, 2009.*

<sup>32</sup> *San Mateo County Public Safety Communications, Annual Statistics 2008, accessed by CAJA Staff at <http://www.smc911dispatch.org/stats/YearEndStats2008.pdf> on May 5, 2009.*

<sup>33</sup> *San Mateo County Public Safety Communications - 911 Dispatch, revised April 4, 2009, accessed by CAJA Staff at <http://www.smc911dispatch.org/> on April 28, 2009.*

located in the City of Half Moon Bay and Moss Beach, respectively, would support the initial response. Average response times to the project area range between approximately seven minutes and 12 minutes.<sup>34</sup>

### **Wildfire Hazards**

As discussed in Section IV.G (Hazards & Hazardous Materials) of the DEIR, the proposed project site is not within a Hazardous Fire Area, as shown on the Natural Hazards Map of the County of San Mateo General Plan.<sup>35</sup> Additionally, the project site and immediate surrounding land uses are not located in a Fire Hazard Severity Zone, as defined by the California Department of Forestry and Fire Protection (CAL FIRE).<sup>36</sup> Nearby agricultural lands adjacent to the Half Moon Bay Airport and east of Cabrillo Highway interface with open space areas that extend to Montara Mountain; these areas are within the identified Very High Fire Hazard Severity Zone.

The project site is located within a Community at Risk zone according to the County's Wildland Urban Interface Fire Threatened Communities Map, which depicts the general risk within neighborhoods and the relative risk from community to community.<sup>37</sup> Therefore, the project site can be susceptible to wildland fires.

Refer to Section IV.G (Hazards and Hazardous Materials) of the DEIR for further discussion of wildfire hazards and potential project impacts related to wildland fires.

### **Emergency Access**

Emergency vehicle access to the project site is provided from major roadways near and adjacent to the site. Major roadways near the project site include: State Route (SR) 1 (Cabrillo Highway) and Airport Street. The project site can be directly accessed from the surrounding streets, including: Cypress Avenue, Marine Boulevard; Capistrano Road, Prospect Way; and California and Cornell Avenues, located to the west, east and south of the site, respectively.

Habitat, fire access and emergency access fencing and gates would be installed for the Wellness Center property and would run along the AO setback line between the buildings (refer to Figure III-24). The gates would be designed to be opened for fire access, but when closed, the fabric would limit passage for frogs and reptiles. Further, two lock box access points would be available to allow fire trucks access to the proposed walking trail behind the Wellness Center (trails discussed in detail below under Open Space

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<sup>34</sup> *Coastside Fire Protection District, Paul Cole, Chief, Response to Service Letter, May 14, 2009.*

<sup>35</sup> *County of San Mateo General Plan, County of San Mateo, Department of Environmental Management, Planning and Development Division, Natural Hazards, 15.1M, accessed by CAJA Staff at [http://www.sforoundtable.org/P&B/gp/maps/gp%20natural%20hazards%20\(11x17\).pdf](http://www.sforoundtable.org/P&B/gp/maps/gp%20natural%20hazards%20(11x17).pdf) on May 5, 2009.*

<sup>36</sup> *California Department of Forestry and Fire Protection, San Mateo County Fire Hazard Severity Zone (SRA) Map, November 7, 2007.*

<sup>37</sup> *County of San Mateo, Wildland Urban Interface - Fire Threatened Communities, accessed by CAJA Staff at [http://www.co.sanmateo.ca.us/vgn/images/portal/cit\\_609/29/16/601017851firethreat\\_wui.pdf](http://www.co.sanmateo.ca.us/vgn/images/portal/cit_609/29/16/601017851firethreat_wui.pdf) on May 15, 2009. (Original Source: California Department of Forestry and Fire Protection, 2003.)*

and Recreation), including: (1) a habitat gate between the common area within Building 1 and the southeast property line; and (2) a fire access gate along the northern entry point near the AO setback line.

## **REGULATORY SETTING**

### **Federal**

Currently no Federal policies and/or mandates related to fire protection services exist that are applicable to the proposed project. Therefore, in addition to the thresholds of significance outlined in Appendix G of the State *CEQA Guidelines*, the State and local policies and guidelines associated with fire services will be utilized for this analysis.

### **State**

#### ***California Code of Regulations***

Title 24 of the California Code of Regulations (CCR), known as the California Building Standards Codes or “Title 24”, contains the laws and regulations that govern the construction of buildings in California. The California Building Standards Code applies to all occupancies throughout the State. However, cities or counties may establish more restrictive building standards.<sup>38</sup> The 2007 triennial edition of the California Code of Regulations, Title 24 (California Building Standards Code) applies to all occupancies that applied for a building permit on or after January 1, 2008, and remains in effect until the effective date of the 2010 triennial edition. Part 9 of Title 24 is the California Fire Code, which contains fire-safety-related building standards referenced in other parts of Title 24. This Code is preassembled with the 2006 International Fire Code by the International Code Council.<sup>39</sup>

### **Local**

#### ***County of San Mateo Municipal Code***

County of San Mateo Municipal Code (County Code) Chapter 3.84 (Fire Protection Regulations) (herein referred to as the “County Fire Code”) applies to fire districts/departments serving all unincorporated areas of the County.

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<sup>38</sup> Department of General Services, State Architect, Title 24 Overview, accessed by CAJA Staff at <http://www.dsa.dgs.ca.gov/Code/title24.htm> on May 8, 2009.

<sup>39</sup> Building Standards Commission, 2007 Triennial Edition of CCR, Title 24, accessed by CAJA Staff at [http://www.bsc.ca.gov/title\\_24/t24\\_2007tried.htm](http://www.bsc.ca.gov/title_24/t24_2007tried.htm) on May 18, 2009.

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**County of San Mateo General Plan**

The County of San Mateo General Plan (General Plan) contains the following policies related to fire protection services that are applicable to the proposed project (project consistency with the following is discussed in Section IV.I, Land Use & Planning):

*General Land Use (Chapter 7)****Urban Areas*****7.16 Land Use Objectives for Urban Areas**

Locate land use designations in urban areas (urban unincorporated areas) in order to: (1) maximize the efficiency of public facilities, services and utilities, (2) minimize energy consumption, (3) encourage the orderly formation and development of local government agencies, (4) protect and enhance the natural environment, (5) revitalize existing developed areas, and (6) discourage urban sprawl.

***Spheres of Influence*****7.21 Suitable Land within City Sphere of Influence**

Consider that lands may be included within a city sphere of influence only if they are generally suitable for urban services (e.g., public sewer systems, public water supplies, fire and police protection) and urban land uses.

*Urban Land Use (Chapter 8)****Regulation of Development in Urban Areas*****8.29 Infilling**

Encourage the infilling of urban areas where infrastructure and services are available.

*General Development Standards***8.36 Density**

Regulate maximum allowable densities in zoning districts in order to: (1) ensure a level of development that is consistent with land use designations, (2) plan for the efficient provision of public facilities, services, and infrastructure, and (3) minimize exposure to natural and man-made hazards.

*Natural Hazards (Chapter 15)**Fire Hazards****Regulation of Development***15.29 Review Criteria for Locating Development Outside of Fire Hazard Areas

Insure that fire safety is adequately addressed in the review of new development proposed in unincorporated areas located outside of fire hazard areas through measures including but not limited to referral of proposals for development to appropriate fire protection agencies for conditions of approval.

15.30 Standards for Water Supply and Fire Flow for New Development

- a. Require connection to a public water system or private water company or provision of an onsite water supply as a condition of approval for any new development proposal.
- b. Determine the quantity of onsite water supply, fire flow requirements and spacing and installation of hydrants in accordance with the standards of the agency responsible for fire protection for the site proposed for development.
- c. Consider the use of additional onsite fire protection devices, including but not limited to, the use of residential sprinkler systems and contracting the services of private alarm companies for development proposed in remote areas.

15.31 Standards for Road Access for Fire Protection Vehicles to Serve New Development

- a. Consider the adequacy of access for fire protection vehicles during review of any new development proposal.
- b. Determine the adequacy of access through evaluation of length of dead end roads, turning radius for fire vehicles, turnout requirements, road widths and shoulders and other road improvement considerations for conformance with the standards of the agency responsible for fire protection for the site proposed for development.
- c. To the maximum extent possible, design access for fire protection vehicles in a manner which will not result in unacceptable impacts on visual, recreational and other valuable resources.

15.32 Street Signing

Support efforts to identify all roads, streets and major public buildings in a manner so that they are clearly visible to fire protection and other emergency vehicles.

**15.33 Road Patterns**

- a. Ensure road patterns that facilitate access for fire protection vehicles and provide secondary access and emergency evacuation routes when reviewing proposals for new subdivisions.
- c. Encourage fire protection agencies to identify emergency access and evacuation routes for existing developed areas and to provide this information to area residents.

**15.34 Vegetative Clearance Around Structures**

- a. Require clearance of flammable vegetation around structures as a condition of approval to new development in accordance with the requirements of the agency responsible for fire protection.
- b. Conduct periodic inspections to ensure maintenance of required clearances.

**15.35 Fire Retardant Vegetation**

Encourage the use of fire retardant vegetation when reviewing new development proposals.

**ENVIRONMENTAL IMPACTS****Thresholds of Significance**

Based on Appendix G of the State *CEQA Guidelines*, the proposed project could have a significant environmental impact related to fire protection services if it would:

- a) 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 fire protection services.

**Project Impacts and Mitigation Measures*****Impact PS-2 Fire Protection Services***

Implementation of the proposed project could result in an increased need for fire protection services during both the short-term construction phase and long-term operational phase.

***Construction***

Construction of the proposed project would increase the potential for accidental onsite fires from sources such as the operation of mechanical equipment and use of flammable construction materials. In most cases, the implementation of “good housekeeping” procedures by the construction contractors and the



work crews would minimize these hazards. Good housekeeping procedures that would be implemented during construction of the proposed project include: the maintenance of mechanical equipment in good operating condition; careful storage of flammable materials in appropriate containers; and the immediate and complete cleanup of spills of flammable materials when they occur.

Construction activities also have the potential to affect fire protection, such as emergency vehicle response times, by adding construction traffic to the street network and potentially requiring partial lane closures during street improvements and utility installations. These impacts are considered to be less than significant for the following reasons:

- Construction impacts are temporary in nature and do not cause lasting effects;
- Partial lane closures, if determined to be necessary, would not greatly affect emergency vehicles, the drivers of which normally have a variety of options for avoiding traffic, such as using their sirens to clear a path of travel or driving in the lanes of opposing traffic; and
- The project site is located within 1.2 miles of Station 41, which would provide initial fire and emergency medical service response to the project site. Station 41 houses one Type 1 fire engine and one reserve engine and is staffed with three personnel. Two other Stations in the vicinity (Station 40 and 44) would support the initial response.

Based on the above information, construction of the proposed project would not be expected to tax fire fighting and emergency services to the extent that there would be a need for new, expanded, consolidated, or relocated fire facilities, in order to maintain acceptable performance objectives set by the District. Therefore, impacts associated with fire protection services during construction would be ***less than significant*** and no mitigation measures are required.

Although impacts were found to be less than significant, Mitigation Measure PS-2a would further reduce impacts associated with fire protection services during construction.

#### ***Mitigation Measure PS-2a      Fire Protection Services***

When there are partial closures, roadblocks, or encroachments to streets surrounding the project site during the grading and construction periods, flagmen shall be utilized to facilitate the traffic flow.

#### ***Operation***

Implementation of the proposed project would increase the demand for fire protection services in the project area. Considering that the project site is undeveloped and that current use of the site is limited to agricultural, the proposed project would represent a more intense use of the site. Although the relationship is not directly proportional, more intense uses of land typically result in the increased potential for fire and emergency incidents. As discussed in Section IV.K (Population & Housing) of the DEIR, the proposed project would result in approximately 70 permanent residents and up to approximately 825 employees. Implementation of the proposed project would also increase the number

of site visitors within the project site. As such, the increase in residents, employees and visitors to the project site could result in an increase in the demand for fire protection services.

It is unknown at this time whether existing staffing and equipment levels would be adequate to serve the proposed project. Implementation of the proposed project may require the District to construct new facilities or expand existing facilities to accommodate increased demand for fire protection services. According to the District, depending on the layout of the proposed project, the aerial ladder may not reach the roof of the building. Also, depending upon the service demands of the proposed project, additional personnel may be needed to meet response time demands. If the service demands increase with development of the proposed project, one additional company could be required at Station 41. The current station could not support the additional company and would need to be expanded and/or newly constructed. However, at this time the District does not have plans to develop any new fire stations or increase the amount of staffing and/or equipment levels at each of the District's three stations.<sup>40</sup>

One method utilized by the District to address the growing demands for fire protection services is through the Community Facilities Development process<sup>41</sup> (Mello-Roos Community Facilities Act of 1982).<sup>42</sup> All construction plans are required to comply with all applicable regulations and policies of the County and District.<sup>43</sup> Additionally, the other five agencies of the Fire Net 6 JPA, including the California Department of Fire and Forestry Protection (CAL FIRE), Menlo Park Fire District, Redwood City Fire Department, Belmont-San Carlos Fire Department, and Woodside Fire Protection District, would provide resources and mutual aid if an emergency escalated or warranted further personnel and equipment. Furthermore, the proposed project would be required to provide its fair share of Developer Impact Fees (DIFs) to assist the District in construction of new facilities as needed, as well as the recruitment and retention of new employees and the purchase of new equipment.

As noted above and further discussed in Section IV.G (Hazards & Hazardous Materials) of the DEIR, the project site is located within a Community at Risk zone according to the County's Wildland Urban Interface Fire Threatened Communities Map and the project site could be susceptible to wildland fires.

It is unlikely that implementation of the proposed project would require the District to construct new facilities or expand existing facilities to accommodate increased demand for fire protection services. Although it is currently unknown whether existing staffing and equipment levels would be adequate to

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<sup>40</sup> Coastside Fire Protection District, Paul Cole, Chief, Response to Service Letter, May 14, 2009.

<sup>41</sup> Coastside Fire Protection District, Paul Cole, Chief, Response to Service Letter, May 14, 2009.

<sup>42</sup> *The Mello-Roos Community Facilities Act of 1982 allows any county, city, special district, school district or joint powers authority to establish a Mello-Roos Community Facilities District (a "CFD") which allow for financing of public improvements and services, including streets, sewer systems and other basic infrastructure, police protection, fire protection, ambulance services, schools, parks, libraries, museums, and other cultural facilities. By law, the CFD is also entitled to recover expenses needed to form the CFD and administer the annual special taxes and bonded debt.*

(Source: California Property Tax Information, What is Mello-Roos?, accessed by CAJA Staff at <http://www.mello-roos.com/pdf/mrpdf.pdf> on May 18, 2009.)

<sup>43</sup> Coastside Fire Protection District, Paul Cole, Chief, Response to Service Letter, May 14, 2009.

serve the proposed project, the current Building Permit plan review process includes a requirement for project review and approval by the applicable fire authority. Therefore, impacts associated with fire protection services during operation of the proposed project would be *less than significant*.

## CUMULATIVE IMPACTS

Implementation of the proposed project in combination with the 37 related projects (see Table III-1, Related Projects List) would further increase the demand for fire protection. Specifically, there would be increased demands for additional staffing, equipment and facilities over time. However, as seen in Table III-1, all but seven of the projects are located in the City of Pacifica, City of San Bruno, City of Half Moon Bay, and the Town of Hillsborough, each of which have their own fire department and provide fire protection services to all areas located within their jurisdiction's boundaries. Regarding the seven related projects located within the Mid-Coast area of the County, whether the District could adequately accommodate the demand for fire protection services associated with the development of these projects in conjunction with the proposed project is dependent upon the type and number of calls for services each of the related projects would generate. However, according to the District, with the addition of one additional staffed engine/truck company, the District could meet the demands as projected.<sup>44</sup>

Similar to the proposed project, each of the related projects would be individually subject to review by the applicable fire department, and would be required to comply with all safety requirements of the applicable jurisdiction to adequately address fire protection service demands. Furthermore, each related project would contribute additional tax revenue that could be used for commensurate expansion of fire protection services, the hiring of additional firefighters/staff, and the purchase of additional equipment. Therefore, cumulative impacts with respect to fire protection services would be *less than significant* and no mitigation measures are required.

## LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts to fire protection services would be *less than significant*.

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<sup>44</sup> Coastside Fire Protection District, Paul Cole, Chief, Response to Service Letter, May 14, 2009.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### L. PUBLIC SERVICES

#### 3. SCHOOLS

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##### METHODOLOGY

Potential project impacts associated with school services were evaluated based on the adequacy of existing and planned facilities of the Cabrillo Unified School District to meet the additional demand for educational facilities resulting from development of the proposed project. The responsible agency was contacted regarding the potential impacts on their facilities. Responses from public services agencies are included in Appendix C to this DEIR. In addition, various public service policies and guidelines as defined by the County of San Mateo were also reviewed and considered during the project impact analysis.

##### ENVIRONMENTAL SETTING

Public education services near the project site are provided by the Cabrillo Unified School District (CUSD).<sup>45</sup> CUSD was established on July 1, 1965 and encompasses an area of approximately 135 square miles. CUSD currently operates four elementary schools, one middle school, one high school, and one continuation school, and an adult education program, which provide education for approximately 3,800 students.<sup>46</sup> CUSD implements an open enrollment policy, which allows students to apply to transfer to any of the District's elementary schools.<sup>47</sup>

The following schools currently serve the project area and would serve the proposed project:<sup>48</sup>

- El Granada Elementary School, located at 400 Santiago Street in Half Moon Bay (approximately 1.6 miles southeast of the project site), which serves grades K-5.
- Manual F. Cunha Intermediate School, located at 600 Church Street in Half Moon Bay (approximately 4.3 miles southeast of the project site), which serves grades 6-8.
- Half Moon Bay High School, located at 498 Kelly Avenue in Half Moon Bay (approximately 5 miles southeast of the project site), which serves grades 9-12.

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<sup>45</sup> *County of San Mateo, State of California High School Districts, 2008, accessed by CAJA Staff at [http://www.smcoe.k12.ca.us/Projects/8/County\\_Map\\_High\\_SD.pdf](http://www.smcoe.k12.ca.us/Projects/8/County_Map_High_SD.pdf) on April 14, 2009.*

<sup>46</sup> *Cabrillo Unified School District, District Programs, accessed by CAJA Staff at [http://www.cabrillo.k12.ca.us/CUSD\\_topic/programs.htm](http://www.cabrillo.k12.ca.us/CUSD_topic/programs.htm) on April 14, 2009.*

<sup>47</sup> *Cabrillo Unified School District, Diane E. Stupi, Director, Fiscal Services, electronic correspondence, April 30, 2009.*

<sup>48</sup> *Cabrillo Unified School District, Diane E. Stupi, Director, Fiscal Services, Response to Service Letter, April 29, 2009.*

Enrollment and class size trends for these schools between 2005 and 2008 are shown in Table IV.L-4 (School Data for Proposed Project and Vicinity). As shown, enrollments at each of the three schools serving the project area have steadily declined between 2005 and 2008. However, current District-wide enrollment and capacity statistics for the 2008-2009 school year indicate that current capacity is exceeded by 148 students<sup>49</sup> and existing school capacity within the CUSD is not adequate to meet the current student population. CUSD utilizes bussing programs and portable classrooms to accommodate overcrowded schools. There are no plans at this time to build any new schools within the CUSD, but plans to modernize Manual F. Cunha Intermediate School are in process.<sup>50</sup>

**Table IV.L-4**  
**School Data for Proposed Project and Vicinity**

School Year	El Granada Elementary School			Manual F. Cunha Intermediate School			Half Moon Bay High School		
	05-06	06-07	07-08	05-06	06-07	07-08	05-06	06-07	07-08
Enrollment	529	501	501	758	716	711	1,133	1,064	1,050
Average Class Size	22.2	20.8	19.9	29.9	29.3	27.0	30.0	27.5	27.0
Pupil Teacher Ratio	18.9	18.6	17.9	24.3	23.4	22.3	24.6	24.5	24.8
<i>Source: California Department of Education, DataQuest. Accessed by CAJA Staff at <a href="http://dq.cde.ca.gov/dataquest/">http://dq.cde.ca.gov/dataquest/</a> on April 14, 2009.</i>									

### School Developer Fees

Pursuant to Section 17620(a)(1) of the California Education Code, the governing board at any school district is authorized to levy a fee, charge, dedication, or other requirement against any construction within the boundaries of the district, for the purpose of funding the construction or reconstruction of school facilities. Effective May 12, 2008, CUSD school impact fee rates are \$2.97 per square foot of residential development and \$0.47 per square foot of commercial development.<sup>51</sup> Provided in Section 65996 of the California Government Code, the payment of such fees is deemed to fully mitigate the impacts of new development on school services.

<sup>49</sup> Current capacity = 3,238 students; Current enrollment = 3,386 students [3,238 - 3,386 = -148 students] (Cabrillo Unified School District, Diane E. Stupi, Director, Fiscal Services, electronic correspondence, April 30, 2009.)

<sup>50</sup> Cabrillo Unified School District, Diane E. Stupi, Director, Fiscal Services, Response to Service Letter, April 29, 2009.

<sup>51</sup> Cabrillo Unified School District, Diane E. Stupi, Director, Fiscal Services, Response to Service Letter, April 29, 2009.

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## REGULATORY SETTING

### Federal and State

Senate Bill 50 (SB 50) and Proposition 1A provided a comprehensive school facilities financing and reform program. The provisions of SB 50 prohibit local agencies from denying land use approvals on the basis that school facilities are inadequate and reinstate the school facility fee cap for legislative actions. Section 65996 of the Government Code states that the development fees authorized by SB 50 are deemed to be “full and complete school facilities mitigation.”

Section 17620(a)(1) of the California Education Code, the governing board at any school district is authorized to levy a fee, charge, dedication, or other requirement against any construction within the boundaries of the district, for the purpose of funding the construction or reconstruction of school facilities.

### Local

#### *County of San Mateo General Plan*

The County of San Mateo General Plan (General Plan) contains the following policies related to school services that are applicable to the proposed project (project consistency with the following is discussed in Section IV.I, Land Use & Planning):

#### *General Land Use (Chapter 7)*

##### *Urban Areas*

#### 7.16 Land Use Objectives for Urban Areas

Locate land use designations in urban areas (urban unincorporated areas) in order to: (1) maximize the efficiency of public facilities, services and utilities, (2) minimize energy consumption, (3) encourage the orderly formation and development of local government agencies, (4) protect and enhance the natural environment, (5) revitalize existing developed areas, and (6) discourage urban sprawl.

#### *Urban Land Use (Chapter 8)*

##### *Regulation of Development in Urban Areas*

##### *General Development Standards*

#### 8.36 Density

Regulate maximum allowable densities in zoning districts in order to: (1) ensure a level of development that is consistent with land use designations, (2) plan for the efficient provision of

public facilities, services, and infrastructure, and (3) minimize exposure to natural and man-made hazards.

## ENVIRONMENTAL IMPACTS

### Threshold of Significance

Based on Appendix G of the State *CEQA Guidelines*, the proposed project could have a significant environmental impact related to school services if it would:

- a) 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 school services.

### Project Impacts and Mitigation Measures

#### *Impact PS-3 School Services*

Implementation of the proposed project would potentially increase the demand for school services in the project area. As noted in Section IV.K (Population & Housing) of the DEIR, the proposed project would result in approximately 70 permanent residents and approximately 825 employees. While the DD adult residents would not utilize school facilities in the project area, the 20 live-in staff members anticipated with project development could potentially have school-aged dependents living with them that would attend the schools serving the project site. Additionally, the employees generated by the Office Park property development may also have school-aged children; however, as these employees would not be living onsite, their children would continue to attend school near their place of residence.

The estimated number of students the proposed project would generate is derived by multiplying the number of students per dwelling unit (the student generation rate) by the number of dwelling units proposed under the project. While under the proposed project a maximum of 70 units may be developed, 50 of those units would be occupied by developmentally disabled adults that would not utilize school services provided by the CUSD. The remaining 20 units would be occupied by live-in staff that could potentially have school-aged children living with them that would attend the schools serving the project site.

The student generation rate used for the CUSD is 0.609 students per dwelling unit.<sup>52</sup> The student generation rate may be broken down as approximately 0.047 students in each grade year K through 12<sup>th</sup>. To calculate project impacts on the CUSD, the student generation rate per dwelling unit may be expressed

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<sup>52</sup> *Cabrillo Unified School District, Diane E. Stupi, Director, Fiscal Services, Response to Service Letter, April 29, 2009.*



as 0.281 elementary school students, 0.141 middle school students, and 0.187 high school students.<sup>53</sup> Applying the student generation rate for the CUSD, the proposed project has the potential to generate approximately 13 students - six elementary school students, three middle school students, and four high school students.<sup>54</sup> The CUSD does not plan to develop any new schools in the service area of the proposed project; however, as discussed previously, there are plans to modernize Manual F. Cunha Intermediate School in process.<sup>55</sup>

As mandated by State law (Section 17620(a)(1) of the California Education Code), the project applicant would be required to pay \$2.97 per square foot of residential development and \$0.47 per square foot of commercial development (as of May 12, 2008) to offset any impacts the proposed project would have on the CUSD. As stated previously, provided in Section 65996 of the California Government Code, the payment of such fees is deemed to fully mitigate the impacts of new development on school services. The CUSD will work with the project applicant to accommodate the demand for school services associated with the proposed project.<sup>56</sup> Therefore, with payment of these required developer fees and consultation with the CUSD, project impacts to school services would be *less than significant* and no mitigation measures are required.

## CUMULATIVE IMPACTS

Implementation of the project in combination with the 37 related projects (see Table III-1, Related Projects List) would further increase the demand for school services. However, as with the proposed project, the applicants of the related projects would be required to pay developer fees to the appropriate school districts as applicable; and payment of these fees would fully mitigate any impact that the related projects would have on school services, pursuant to Section 65996 of the California Government Code. The CUSD will work with each individual developer to accommodate the demand for school services

<sup>53</sup>  $[0.609 \text{ students/du}] \div 13 \text{ grade levels (K-12)} = 0.0468461 \text{ students/du/grade level}$   
Elementary School (K-5):  $0.0468461 \text{ students/du/grade level} \times 6 \text{ grade levels} = 0.281 \text{ students/du}$   
Middle School (6-8):  $0.0468461 \text{ students/du/grade level} \times 3 \text{ grade levels} = 0.141 \text{ students/du}$   
High School (9-12):  $0.0468461 \text{ students/du/grade level} \times 4 \text{ grade levels} = 0.187 \text{ students/du}$   
 (Note: dwelling unit = du)

<sup>54</sup> Elementary School (K-5):  $0.281 \text{ students/du} \times 20 \text{ du} = 5.62 = 6 \text{ students}$   
Middle School (6-8):  $0.141 \text{ students/du} \times 20 \text{ du} = 2.82 = 3 \text{ students}$   
High School (9-12):  $0.187 \text{ students/du} \times 20 \text{ du} = 3.74 = 4 \text{ students}$   
 (Note: dwelling unit = du)

<sup>55</sup> Cabrillo Unified School District, Diane E. Stupi, Director, Fiscal Services, Response to Service Letter, April 29, 2009.

<sup>56</sup> Cabrillo Unified School District, Diane E. Stupi, Director, Fiscal Services, Response to Service Letter, April 29, 2009.

associated with their specific development.<sup>57</sup> Therefore, cumulative impacts associated with school services would be *less than significant* and no mitigation measures are required.

### **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

Project impacts to school services would be *less than significant*.

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<sup>57</sup> *Cabrillo Unified School District, Diane E. Stupi, Director, Fiscal Services, Response to Service Letter, April 29, 2009.*

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### L. PUBLIC SERVICES

#### 4. PARKS & RECREATION

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##### METHODOLOGY

Potential project impacts associated with public parks and recreation facilities were evaluated based on the adequacy of existing facilities of both the County of San Mateo Department of Parks and California State Parks to meet the additional demand for public parks and recreation facilities resulting from development of the proposed project. The responsible agencies were contacted regarding the potential impacts on its facilities. Responses from public services agencies are included in Appendix C to this DEIR. In addition, various public service policies and guidelines as defined by the County of San Mateo and the Parks Department were also reviewed and considered during the project impact analysis.

##### ENVIRONMENTAL SETTING

###### *California Department of Parks and Recreation*

In addition to parks operated by the Parks Department, many California Department of Parks and Recreation (CDPR) parks are located in the County of San Mateo. The CDPR owns and operates 8,353 acres of recreational facilities in the County in the form of parks, beaches, and marine reserves.<sup>58</sup> These facilities are located along the coast and in the southern portion of the County. The facilities nearest to the proposed project vicinity include Montara and Half Moon Bay State Beaches.<sup>59</sup> CDPR operates the following 18 parks and recreational areas in the County of San Mateo.<sup>60</sup>

- Año Nuevo State Park/Natural Reserve
- Bean Hollow State Beach
- Big Basin Redwoods State Park
- Burleigh H. Murray Ranch
- Butano State Park
- Castle Rock State Park
- Gray Whale Cove State Beach
- Half Moon Bay State Beach
- Pacifica State Beach
- Pescadero State Beach
- Pigeon Point Light Station State Historic Park
- Point Montara Light Station
- Pomponio State Beach
- Portola Redwoods State Park
- San Bruno Mountain State Park
- San Gregorio State Beach

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<sup>58</sup> *San Mateo County, Environmental Services Agency, Planning and Building Division, County of San Mateo General Plan, Chapter 6 - Park & Recreation Resources, November 1986, page 6.5.*

<sup>59</sup> *California State Parks, Paul Keel, Sector Superintendent, Santa Cruz District, San Mateo Coast Sector, Response to Service Letter, May 1, 2009.*

<sup>60</sup> *California State Parks, Visit a Park, Find Parks, County/City, San Mateo County, accessed by CAJA Staff at <http://www.parks.ca.gov/parkindex/> on April 28, 2009.*

- Montara State Beach
- Thornton State Beach

At certain busy times, all State park facilities are at capacity with visitors; however, no development is planned at this time. The CDPR is looking at visitation trends to help direct future park planning.<sup>61</sup>

### ***County of San Mateo Department of Parks***

The County of San Mateo Department of Parks (Parks Department) operates 18 parks<sup>62</sup>, three regional trails and numerous other County and local trails encompassing 15,680 acres<sup>63</sup>. The parks, trails, and facilities are located throughout the County and represent a wide variety of natural settings including a coastside marine reserve, recreational area, coastal mountain woodland areas, and urban sites.<sup>64</sup> Camping, hiking, swimming, windsurfing, and horseback riding are some of the recreational activities offered at the following County parks<sup>65</sup>:

- Coyote Point Recreation Area & Marina
- Crystal Springs (Sawyer Camp Trail)
- Edgewood Park & Natural Preserve
- Flood Park
- Huddart Park
- Fitzgerald Marine Reserve
- Heritage Grove
- Junipero Serra Park
- Memorial Park
- Pescadero Creek Park
- Quarry Park
- Sam McDonald Park
- Sanchez Adobe Historic Site
- San Bruno Mountain State & County Park
- San Mateo Fishing Pier<sup>66</sup>
- San Pedro Valley Park
- Woodside Store
- Wunderlich Park

<sup>61</sup> California State Parks, Paul Keel, Sector Superintendent, Santa Cruz District, San Mateo Coast Sector, Response to Service Letter, May 1, 2009.

<sup>62</sup> County of San Mateo, Department of Parks, Sam Herzberg, Senior Planner, Response to Service Letter, May 8, 2009.

<sup>63</sup> Figure does not account for Quarry Park, a 40-acre park in El Granada, over which the Parks Department has assumed ownership, operations, and maintenance. (Source: County of San Mateo, Department of Parks, Sam Herzberg, Senior Planner, Response to Service Letter, May 8, 2009; and Midcoast Park Lands, What is Midcoast Park Lands?, accessed by CAJA Staff at <http://www.mpl.sanmateo.org/> on May 8, 2009.)

<sup>64</sup> County of San Mateo, Department of Parks, Department of Parks Home, accessed by CAJA Staff at <http://www.co.sanmateo.ca.us/portal/site/parks/> on April 27, 2009.

<sup>65</sup> County of San Mateo, Department of Parks, Sam Herzberg, Senior Planner, Response to Service Letter, May 8, 2009; and County of San Mateo, Department of Parks, Parks, San Mateo County Parks, accessed by CAJA Staff at

[http://www.co.sanmateo.ca.us/portal/site/parks/menuitem.16bfc0a32453ee4482439054d17332a0/?vgnextoid=0f29f80110f4d110VgnVCM1000001d37230aRCRD&vgnnextchannel=ee29f80110f4d110VgnVCM1000001d37230a\\_\\_\\_&vgnnextfmt=DivisionsLanding](http://www.co.sanmateo.ca.us/portal/site/parks/menuitem.16bfc0a32453ee4482439054d17332a0/?vgnextoid=0f29f80110f4d110VgnVCM1000001d37230aRCRD&vgnnextchannel=ee29f80110f4d110VgnVCM1000001d37230a___&vgnnextfmt=DivisionsLanding) on April 27, 2009.

<sup>66</sup> The San Mateo Fishing Pier is currently closed. Plans to reopen the facility are being considered.

(Source: County of San Mateo, Department of Parks, Parks, San Mateo Fishing Pier, accessed by CAJA Staff at <http://www.co.sanmateo.ca.us/portal/site/parks/menuitem.f13bead76123ee4482439054d17332a0/?vgnextoid=9828c8909231e110VgnVCM1000001d37230aRCRD&cpsexcurrchannel=1> on April 28, 2009.)

According to the Parks Department, the existing park and recreational facilities are not adequately meeting the project area's current demand for park and recreation facilities.<sup>67</sup> Additionally, although the Parks Department has a presence in the Mid-Coast area, they are not currently funded for operating parks and recreation services for the unincorporated Mid-Coast communities. Establishing a governance structure for providing the needed recreational services is critical for constructing, maintaining, operating and administering a community park system.

### ***Mid-Coast Recreational Needs Assessment***

The project site is located in the Mid-Coast area of the County of San Mateo, which encompasses an area of 6.1 square miles to the north of the City of Half Moon Bay and includes approximately 11,000 residents living in five distinct communities (Montara, Moss Beach, El Granada, Princeton, and Miramar). While some local recreational opportunities exist, many residents have expressed a need for significantly more facilities and programs.<sup>68</sup> The purpose of the *Mid-Coast Recreational Needs Assessment* (Recreational Needs Assessment) is to assist the Mid-Coast community in moving forward with their vision of a park and recreation and outline a strategy for their implementation of the overall plan.<sup>69</sup> The park and recreation system envisioned in the Recreational Needs Assessment would include mini-parks, neighborhood parks, community parks, a community recreational building and a community-wide trail system resulting in over 62 acres of parkland to fulfill existing population needs and an additional 50 acres for future population growth expected at build-out. Additionally, approximately 19.8 miles of trails, including 9.6 miles of Class I trails and 10.2 miles of hiking paths, are proposed as part of the recommended park system.<sup>70</sup>

Within the Mid-Coast area, there are twelve parks and recreation facilities serving residents and others, including: 1) Quarry Park, 2) Farrallone View School, 3) El Granada School, 4) Hockey Rink at Airport, 5) Moss Beach Park, 6) McNee Ranch State Park, 7) Gray Whale Cove State Beach, 8) Montara State Beach, 9) James V. Fitzgerald Marine Reserve, 10) Pillar Point Marsh & Shoreline, 11) El Granada/Vallejo and Miramar Beaches, and 12) Mirada Surf East. The majority of these resources, however, fall into the regional parks and recreation category. Regional parks and recreation facilities mainly provide opportunities for passive recreation and are used extensively by communities beyond the

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<sup>67</sup> County of San Mateo, Department of Parks, Sam Herzberg, Senior Planner, Response to Service Letter, May 8, 2009.

<sup>68</sup> County of San Mateo, Department of Parks, Park Planning, Mid-Coast Recreational Needs Assessment, Final Plan, October 2002, accessed by CAJA Staff at

<http://www.co.sanmateo.ca.us/portal/site/parks/menuitem.f13bead76123ee4482439054d17332a0/?vgnextoid=2c9cc8909231e110VgnVCM1000001d37230aRCRD&cpsexcurrchannel=1> on April 28, 2009.

<sup>69</sup> County of San Mateo, Department of Parks, Mid-Coast Recreational Needs Assessment, Chapter I - Introduction, October 29, 2002, page 4, accessed by CAJA Staff at

[http://www.co.sanmateo.ca.us/vgn/images/portal/cit\\_609/12485570Chap01Introduction.pdf](http://www.co.sanmateo.ca.us/vgn/images/portal/cit_609/12485570Chap01Introduction.pdf) on April 28, 2009.

<sup>70</sup> County of San Mateo, Department of Parks, Mid-Coast Recreational Needs Assessment, Chapter II - Summary of Recommendations, October 29, 2002, page 9, accessed by CAJA Staff at

[http://www.co.sanmateo.ca.us/vgn/images/portal/cit\\_609/12489330SummaryofRecommendations.pdf](http://www.co.sanmateo.ca.us/vgn/images/portal/cit_609/12489330SummaryofRecommendations.pdf) on April 28, 2009.

Mid-Coast area as well as Mid-Coast residents. Out of the identified recreation resources, only five partially serve the local recreation needs of the Mid-Coast community.<sup>71</sup>

The only direct public recreation program provider to the residents of the Mid-Coast is the City of Half Moon Bay Parks and Recreation Department. There are no Cabrillo School District sponsored programs. The Half Moon Bay recreation booklet, *Leisure Guide*, is distributed to every household in Half Moon Bay and the five communities of the Mid-Coast three times a year. Programs are geared toward a wide range of groups from youths through adults. It is estimated that approximately 35 percent of the recreation program participants are from the Mid-Coast communities.<sup>72</sup> However, many Mid-Coast recreation program needs are unable to be provided by the Half Moon Bay Parks and Recreation program due to lack of facility space and programs, and additional recreation building needs would have to be met in order to provide these programs to Mid-Coast residents.<sup>73</sup>

As provided in Table IV.L-5 (Minimum Park Standards), the Recreational Needs Assessment prescribes the standard minimum parks to population ratio as six acres per 1,000 residents of developed parkland (mini, neighborhood, and community parks) and as 10 acres per 1,000 residents for regional parks. This was a specific assessment and goal set by the County Board of Supervisors when adopting the Recreational Needs Assessment.<sup>74</sup> Applying the goal of six acres of parkland per 1,000 residents, the Mid-Coast is currently 58 acres short of publicly owned and managed parkland serving existing local needs, and needs five mini parks, four neighborhood parks, and a large community park or two smaller community parks. Approximately 50 additional acres of parkland would be needed to accommodate future additional population at build-out.<sup>75</sup> Currently, the Mid-Coast area provides no mini or community parks and four acres of neighborhood parks, resulting in a current parkland to population ratio of 0.39 acres per 1,000 residents<sup>76</sup>, 5.61 acres per 1,000 residents less than the standard minimum ratio of parkland to population ratio. Many other surrounding cities also provide an amount of parkland less than their jurisdiction's standard parkland to population ratio, including the cities of Half Moon Bay, San

<sup>71</sup> County of San Mateo, Department of Parks, *Mid-Coast Recreational Needs Assessment, Chapter IV - Existing Conditions Summary, October 29, 2002, page 25, accessed by CAJA Staff at [http://www.co.sanmateo.ca.us/vgn/images/portal/cit\\_609/12489338ExistingConditions.pdf](http://www.co.sanmateo.ca.us/vgn/images/portal/cit_609/12489338ExistingConditions.pdf) on April 28, 2009.*

<sup>72</sup> County of San Mateo, Department of Parks, *Mid-Coast Recreational Needs Assessment, Chapter IV - Existing Conditions Summary, October 29, 2002, page 27, accessed by CAJA Staff at [http://www.co.sanmateo.ca.us/vgn/images/portal/cit\\_609/12489338ExistingConditions.pdf](http://www.co.sanmateo.ca.us/vgn/images/portal/cit_609/12489338ExistingConditions.pdf) on April 28, 2009.*

<sup>73</sup> County of San Mateo, Department of Parks, *Mid-Coast Recreational Needs Assessment, Chapter VII - Summary of Needs, October 29, 2002, page 53, accessed by CAJA Staff at [http://www.co.sanmateo.ca.us/vgn/images/portal/cit\\_609/12489350SummaryofNeeds.pdf](http://www.co.sanmateo.ca.us/vgn/images/portal/cit_609/12489350SummaryofNeeds.pdf) on May 11, 2009.*

<sup>74</sup> County of San Mateo, Department of Parks, Sam Herzberg, Senior Planner, *Response to Service Letter, May 8, 2009.*

<sup>75</sup> County of San Mateo, Department of Parks, *Mid-Coast Recreational Needs Assessment, Chapter VII - Summary of Needs, October 29, 2002, page 53, accessed by CAJA Staff at [http://www.co.sanmateo.ca.us/vgn/images/portal/cit\\_609/12489350SummaryofNeeds.pdf](http://www.co.sanmateo.ca.us/vgn/images/portal/cit_609/12489350SummaryofNeeds.pdf) on May 11, 2009.*

<sup>76</sup>  $4.0 \text{ acres}/10,356 \text{ residents} * 1,000 = 0.39 \text{ acres}/1,000 \text{ residents}$

Calculation assumes a population of 10,356 residents (Source: *Mid-Coast Recreational Needs Assessment, October 29, 2002*).

Carlos, Visalia, Santa Cruz, Benecia, Hollister, Lodi, Gilroy, San Leandro, San Mateo, Milpitas, and Belmont.<sup>77</sup>

**Table IV.L-5  
Minimum Park Standards**

Park Type	Acres/1,000 Residents	Size (acres)	Service Radius (miles)
Mini Park	0.5	½ - 1	¼ - ½
Neighborhood Park	1.5	4 - 12	½ - ¾
Community Park	4.0	20 - 50	1 - 2
Special Facility	Varies <sup>1</sup>	Varies <sup>1</sup>	Varies <sup>1</sup>
Trail System	n/a	Sufficient width to protect the resource & provide maximum use	n/a
Regional Park	10	100	Bay Area
Conservancy/Open Space Area	n/a	Sufficient to protect the resource	Mid-Coast

Notes: n/a = not applicable;  
<sup>1</sup> No specific standards are provided.

Source:  
 County of San Mateo, Department of Parks, Mid-Coast Recreational Needs Assessment, Chapter VI - Park Sizes and Comparisons, October 29, 2002, pages 47-48, accessed by CAJA Staff at [http://www.co.sanmateo.ca.us/vgn/images/portal/cit\\_609/12489346ParkSizesComparison.pdf](http://www.co.sanmateo.ca.us/vgn/images/portal/cit_609/12489346ParkSizesComparison.pdf) on April 28, 2009; and Christopher A. Joseph & Associates, April 2009.

However, the Mid-Coast is well-served by regional parks, including State Beaches and County facilities such as the Fitzgerald Marine Reserve and San Pedro Valley Park in Pacifica.<sup>78</sup>

### **Midcoast Action Plan for Parks and Recreation<sup>79</sup>**

The Midcoast Action Plan for Parks and Recreation (Action Plan), approved May 2008, is an action plan for providing neighborhood and community recreation services and facilities on the Mid-Coast, outlining near and long term objectives and a strategy for implementation. The Action Plan includes the following elements: Goals/Objectives/Actions, which establish the direction for the park and recreation system; Cost/Budget, which provide an estimate of expected cost for short and long term proposals and match with anticipated available funds; and Priorities/Next Steps, which establish priorities to insure that the

<sup>77</sup> County of San Mateo, Department of Parks, Mid-Coast Recreational Needs Assessment, Chapter VI - Park Sizes and Comparisons, Table 6: Comparative Park Acreage Standards by City, October 29, 2002, page 50, accessed by CAJA Staff at

[http://www.co.sanmateo.ca.us/vgn/images/portal/cit\\_609/12489346ParkSizesComparison.pdf](http://www.co.sanmateo.ca.us/vgn/images/portal/cit_609/12489346ParkSizesComparison.pdf) on May 11, 2009.

<sup>78</sup> County of San Mateo, Department of Parks, Mid-Coast Recreational Needs Assessment, Chapter VI - Park Sizes and Comparisons, October 29, 2002, pages 44-45, accessed by CAJA Staff at

[http://www.co.sanmateo.ca.us/vgn/images/portal/cit\\_609/12489346ParkSizesComparison.pdf](http://www.co.sanmateo.ca.us/vgn/images/portal/cit_609/12489346ParkSizesComparison.pdf) on April 28, 2009.

<sup>79</sup> County of San Mateo, Department of Parks, Park Planning, Midcoast Action Plan for Parks and Recreation, Planning Team Report, July 31, 2007, accessed by CAJA Staff at [http://www.co.sanmateo.ca.us/vgn/images/portal/cit\\_609/5/41/1051973884Midcoast%20Parks%20Action%20Plan\\_new%20pics.pdf](http://www.co.sanmateo.ca.us/vgn/images/portal/cit_609/5/41/1051973884Midcoast%20Parks%20Action%20Plan_new%20pics.pdf) on May 8, 2009.

limited financial and people resources are used well and provide specific near term actions to insure that progress is made.

Applying the goal of six acres of parkland per 1,000 residents identified in the Mid-Coast Recreational Needs Assessment, the Mid-Coast area is currently 58 acres short of publicly owned and managed parkland serving existing local needs, and approximately 50 additional acres would be required to accommodate expected future population growth per the Local Coastal Program (LCP). Several specific park and recreation needs are identified in the Action Plan, including: (1) priority for different type of recreational uses (including multi-use play fields, playgrounds/neighborhood parks, community center, picnic areas, restrooms, water fountains, ball courts, skate park, roller hockey, dog park, and swimming pool); (2) need for management of active sports; (3) trail connections for different types of users; and (4) a community center, centrally located, for multi-use activities to accommodate youth, teens, adults and seniors. Opportunities for park development include sizable amounts of publicly owned property and two school sites with potential neighborhood park recreation facilities. Land acquisition costs could be significantly offset with the use of publicly owned lands. Joint use agreements with the School District would support an update of existing school recreation facilities and increase the level of on-going maintenance.

Two important parts of a longer term plan for Mid-Coast area recreation includes a community center and an outdoor recreation complex. The Community Center is an expensive facility and often difficult to site. Locations for the Community Center include the Etheldor Triangle, Princeton area, and old Navy Base sites. The Outdoor Recreation Complex would support a variety of organized sports. The Princeton/Airport area affords the only expanse of land that could support this facility.

The Midcoast Action Plan Committee (now known as the Midcoast Parks and Recreation Committee (MPRC)) was established in 2007 to assist with the development of the Action Plan and develop a plan of action with specific funded priorities that would provide better parks and recreation on the Mid-Coast. Several of the Action Plan's priority projects are either underway or have been implemented.<sup>80</sup> MPRC priorities for 2009 and 2010 include the following<sup>81</sup>:

1. **Coastal Trail:** Completion from Mirada Surf, through Princeton, to the Pillar Point Bluff segment of the Trail.
2. **Mirada Surf West:** Vault toilet on the Mirada Surf West portion of the Coastal Trail.
3. **Pillar Point:** Replace old restroom with new vault toilet.
4. **Recreation Programs:** The Mid-Coast should support and actively contribute to the Half Moon Bay Parks and Recreation Department program framework.

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<sup>80</sup> *Midcoast Parks and Recreation Committee, accessed by CAJA Staff at <http://www.mprc.sanmateo.org/> on May 11, 2009.*

<sup>81</sup> *Midcoast Parks and Recreation Committee, Vision Statement, January 23, 2009, accessed by CAJA Staff at [http://www.mprc.sanmateo.org/pdf/MPRC\\_-\\_Vision\\_090123.pdf](http://www.mprc.sanmateo.org/pdf/MPRC_-_Vision_090123.pdf) on May 11, 2009.*



5. **Moss Beach Park:** Establish a restroom facility and drinking fountain, and create a go-ahead plan that resolves the water issue.
6. **Farallone View School Playfield:** Implement the renovation project.
7. **Playfield Planning:** Do preliminary planning to expand recreation resources adjacent to the school playfields.
8. **Highway 1 Corridor South:** A grant has been approved to develop a plan for highway crossings and trail alignment (including a bicycle commuter trail).
9. **Highway 1 Corridor North:** Seek similar grant (see #8) for the northern corridor extending from the airport to the new tunnel.
10. **Governance:** Provide Mid-Coast citizens with information regarding pros and cons of various parks and recreation governance options. Provide an assessment of public response to governance options to determine the preferred option.

## REGULATORY SETTING

### Federal and State

#### *Quimby Act*

The Quimby Act (California Government Code Section 66477) was established by the California Legislature in 1965 to preserve open space and parkland in the rapidly urbanizing areas of the state. This legislation was in response to California's increased rate of urbanization and the need to preserve open space and provide parks and recreation facilities for California's growing communities. The Quimby Act authorized cities and counties to enact ordinances that would require the dedication of land or payment of fees for park or recreational purposes for projects involving residential subdivisions with the aim of reducing impacts to open space and the development of parks from property improvements. Quimby Act fees do not, however, apply to commercial or industrial subdivisions.

The Quimby Act provides two standards for the dedication of land for use as parkland. If the existing area of parkland in a community is 3 acres per 1,000 persons, then the community may require dedication based on a standard of 5 acres per 1,000 persons residing in the subdivision. If the existing amount of parkland in a community is less than 3 acres per 1,000 persons, then the community may require dedication based on a standard of only 3 acres per 1,000 persons residing in the subdivision. The Quimby Act requires a city or county to adopt standards for recreational facilities in its general plan recreation element if it is to adopt a parkland dedication/fee ordinance. The Quimby Act has been adopted in the County's Subdivision Regulations, Section 7055.

## Local

### ***County of San Mateo Municipal Code***

As authorized under the Quimby Act, the County has established a local ordinance, County of San Mateo Municipal Code (County Code) Section 2.64 (Mid-Coast Park and Recreation Development Fees), which requires land dedication, park improvements, or payment of fees for park and recreational purposes for projects involving residential land uses. County Code Section 2.64 applies to (1) the entire geographical area located on the urban side of the Urban/Rural Boundary as shown on the County of San Mateo General Plan Map for the Mid-Coast area, and (2) those lands designated Residential on the rural side of the Urban/Rural Boundary as shown on the County of San Mateo General Plan Map for the Mid-Coast area.

Pursuant to County Code Section 2.64.030 (Amount and Standards for Fees), the County imposes a tax of \$1.17<sup>82</sup> per square foot of accessible space on all building permits for new residential development to be paid to the County Building Department. This fee represents the portion of the approximate cost of providing park facilities to accommodate, and which is attributable to, the demand generated by the proposed development. All fees collected for park acquisition and development shall be deposited in the “San Mateo County Mid-Coast Parks Development Fund” and may only be used to acquire or develop parks to be located in and primarily used by Mid-Coast residents, the proportionate demand for which is created by the new development from which the fees were collected, and not for routine and periodic maintenance.

Applicants for building permits required to pay fees under this chapter may, as an alternative to paying the required fee, offer to dedicate land or construct park improvements determined by the Board of Supervisors to be appropriate for the type of development being proposed. In making such determination, the Board shall take into consideration the extent to which the park land or facilities would meet the goals and objectives of the County for parks in the Mid-Coast area, including with reference to any plans or needs assessments for the area. In exchange for such dedication or construction, the applicant shall receive a partial or full offset of the fee that would otherwise be required by Section 2.64 of the County Code.

### ***Mid-Coast Recreational Needs Assessment***

As provided in Table IV.L-5 (Minimum Park Standards) above, the County’s Mid-Coast Recreational Needs Assessment (Recreational Needs Assessment) categorizes parks into several types. Ideally, mini

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<sup>82</sup> *The County is considering the adoption of a Development Fee of \$1.38 per square foot of new residential development in the unincorporated Mid-Coast area of the County to fund park and recreation facilities as identified in the Mid-Coast Recreational Needs Assessment (Peter Callander and Associates, October 2002). (Source: County of San Mateo Department of Parks, Mid-Coast Park Development Fees, Development Fee Proposal to Implement Parks and Recreation Needs Assessment for the Mid-Coast Communities in Unincorporated San Mateo County, October 9, 2002, accessed by CAJA Staff at <http://www.co.sanmateo.ca.us/portal/site/parks/menuitem.f13bead76123ee4482439054d17332a0/?vgnnextoid=020625e6d28ce110VgnVCM1000001937230aRCRD&cpsexcurrchannel=1> on May 11, 2009.)*

parcs are ½ to 1 acre in size, have a service radius of ¼ to ½ miles, and are provided at a minimum of 0.5 acres per 1,000 residents. Neighborhood parks are ideally four to twelve acres in size with service radius of ½ to ¾ miles, and are provided at a minimum of 1.5 acres per 1,000 residents. Community parks are ideally 20 to 50 acres in size, have a service radius of one to two miles, and are provided at a minimum of four acres per 1,000 residents. Regional parks are ideally 100 acres in size, serve the entire Bay Area region, and are provided at a minimum of 10 acres per 1,000 residents.

The County's standard minimum ratio of parks to population ratio is six acres of developed parkland (mini, neighborhood, and community parks) for every 1,000 residents, which was a specific assessment and goal set by the County Board of Supervisors when adopting the Recreational Needs Assessment.<sup>83</sup>

### ***County of San Mateo General Plan***

The County of San Mateo General Plan (General Plan) contains the following policies related to parks and recreation that are applicable to the proposed project (project consistency with the following is discussed in Section IV.I, Land Use & Planning):

#### *Park and Recreation Resources (Chapter 6)*

##### ***General Policies***

#### 6.3 Build Upon Existing System

- Design all park and recreation systems on the strengths and potentials of existing facilities and develop programs for meeting current and future needs.

#### 6.4 Environmental Compatibility

- Protect and enhance the environmental quality of San Mateo County when developing park and recreation facilities.

#### 6.5 Access to Park and Recreation Facilities

- Attempt to provide appropriate access and conveniences for all people in park and recreation facilities.
- Encourage access to the park and recreation system by transportation means other than private automobiles, where feasible.
- Attempt to provide adequate access for emergency services.

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<sup>83</sup> County of San Mateo, Department of Parks, Sam Herzberg, Senior Planner, Response to Service Letter, May 8, 2009.

## ***Regulation of Development***

### *All Park and Recreation Facility Providers*

#### 6.9 Locate Suitable Park and Recreation Facilities in Urban Areas

Generally, encourage all providers to locate active park and recreation facilities in urban areas, taking advantage of existing service infrastructure systems and maximizing the recreational use of limited available land. Consider the following activities to be generally compatible with active park and recreation facilities such as group games, swimming, and tennis.

#### 6.11 Coastal Recreation and Access

- Regulate coastal development to delineate appropriate locations and development standards for recreation and visitor serving facilities.
- Regulate development to increase public access to the shoreline and along the coast through measures which include, but are not limited to, establishing criteria for when and where access will be provided and how the access will be developed and maintained.

#### 6.12 Minimize Agricultural Land Use Conflicts

Preserve the best agricultural land for agricultural uses. On other lands capable of supporting agriculture, permit the location of park and recreation facilities when efforts are made to lease land not needed for recreational purposes to farm operations, and clearly defined buffer areas such as strips of land are established between these two uses to minimize land use conflicts.

#### 6.13 Development Plans

- Encourage all providers to prepare development plans for proposed facilities which contain provisions that easily adapt to changing conditions.
- Encourage all development plans to include restroom facilities and ensure that these correspond in size and detail to the type of park and recreation facility proposed.

#### 6.14 Site Planning for Public and Private Facilities

- Encourage all providers to design sites to accommodate recreation uses that minimize adverse effects on the natural environment and adjoining private ownership.
- Encourage all providers to design, where feasible, park and recreation sites that accommodate a variety of recreational activities.

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6.15 Building Materials and Service Technology for Public and Private Facilities

- Encourage the use of materials and technologies that achieve low development, maintenance and operation costs while maintaining environmental compatibility.
- Encourage innovative technologies for conserving energy, water and other utilities for park and recreation facilities.

6.17 Techniques for Providing Park and Recreation Facilities

- Regulate development to provide new or improved park and recreation facilities. Use one or a combination of the following techniques: (1) offer of dedication, (2) grant of fee interest, and (3) in lieu fees.
- Encourage the dedication of easements to implement trails programs.
- Base the requirements for the provision of park and recreation facilities on the: (1) size and type of development, (2) benefit to the developer, (3) burden to the public, and (4) within the Coastal Zone, priority given to the type of development under the Coastal Act.

***Maintenance and Operation***

*All Park and Recreation Facility Providers*

6.29 Protection, Operation and Maintenance

Make provisions to protect, operate and maintain park and recreation systems and related easements.

6.30 Minimize Traffic and Litter Problems

- Coordinate with CalTrans and/or SamTrans to increase recreational transit through such programs as a Park and Ride service or increased weekend service for recreationists in order to lessen traffic and parking problems.
- Encourage recreationists to properly dispose of litter in park and recreation facilities.
- Encourage the adequate maintenance and improvement of roads and highways needed to serve recreation facilities.

*Water Supply (Chapter 10)****General Policies***10.7 Park and Recreation Water Supplies

- Encourage the provision of water supplies in park and recreation areas commensurate with the desired level of development.
- Encourage coastal recreation and visitor serving facilities to provide drinking water.

***San Mateo County Local Coastal Program***

The County of San Mateo Local Coastal Program (Local Coastal Program) contains the following policies related to parks and recreation that are applicable to the proposed project (project consistency with the following is discussed in Section IV.I, Land Use & Planning):

*Recreation/Visitor-Serving Facilities Component****Permitted Uses and Locations***11.4 Recreation and Visitor-Serving Facilities Permitted in the Coastal Zone

Permit the following facilities in the Coastal Zone: (1) necessary visitor-serving facilities as defined in Policy 11.1, and (2) commercial recreation and public recreation facilities which (a) are designed to enhance public opportunities for coastal recreation, (b) do not substantially alter the natural environment, and (c) do not subvert the unique small town, rural character of the individual communities on the Coastsides.

11.7 Urban Areas

- Permit visitor-serving and commercial recreation facilities to locate within enclosed buildings in areas designated as Coastsides Commercial Recreation and Neighborhood Commercial.
- Permit public recreation facilities in urban areas.

11.10 Upland Locations in Urban and Rural Areas

Permit uses which are consistent with Policy 11.4, but do not meet the criteria for location on oceanfront land to locate in upland areas. Encourage them to connect to the shoreline by bicycle path or trail.

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### ***Development Standards for Recreation and Visitor-Serving Facilities***

#### 11.14 Public Recreation Facilities

- Use the locational and development standards included throughout this component, the Agriculture Component and the applicable standards and planning and management guidelines of the County's Parks and Recreation Element (contained in Appendix 11.A) as the development and management standards for public recreation facilities, including trails. LCP policies must predominate if there are conflicts. Seek any modifications in the classification of State Park Units which will conform their purposes and uses more closely to the policies of the LCP.
- Use development standards of this component, the County's Parks and Recreation Element standards and the criteria for trail development management contained in Appendix 11.A when constructing trails. When the route of a bike path in the County's Bikeways Plan corresponds to the route of a trail included in the LCP trail program, construct the trail to accommodate both bicycle and pedestrian use, wherever possible.

#### 11.15 Private Recreation and Visitor-Serving Facilities

- Require that private recreation and visitor-serving facilities conform to: (1) the development and locational standards included throughout this component and as referred in other components, and (2) the design standards of the Visual Resources Component.
- Require that private recreation and visitor-serving facilities conform to the intensities of use appropriate to the rural or urban setting and to the requirements of the individual site. In rural areas, visitor-serving uses shall require density credits based on daily water use in accordance with the requirements set forth in Local Coastal Program Policy 1.8.

#### 11.18 Sensitive Habitats

- a. Provide improvements and management adequate to protect sensitive habitats. These may include, but are not limited to, the following: (1) informative displays, brochures, and signs to minimize public intrusion and impact, (2) organized tours of sensitive areas, (3) landscaped buffers or fences and (4) staff to maintain improvements and manage the use of sensitive habitats.

#### 11.20 Utilities

- Require that sites for permitted recreation or visitor-serving facilities have or develop access to a public road in conformance with the policies of the Sensitive Habitats, Scenic Resources, and Hazards Components.

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## ENVIRONMENTAL IMPACTS

### Thresholds of Significance

Based on Appendix G of the State *CEQA Guidelines*, the proposed project could have a significant environmental impact on park and recreation services if it would:

- a) 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 (i.e., park and recreation facilities), the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for parks and recreational services.
- b) Increase the use of existing neighborhood and regional parks or other recreational activities such that substantial physical deterioration of the facility would occur or be accelerated.
- c) Include recreational facilities or require the construction or expansion of recreation facilities which might have an adverse physical effect on the environment.

### Project Impacts and Mitigation Measures

#### *Impact PS-4 Parks and Recreational Services*

Implementation of the proposed project would increase the demand for park and recreation services in the project area. As noted in Section IV.K (Population & Housing) of the DEIR, the proposed project would result in approximately 70 permanent residents and approximately 825 employees at full operation. Implementation of the proposed project would also increase the number of site visitors within the project site. Park and recreation service demands exist when jobs are created or through residential development.<sup>84</sup> As such, the demand for recreation/park services generated by the proposed project site would increase. Residential developments typically have the greatest potential to result in impacts to parks and recreational services since these types of developments generate a permanent increase in the residential population.

#### *Existing Parks and Recreational Facilities*

As previously discussed, the Parks Department's existing parks and recreational facilities are not adequate to meet the project area's current demand for park and recreation facilities<sup>85</sup>, and at certain busy times, all State parks and recreation facilities are at capacity with visitors<sup>86</sup>. The project's demand for park and

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<sup>84</sup> County of San Mateo, Department of Parks, Sam Herzberg, Senior Planner, Response to Service Letter, May 8, 2009.

<sup>85</sup> County of San Mateo, Department of Parks, Sam Herzberg, Senior Planner, Response to Service Letter, May 8, 2009.

<sup>86</sup> California State Parks, Paul Keel, Sector Superintendent, Santa Cruz District, San Mateo Coast Sector, Response to Service Letter, May 1, 2009.



recreational facilities will likely add to existing deficits faced by existing County park and recreation facilities<sup>87</sup> and further strain State parks and recreation facilities during peak times. However, whether the proposed project would require the Parks Department to development new parks and recreational facilities or expand existing parks and recreational facilities to accommodate the increased demand created by the proposed project is dependent upon assessments based on the existing population and the LCP's anticipated buildout of the Mid-Coast area.<sup>88</sup>

The Parks Department has plans to development new parks and recreational facilities and/or expand existing parks and recreational facilities within a two mile radius of the project site, as identified in the Recreational Needs Assessment, the more recent Action Plan, and the Fitzgerald Marine Reserve Master Plan,<sup>89</sup> which the County is currently working on implementing. The Parks Department is working with the MPRC to implement immediate priorities using Midcoast Park and Recreation fees raised through building permits issued by the County of San Mateo Planning and Building Department for new development or remodels in the Mid-Coast area. Additionally, the San Mateo Local Agency Formation Commission (LAFCO) is currently assessing service providers in the Mid-Coast and is evaluating the potential for park and recreation services to be created by a new Community Services District (CSD) that could include multiple utilities and other services.<sup>90</sup>

#### *Proposed Parks and Recreational Facilities*

As discussed in Section III (Project Description) of this DEIR, the proposed open space and recreation features associated with the proposed project would include onsite walkways/trails, recreation/common area facilities, and wetlands restoration. Approximately 53,000 square feet of onsite walkways/trails, including the multipurpose walkway/trail (Airport Street), wetlands trail, and "North Trail" heading to Headlands, is proposed for the Office Park property, and approximately 18,000 square feet of onsite walkways/trails, including the multipurpose walkway/trail (Airport Street) and wetlands trail, is proposed for the Wellness Center property, for a total of 71,000 square feet (or 1.6 acres) of walkways/trails on the project site.

Onsite recreational opportunities would include a 12,601 square foot outdoor basketball court and game space, movie theatre, multipurpose rooms, indoor swimming pool, and fitness center for use by the onsite residents and staff. The Community Center would include the pool, fitness center and locker rooms, which would be available to the Coastside public as well.

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<sup>87</sup> County of San Mateo, Department of Parks, Sam Herzberg, Senior Planner, Response to Service Letter, May 8, 2009

<sup>88</sup> County of San Mateo, Department of Parks, Sam Herzberg, Senior Planner, Response to Service Letter, May 8, 2009

<sup>89</sup> Such improvements at the Fitzgerald Marine Reserve would include a new interpretive center, green parking lot, improve coastal trail and access, interpretive sculptures, signage, access at Seal Cove Beach, and vegetative management.

<sup>90</sup> County of San Mateo, Department of Parks, Sam Herzberg, Senior Planner, Response to Service Letter, May 8, 2009

Approximately 47 percent of the project site would include wetlands restoration. Restored wetlands on the project site would total approximately 322,787 square feet; approximately 226,038 square feet of restored wetlands would be provided on the Office Park property and approximately 96,749 square feet of restored wetlands would be provided on the Wellness Center property. Additionally, both the Office Park property and Wellness Center property would include a temporary 8,000 square foot native plant nursery.

As summarized in Table IV.L-6 (Proposed Project Open Space and Recreational Amenities), the proposed project would provide approximately 417,393 square feet of recreational facilities for project residents and staff, 58,326 square feet of which would be available for use by the Coastside community (including pool, fitness center, and locker rooms, and Office Park and Wellness Center property walkways/trails (not including the proposed wetlands trail within the Wellness Center property, which would be private)).

**Table IV.L-6  
Proposed Project Open Space and Recreational Amenities**

<b>Open Space/Common Area/Recreational Amenity</b>	<b>Size (sf)</b>
<b><i>Office Park Property</i></b>	
Onsite Walkways/Trails	53,000
Restored Wetlands	226,038
Native Plant Nursery (temporary)	8,000
<i>Office Park Property Total</i>	<i>287,038</i>
<b><i>Wellness Center Property</i></b>	
Onsite Walkways/Trails	18,000
Restored Wetlands	96,749
Native Plant Nursery (temporary)	8,000
Pool Building	3,464
Men's Locker Room	372.4
Women's Locker Room	372.4
Fitness Rooms	1,117.2
Theatre	2,280
<i>Wellness Center Property Total</i>	<i>130,355</i>
<b>Total Area</b>	<b>417,393</b>
<i>Notes: sf = square feet.</i>	
<i>Source: Big Wave, LLC, Facilities Plan: Draft #2, Big Wave Property, January 2009.</i>	

A detailed analysis of the potential environmental impacts associated with the construction and operations of the proposed onsite recreational facilities is presented throughout Section IV (Environmental Impact Analysis) of this DEIR.

#### *Parkland to Population Ratio*

Pursuant to the County's standard minimum parkland to population ratio of six acres of developed parkland (mini, neighborhood, and community parks) for every 1,000 residents as defined in the *Mid-*

*Coast Recreational Needs Assessment* (Recreational Needs Assessment), the parkland requirement for the proposed project would be approximately 0.42 acres (approximately 18,295 square feet).<sup>91</sup>

As summarized in Table IV.L-6 above, the proposed project would provide a total of approximately 9.6 acres (417,393 square feet) of open space, common area, and recreational amenities within the project site, 1.33 acres (58,326 square feet) of which would be available for use by the Coastside community (including pool, fitness center, and locker rooms, and Office Park and Wellness Center property walkways/trails (not including the proposed wetlands trail within the Wellness Center property, which would be private)). The amount of community open space and other recreation amenities available to project residents and the general public would exceed the parkland acreage required by the County for the project and would alleviate any potential impacts on existing parks and recreation facilities in the County.

#### *County of San Mateo Municipal Code - Quimby Fees*

The Quimby Act (Section 66477 of the California Government Code) authorizes local governments to establish ordinances requiring developers of new subdivisions to dedicate land for parks, pay an in-lieu fee, or perform a combination of the two. Under the Quimby Act, cities and counties have been authorized 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.

As stated above, County of San Mateo Municipal Code (County Code) Section 2.64 (Mid-Coast Park and Recreation Development Fees) requires land dedication, park improvements, or payment of fees for park and recreational purposes for projects involving residential land uses. All of the proposed common open space and recreational facility space that qualifies as “parkland” on the project site would count towards meeting the requirements of the Quimby Act and County Code Section 2.64. If the proposed common open space and recreational facility space do not fully satisfy the requirements of the Quimby Act, the project developer would be required to pay Quimby fees to the County to satisfy its obligations under the Quimby Act. The Quimby Act states that the dedication of land, or payment of fees, or both, shall not exceed a maximum of three acres of park area per 1,000 project residents.

The provision of onsite open space, common areas and recreational amenities together with the payment of any required fees would help to reduce the proposed project’s impacts on existing parks and recreational facilities to a ***less-than-significant*** level and no mitigation measures are required.

## **CUMULATIVE IMPACTS**

Implementation of the project in combination with the 37 related projects (see Table III-1, Related Projects List) would further increase the demand for park and recreational services due to an increase in residents and employees in the project area. Parks and recreation service demands will exist when jobs are created or through residential development; however, the greatest impact would result from residential

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<sup>91</sup>  $[(70 \text{ net new residents}) \div (1,000)] \times (6 \text{ acres}) = 0.42 \text{ acres of needed public parkland.}$

uses.<sup>92</sup> Employees generated by the related projects involving commercial and industrial projects would not typically enjoy long periods during the workday to visit park and/or recreational facilities. The increase in population by the related residential projects would increase the demand for parks and recreation facilities in the County. Related Project No. 34 within the City of Half Moon Bay would include development of 24 acres of parkland east of State Route (SR) 1, between Terrace Avenue and Grandview Boulevard, which would help to alleviate impacts on park and recreational services and facilities.

As seen in Table III-1, only seven of the related projects are located within the unincorporated Mid-Coast area of the County; the remaining 30 related projects are located in the incorporated City of Pacifica, City of San Bruno, City of Half Moon Bay, and the Town of Hillsborough, each of which have their own parks and recreation departments that provide park and recreational opportunities for residents within their applicable jurisdictions.

Future impacts on park facilities would be partially mitigated through the collection of park fees on new development and the provision of parkland. Similar to the proposed project, each of the related projects would be individually subject to review by the applicable parks and recreation department, and would be required to provide parkland or pay in-lieu fees. However, existing deficiencies would not be addressed by these fees and cumulative impacts on parks would be significant. In accordance with State *CEQA Guidelines* Section 15130(a)(3), however, the proposed project's contribution to the cumulative impact would be rendered less than cumulatively considerable through adherence to the County's impact fee program for new development. Adherence to the requirements of this program would constitute implementation or funding of the proposed project's fair share of measures designed to alleviate the cumulative impact. Similar to the proposed project, the related projects would be required to comply with all applicable policies and ordinances of the applicable jurisdiction to offset any impacts the related projects would have on park and recreation services. Therefore, cumulative impacts to park and recreation services would be *less than significant* and no mitigation measures are required.

## LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project impacts to parks and recreational services would be *less than significant*.

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<sup>92</sup> County of San Mateo, Department of Parks, Sam Herzberg, Senior Planner, Response to Service Letter, May 8, 2009.

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**IV. ENVIRONMENTAL IMPACT ANALYSIS**  
**L. PUBLIC SERVICES**  
**5. LIBRARIES**

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**METHODOLOGY**

Potential project impacts associated with library services were evaluated based on the adequacy of existing and planned staffing, equipment, and facilities within the San Mateo County Library (SMCL) to meet the additional demand for library services resulting from development of the proposed project. The responsible agency was contacted regarding the potential impacts on their facilities. Responses from public services agencies are included in Appendix C to this DEIR. In addition, various public service policies and guidelines as defined by the County of San Mateo were also reviewed and considered during the project impact analysis.

**ENVIRONMENTAL SETTING**

***San Mateo County Library (SMCL)***

The San Mateo County Library (SMCL) is a Joint Powers Authority (JPA) comprised of the cities of Atherton, Belmont, Brisbane, East Palo Alto, Foster City, Half Moon Bay, Millbrae, Pacifica, Portola Valley, San Carlos, and Woodside, as well as unincorporated areas of the County of San Mateo.<sup>93</sup> The SMCL is comprised of 12 community libraries in the 11 cities listed above.<sup>94</sup> The SMCL's small to medium sized libraries specialize in meeting the individual needs of each community, in addition to offering popular and current interest materials library users.<sup>95</sup>

The following includes general statistical information on the SMCL from 2007 to 2008, including but not limited to the SMCL's service population, library usage, annual circulation, and collection volumes:<sup>96</sup>

- Number of Service Outlets: 12
- Service Area Population: 278,388
- Number of Registered Borrowers: 168,569
- Borrowers as a Percentage of Population: 61 percent
- Number of Library Visits: 2,328,091
- Visits per Capita: 8.4
- Number of Public Computers: 309
- Number of Events Offered: 5,483

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<sup>93</sup> *San Mateo County Library, San Mateo County Library Administration, accessed by CAJA Staff at <http://www.smcl.org/about/contact/admin.html> on April 14, 2009.*

<sup>94</sup> *San Mateo County Library, San Mateo County Library Locations, accessed by CAJA Staff at <http://www.smcl.org/libraries/index.html> on April 14, 2009.*

<sup>95</sup> *San Mateo County Library, About Us, Organization, accessed by CAJA Staff at <http://www.smcl.org/about/organization/index.html> on May 20, 2009.*

<sup>96</sup> *San Mateo County Library, San Mateo County Library 2007-2008 Annual Report, accessed by CAJA Staff at <http://www.smcl.org/about/organization/Report.pdf> on May 20, 2009.*

- Annual Circulation (not including loans of electronic/digital books or “hits” on electronic databases): 4,069,410
- Circulation per Capita: 14.6
- Program and Event Attendance: 169,436
- Number of Collection Volumes: 815,900

During Fiscal Year (FY) 2007-2008, the SMCL had 128 total staff, 112.59 full-time equivalent (FTE) staff and 41.70 FTE librarians. A total of 89,087 volumes and 12,877 titles were added to SMCL collections. Children’s materials equate to 4.76 materials per child. A total of 4,510 children’s programs were hosted during FY 2007-2008, with attendance of 154,998 persons. Literacy programs, through 51 volunteer tutors, 4,139 volunteer hours, and 6.70 FTE literacy staff, provided instruction for 273 adults and 11,672 children, and 72,812 books were given away.<sup>97</sup>

As shown in Table IV.L-7 (San Mateo County Library Compared to Statewide Average (2007-2008)), below, the SMCL is more heavily used than the statewide average, including circulation, program attendance, library visits, and public access computer use per capita, respectively. Additionally, the SMCL offers more material per capita than the statewide average, and more money is spent per capita by the SMCL than the statewide average.

Performance of each of the SMCL’s 12 library branches from 2007 to 2008, including the number of items circulated, library card holders, library visitors, and program attendance, is summarized in Table IV.L-8 (San Mateo County Library Performance (2007-2008)), below.

**Table IV.L-7**  
**San Mateo County Library Compared to Statewide Average (2007-2008)**

Topic	San Mateo County Library (SMCL)*	Statewide Average
Expenditures per Capita	\$59.54	\$32.96
Materials Expenditures per Capita	\$8.21	\$3.36
Print Materials per Capita (Books, Government Documents, Serial Volumes)	2.27	1.95
Total Materials Available per Capita (Print Materials, ebooks, Audio and Video Items)	2.91	2.16
Population Served by FTE Staff	2,498	2,945
Circulation per Capita	14.47	5.78
Program Attendance per Capita	0.60	0.20
Visits per Capita	8.28	4.35
Public Access Computer Use per Capita	2.74	1.01
<i>Notes: FTE Staff = Full-Time Equivalent Staff</i> <i>* Based on 13 total service outlets within the San Mateo County Library system.</i> <i>Source:</i> <i>California State Library, Library Development Services Bureau, California Library Statistics 2009, Fiscal Year</i>		

<sup>97</sup> California State Library, Library Development Services Bureau, California Library Statistics 2009, Fiscal Year 2007-2008 from Public, Academic, Special and County Law Libraries, 2009, accessed by CAJA Staff at <http://www.library.ca.gov/lds/docs/StatsPub09.pdf> on May 21, 2009, pages 28, 55, 69, and 76.

2007-2008 from Public, Academic, Special and County Law Libraries, 2009, accessed by CAJA Staff at <http://www.library.ca.gov/lds/docs/StatsPub09.pdf> on May 21, 2009, pages 9-17.

**Table IV.L-8  
San Mateo County Library Performance (2007-2008)**

Branch	Items Circulated*	Library Card Holders	Library Visitors	Program Attendance
Atherton Library	138,347	8,214	76,107	6,682
Belmont Library	576,625	18,262	340,127	18,584
Brisbane Library	97,140	3,495	78,616	6,003
East Palo Alto Library	98,308	16,057	166,370	11,429
Foster City Library	963,911	27,818	414,938	26,698
Half Moon Bay Library	383,116	16,396	195,865	16,923
Millbrae Library	577,350	17,127	416,797	16,588
Pacifica Libraries	394,069	23,571	197,330	23,214
Portola Valley Library	62,196	4,292	33,765	4,562
San Carlos Library	629,657	22,308	317,857	18,099
Woodside Library	113,727	9,194	90,319	10,544
Other (Bookmobile & Other Literacy Programs)	34,964	1,835	n/a	10,100
<b>Total</b>	<b>4,069,410</b>	<b>168,569</b>	<b>2,328,091</b>	<b>169,436</b>
<i>Notes: n/a = not available/not applicable            * Does not include loans of electronic/digital books or "hits" on electronic databases.            Source: San Mateo County Library, San Mateo County Library 2007-2008 Annual Report, accessed by CAJA Staff at <a href="http://www.smcl.org/about/organization/Report.pdf">http://www.smcl.org/about/organization/Report.pdf</a> on May 20, 2009.            Christopher A. Joseph &amp; Associates, May 2009.</i>				

### ***Half Moon Bay Library***

The SMCL's Half Moon Bay Library (located at 620 Correas Street in the City of Half Moon Bay) is the nearest branch library and would serve the proposed project. The Half Moon Bay Library serves a 270-square mile area, including the City of Half Moon Bay (population 12,912) and the nearby unincorporated Coastsides area (population 13,598), for a total service population of 26,510. The Half Moon Bay Library has served the residents of the City of Half Moon Bay and Coastsides area for over thirty years. Constructed in 1971 to serve the City of Half Moon Bay, the library today continues to serve the City of Half Moon Bay, in addition to ten small communities that line the coast, including: Montara, Moss Beach, Princeton, El Granada, Miramar, King's Mountain, La Honda, Loma Mar, San Gregorio, and Pescadero. This area was once served by three libraries, two of which were closed in 1978 following the passage of Proposition 13.<sup>98</sup>

<sup>98</sup> San Mateo County Library, Anne-Marie Despain, Assistant Director of Library Services, Response to Service Letter, May 21, 2009.

The Half Moon Bay Library is open seven days per week<sup>99</sup> and free Internet access is available.<sup>100</sup> As shown in Table IV.L-8 above, between 2007 to 2008, the Half Moon Bay Library circulated 383,116 items, had 16,396 library card holders, was visited by 195,865 visitors, and programs were attended by 16,923 persons.<sup>101</sup> The Half Moon Bay Library accounted for nearly 9.4 percent of the SMCL's total circulation, 9.7 percent of the SMCL's library card holders, 8.4 percent of the SMCL's total visitors, and 10.0 percent of the SMCL's total program attendance. The 7,825-square foot library houses approximately 88,814 volumes and has 10.4 full time equivalent staff members. At 0.27 square feet per capita, the 7,825-square foot facility is not meeting current library service needs of the community. The service population of the Half Moon Bay Library has increased, resulting in a facility that is inadequate and in need of replacement or expansion and remodeling.<sup>102</sup>

Since its opening, the population served by the Half Moon Bay Library has increased from 4,320 to over 29,000 with 42 percent living in the City of Half Moon Bay and 58 percent living in the surrounding unincorporated areas of the County. By 2020, the overall service population is expected to increase by 25 percent to reach an estimated 36,000 people.<sup>103</sup>

Plans for a new Half Moon Bay Library recommend the demolition of the existing building and the construction of a new 33,000 square foot library facility on the same site. However, the project is not currently active due to lack of funding.<sup>104</sup>

## REGULATORY SETTING

### Federal and State

#### *Public Library Fund (PLF)*

Public Library Fund (PLF) is a state-funded program founded in 1850. It embodies the state's interest in the general diffusion of information and knowledge through free public libraries; encourage lifelong learning; supplement the system of free public education; help libraries serve as sources of information and inspiration to persons of all ages, cultural backgrounds and economic status; and furnish a resource for continuing education. The funds assure the availability to every resident of the state an adequate level

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<sup>99</sup> San Mateo County Library, *Half Moon Bay Library, Hours*, accessed by CAJA Staff at <http://www.smcl.org/libraries/hmb/hours.html> on April 28, 2009.

<sup>100</sup> San Mateo County Library, *Organization*, accessed by CAJA Staff at <http://www.smcl.org/about/organization/index.html> on April 28, 2009.

<sup>101</sup> San Mateo County Library, *San Mateo County Library 2007-2008 Annual Report*, accessed by CAJA Staff at <http://www.smcl.org/about/organization/Report.pdf> on May 20, 2009.

<sup>102</sup> San Mateo County Library, Anne-Marie Despain, Assistant Director of Library Services, *Response to Service Letter*, May 21, 2009.

<sup>103</sup> San Mateo County Library, Anne-Marie Despain, Assistant Director of Library Services, *Response to Service Letter*, May 21, 2009.

<sup>104</sup> San Mateo County Library, Anne-Marie Despain, Assistant Director of Library Services, *Response to Service Letter*, May 21, 2009.



of public library service regardless of the taxable wealth of the local jurisdiction providing the service. Funds are appropriated annually in the State budget to support the program. Localities may use the funds freely so long as the funds serve the public library purposes stated in the law.

The State provides funding to qualifying public libraries, based on the population of the library's service area. PLF funds have been authorized for \$22,855,827 for the SMCL for FY 2008/2009.<sup>105</sup>

## **Local**

### ***County of San Mateo General Plan***

The County of San Mateo General Plan (General Plan) contains the following policies related to library services that are applicable to the proposed project (project consistency with the following is discussed in Section IV.I, Land Use & Planning):

#### *General Land Use (Chapter 7)*

##### ***Urban Areas***

#### 7.16 Land Use Objectives for Urban Areas

Locate land use designations in urban areas (urban unincorporated areas) in order to: (1) maximize the efficiency of public facilities, services and utilities, (2) minimize energy consumption, (3) encourage the orderly formation and development of local government agencies, (4) protect and enhance the natural environment, (5) revitalize existing developed areas, and (6) discourage urban sprawl.

#### *Urban Land Use (Chapter 8)*

##### ***Regulation of Development in Urban Areas***

##### *General Development Standards*

#### 8.36 Density

Regulate maximum allowable densities in zoning districts in order to: (1) ensure a level of development that is consistent with land use designations, (2) plan for the efficient provision of public facilities, services, and infrastructure, and (3) minimize exposure to natural and man-made hazards.

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<sup>105</sup> *The California State Library, Public Library Fund (PLF), Public Library Fund (PLF) Final Allocations FY 2008-2009, accessed by CAJA Staff at <http://www.library.ca.gov/services/docs/PLF0809.pdf>, May 21, 2009.*

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## ENVIRONMENTAL IMPACTS

### Thresholds of Significance

Based on Appendix G to the State *CEQA Guidelines*, the proposed project would have a significant environmental impact associated with library services if it would:

- a) 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, or other performance objectives for library services.

### Project Impacts and Mitigation Measures

#### *Impact PS-5 Library Services*

Implementation of the proposed project would increase the demand for library services in the project area. As noted in Section IV.K (Population & Housing) of the DEIR, the proposed project would result in approximately 70 permanent residents and approximately 825 employees. While the existing Half Moon Bay Library facility is inadequate to meet current library service needs of the service population, the demand for library services would not be anticipated to significantly change with implementation of the proposed project. Additionally, as previously discussed, the SMCL does have plans for a new Half Moon Bay Library, which recommend demolition of the existing building and the construction of a new 33,000 square foot library facility on the same site; however, the project is not currently active due to lack of funding.

Since library service demands are not anticipated to change significantly based on implementation of the proposed project, impacts associated with library services would be *less than significant* and no mitigation measures are required.

## CUMULATIVE IMPACTS

Implementation of the project in combination with the 37 related projects (see Table III-1, Related Projects List) would further increase the demand for library services. Specifically, there would be increased demands for additional SMCL staffing, materials, and facilities over time. However, the demand for library services would not change significantly with implementation of the proposed project and related projects. As such, implementation of the proposed project and related projects would not require the SMCL to construct new facilities or expand existing facilities to accommodate increased demand for library services. However, the SMCL does have plans for a new Half Moon Bay Library, which recommend demolition of the existing building and the construction of a new 33,000 square foot library facility on the same site; however, the project is not currently active due to lack of funding. Therefore, cumulative impacts associated with library services would be *less than significant* and no mitigation measures are required.

**LEVEL OF SIGNIFICANCE AFTER MITIGATION**

Impacts to libraries created by the proposed project would be *less than significant*.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### M. TRANSPORTATION/TRAFFIC

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#### INTRODUCTION

This section of the Draft Environmental Impact Report (DEIR) addresses the subject of traffic and transportation with respect to the proposed Big Wave Wellness Center and Office Park project (“proposed project”) and includes an assessment of potential impacts associated with the development of the proposed project on the existing circulation system within the County of San Mateo (County). The information in this section is based primarily on the following report. Technical data supporting the report is included in Appendix J of this DEIR.

- *Big Wave Office Park and Wellness Center Traffic Report*, prepared by Hexagon Transportation Consultants, Inc. (Hexagon), June 24, 2009.
- *Additional Intersection Analysis for the Proposed Big Wave Office Park and Wellness Center*, prepared by Hexagon Transportation Consultants, Inc. (Hexagon), October 8, 2009.

#### METHODOLOGY

The traffic analysis was performed through the use of established traffic engineering techniques and in accordance with the standards and methodologies set forth by the County for traffic studies. The data required for the analysis were obtained from new traffic counts, the City/County Association of Governments of San Mateo County (C/CAG), and field observations and reconnaissance. Existing traffic volumes, intersection lane configurations, signal timing and phasing, previous traffic studies, and approved trip generation rates were collected from these sources.

#### Analysis Scenarios

Traffic conditions were evaluated for the following scenarios:

*Scenario 1: Existing Conditions*

Existing conditions are represented by existing traffic volumes on the existing roadway network. Existing traffic volumes were obtained from recent traffic counts.

*Scenario 2: Background Conditions*

Background traffic conditions are represented by background traffic volumes on the existing roadway network. Background traffic volumes were estimated by adding to existing traffic counts the additional traffic generated by approved developments in the area.

*Scenario 3: Project Conditions*

Project traffic conditions are represented by Background plus Project traffic volumes on the existing roadway network. Background plus Project traffic volumes (hereafter called *project traffic volumes*) were estimated by adding to background traffic volumes the additional traffic generated by the project. Project conditions were evaluated relative to background conditions in order to determine potential project impacts.

*Scenario 4: Cumulative (Future) Conditions*

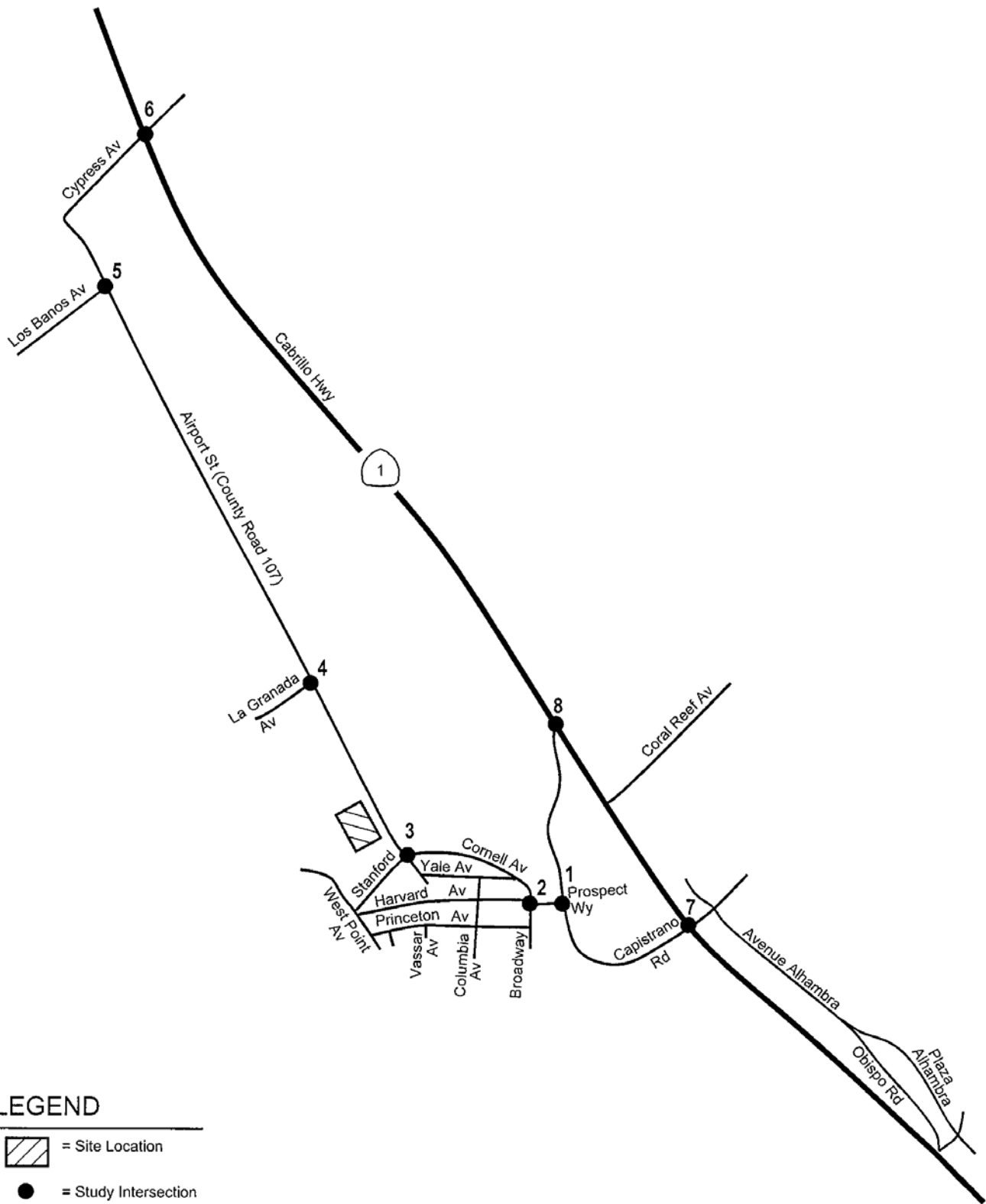
Cumulative (20-year horizon) conditions were evaluated *with* and *without* the Project. Traffic volumes under cumulative conditions were estimated by applying a growth factor to existing volumes and adding trips from approved developments. Project trips were then added in the cumulative with project scenario.

**Project Study Intersections**



An analysis of intersection operations was based on peak-hour levels of service for one signalized and seven unsignalized intersections, as identified below:

1. Prospect Way and Capistrano Road - *Unsignalized*
2. Broadway Avenue and Prospect Way - *Unsignalized*
3. Airport Street and Stanford/Cornell Avenue - *Unsignalized*
4. Airport Street and La Granada Avenue - *Unsignalized*
5. Airport Street and Los Banos Avenue - *Unsignalized*
6. State Route 1 (Cabrillo Highway) and Cypress Avenue - *Unsignalized*
7. State Route 1 and Capistrano Road (South) - *Signalized*
8. State Route 1 and Capistrano Road (North) - *Unsignalized*

The study intersections were determined based on the expected travel routes to and from the project site and the estimated amount of traffic volume that could have the potential to create significant traffic impacts at nearby intersections. Intersections with low volumes of project traffic were not included in this analysis. Figure IV.M-1 illustrates the location of the study intersections within proximity of the project site.



**LEGEND**

-  = Site Location
-  = Study Intersection



Source: Hexagon Transportation Consultants, June 24, 2009.

Not to Scale

## **Traffic Generation Analysis**

Traffic generation rates have long been an established tool used by traffic engineers and transportation planners to estimate the likely traffic activity of a future project. They are used to evaluate the potential impacts of a project to plan transportation facility improvements. The Institute of Transportation Engineers' (ITE) *Trip Generation Manual (7<sup>th</sup> and 8<sup>th</sup> Editions)* is the industry standard for estimating traffic generation rates of various land uses and is based on actual trip generation studies performed at numerous locations in areas of various populations. All land uses previously surveyed by ITE are included in the manual, including the land uses associated with the proposed project. The ITE manual was used to determine the traffic that would result with development of the proposed project. The magnitude of traffic added to the roadway system by a particular development is estimated by multiplying the applicable trip generation rates to the size of the development.

The magnitude of traffic produced by a new development and the locations where that traffic would appear are estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. In determining project trip generation, the magnitude of traffic entering and exiting the site is estimated for the peak-hours. As part of the project trip distribution, an estimate is made of the directions to and from which the project trips would travel. In the project trip assignment, the project trips are assigned to specific streets and intersections.

Traffic conditions at the abovementioned intersections were analyzed for the weekday AM and PM peak-hours of traffic. Locally, the AM peak-hour of traffic is usually between 7:00 and 9:00 AM. The PM peak-hour is typically between 4:00 and 6:00 PM. It is during these periods that the most congested traffic conditions occur on an average day.

## **Level of Service (LOS)**

The analysis of traffic conditions focuses primarily on intersection level of service, which dictates the transportation system's capacity and operating conditions. The term "level of service" (LOS) is used to describe the operations of intersections, roadway segments, and freeway segments. LOS is a qualitative description of traffic flow based on factors such as speed, travel time, delay, safety, and freedom to maneuver. Six levels of service are defined, ranging from LOS A (indicating free flow traffic conditions with little or no delay) to LOS F (representing jammed traffic conditions with excessive delays). LOS E corresponds to operations at capacity. When volumes exceed capacity, stop-and-go conditions result and operations are designated as LOS F.



The County’s Local Coastal Program considers an intersection to be satisfactory when it operates at LOS A–C, acceptable when it operates at LOS D during commuter peak periods, and acceptable when it operates at LOS E during recreation peak periods.<sup>1</sup>

The traffic analysis utilized TRAFFIX software to determine LOS. TRAFFIX methodology is based on the 2000 Highway Capacity Manual (HCM) method for intersections, and evaluates intersection operations on the basis of average delay for all vehicles at the intersection. This average delay can then be correlated to a LOS as shown in Table IV.M-1 for signalized intersections. The LOS correlation for unsignalized intersections is shown in Table IV.M-2. For two-way stop controlled intersections, the LOS reported is the average delay of all the intersection movements.

**Table IV.M-1  
Signalized Intersection LOS Criteria**

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	10.0 or less
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, and/or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with long delays indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.1 to 80.0
F	Operations with delays unacceptable to most drivers occurring due to oversaturation, poor progression, or very long cycle lengths.	greater than 80.0

*Source: Transportation Research Board, Highway Capacity Manual 2000.  
Hexagon Transportation Consultants, 2009.*

<sup>1</sup> County of San Mateo, General Plan Overview Background & Issues, November 1986.

**Table IV.M-2  
Unsignalized Intersection LOS Criteria**

<b>Level of Service</b>	<b>Description</b>	<b>Average Control Delay Per Vehicle (Seconds)</b>
A	Operations with very low delay occurring with favorable progression.	10.0 or less
B	Operations with low delay occurring with good progression.	10.1 to 15.0
C	Operations with average delays resulting from fair progression.	15.1 to 25.0
D	Operations with longer delays due to a combination of unfavorable progression or high V/C ratios.	25.1 to 35.0
E	Operations with high delay values indicating poor progression and high V/C ratios. This is considered to be the limit of acceptable delay.	35.1 to 50.0
F	Operation with delays unacceptable to most drivers occurring due to oversaturation and poor progression.	greater than 50.0

*Source: Transportation Research Board, Highway Capacity Manual 2000.  
Hexagon Transportation Consultants, 2009.*

In addition to the LOS evaluation, an assessment is made of the need for signalization of unsignalized intersections. This assessment is made on the basis of the Peak-hour Volume Signal Warrant as described in the Manual on Uniform Traffic Control Devices (MUTCD), 2003. This method makes no evaluation of intersection LOS, but simply provides an indication of whether peak-hour traffic volumes are, or would be, sufficient to justify installation of a traffic signal.

For any potential traffic-related impacts deemed significant, feasible mitigation measures intended to reduce or avoid said impacts were recommended.

**ENVIRONMENTAL SETTING**

The project site is situated in northwestern unincorporated San Mateo County along the coast of the Pacific Ocean just north of Princeton by the Sea, approximately 25 miles south of San Francisco, 10 miles west of San Mateo, and 45 miles north of Santa Cruz. The communities of Moss Beach, Montara, El Granada, and Miramar are in the region of the project site. As shown in Figure III-1 (Regional and Vicinity Map), the approximately 19.4-acre project site is located on Airport Street northwest of the Princeton/Pillar Point Harbor area. The project site is accessible via SR 1 (Cabrillo Highway) and can be directly accessed from surrounding Cypress Avenue, Capistrano Road, Prospect Way, and Cornell and California Avenues, located to the north, east, and south of the project site, respectively (refer to Figure IV.M-1 above), Project Location and Study Intersections).

Surrounding land uses include the Half Moon Bay Airport across Airport Street to the east, the El Granada Mobile Home Park adjacent and north of the project site, the Pillar Point Marsh to the west, and the Princeton/Pillar Point Harbor industrial/commercial area adjacent and south of the project site. The Fitzgerald Marine Reserve, which is bracketed by Maverick’s Surf break to the south and Montara Beach to the north, is located approximately 0.25 miles to the west.

## **Roadway Networks**

Access to the project site is provided via State Route 1, Capistrano Road and Airport Street. These facilities are described below.

### ***Regional***

Regional access to the project site is provided via State Route 1 (SR 1).

State Route 1 is a two- to four-lane highway that runs in a north-south direction. SR 1 extends from San Francisco to southern California along the Pacific Ocean coast.

### ***Local***

Local direct access to the site is provided by Capistrano Road and Airport Street. These networks are described below.

Capistrano Road is a two-lane roadway that runs primarily in a north-south direction. This local roadway extends from Alhambra Avenue in the south (just west of SR 1) to its terminus at SR 1 in the north.

Airport Street is a two-lane north-south collector street that provides access to the project site. Airport Street extends from its intersection with Stanford Avenue/Cornell Avenue in the south where it operates as Vassar Street, to its terminus at Cypress Avenue in the north.

Other local roadways in the project vicinity include: Cypress Avenue, Prospect Way, Coral Reef Avenue, Los Banos Avenue, La Granada Avenue, Broadway Avenue, Stanford Avenue and Cornell Avenue, which are two-lane residential roadways.

## **Alternative Transportation Systems**

### ***Airports***

The Half Moon Bay Airport is a public airport located directly east of the project site across Airport Street. The San Francisco International Airport is approximately 12 miles northeast from the project site, and the San Carlos Airport is approximately 14 miles due east from the project site.

### ***Public Transit***

#### ***SamTrans***

Existing transit service to the study area is provided by the San Mateo County Transit District (SamTrans). The existing SamTrans service is described below and shown on Figure IV.M-2. The 17 line provides service between the Seton Medical Center Coastsides and the Miramontes Point Road area with 1- to 2-hour headways (according to SamTrans staff) and operates along Airport Street in the vicinity

of the project. Route 17 bus stops in the project vicinity are as follows: 1) Capistrano Road at Pillar Point Harbor; 2) Capistrano Road at Prospect Way; 3) Airport Street at La Granada (closest to project site); and 4) Airport Street at Los Banos Avenue.

### ***Pedestrian and Bicycle Facilities***

There are generally no sidewalks in the project vicinity. The Princeton by the Sea area of Half Moon Bay is somewhat rural. Airport Street has minimal fronting development, thus no existing need for sidewalks.

According to the Bicycle Transportation Map of the San Francisco Peninsula for San Mateo County, there are the following designated bike routes within the vicinity of the project site (refer to Figure IV.M-3): 1) State Route 1 within the vicinity of the project site; 2) Airport Street within the vicinity of the project site; 3) Cypress Avenue between Airport Street and State Route 1; 4) Capistrano Road between State Route 1 and Prospect Way; 5) Prospect Way; 6) California Avenue; and 7) Cornell Avenue.

### **Existing Conditions**

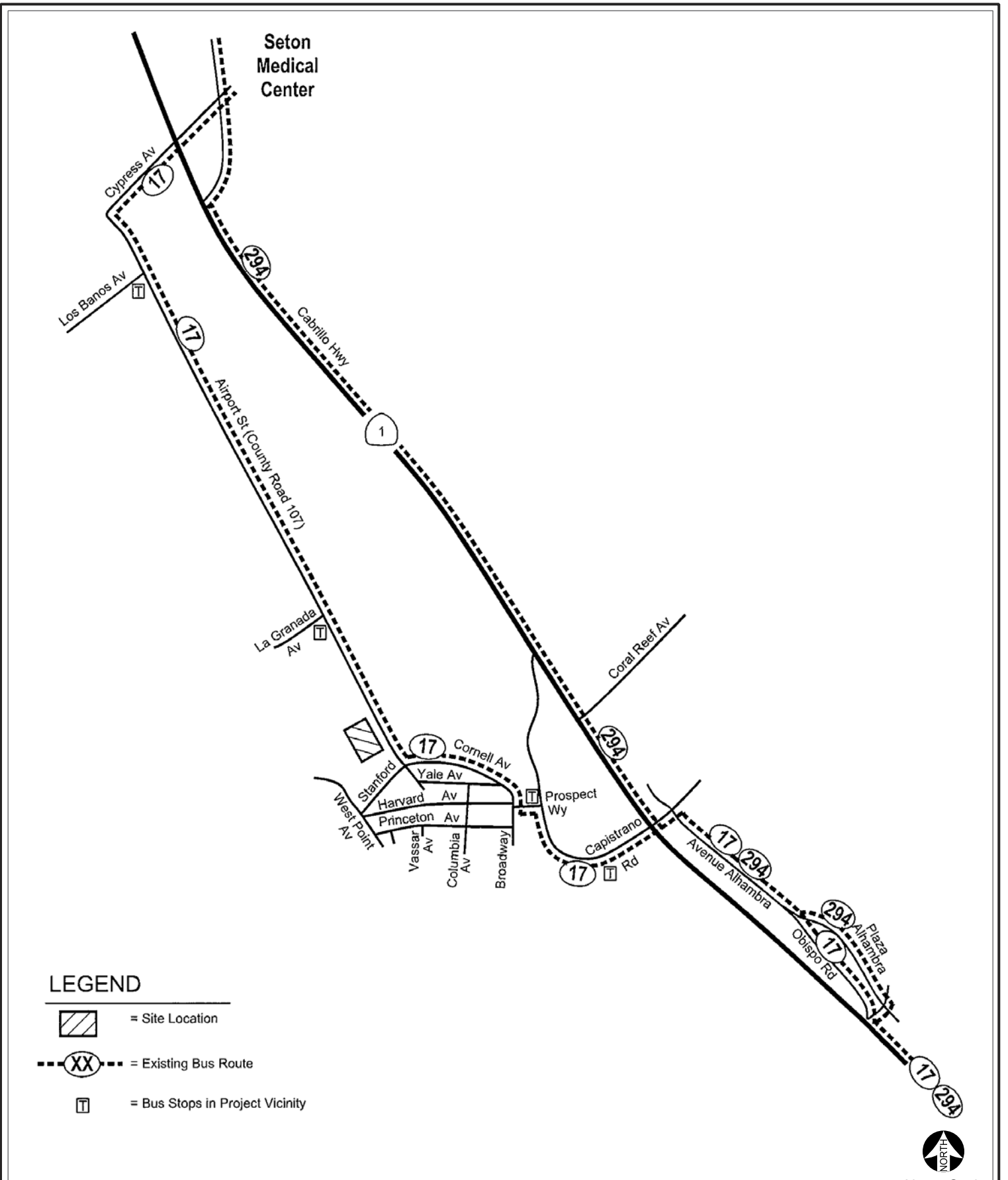
Existing conditions are represented by existing traffic volumes on the existing roadway network.

### ***Existing Intersection Lane Configurations***




The existing lane configurations at the study intersections were determined by field reconnaissance. The existing intersection lane configurations are shown on Figure IV.M-4.

### ***Existing Traffic Volumes***

Existing peak-hour traffic volumes were obtained from new manual turning-movement counts taken in January of 2006 at the intersection of Prospect Way and Capistrano Road and Broadway Avenue and Prospect Way, and in January of 2007 at all of the study intersections. The existing peak-hour volumes are shown on Figure IV.M-5 and included in Appendix J of this DEIR.

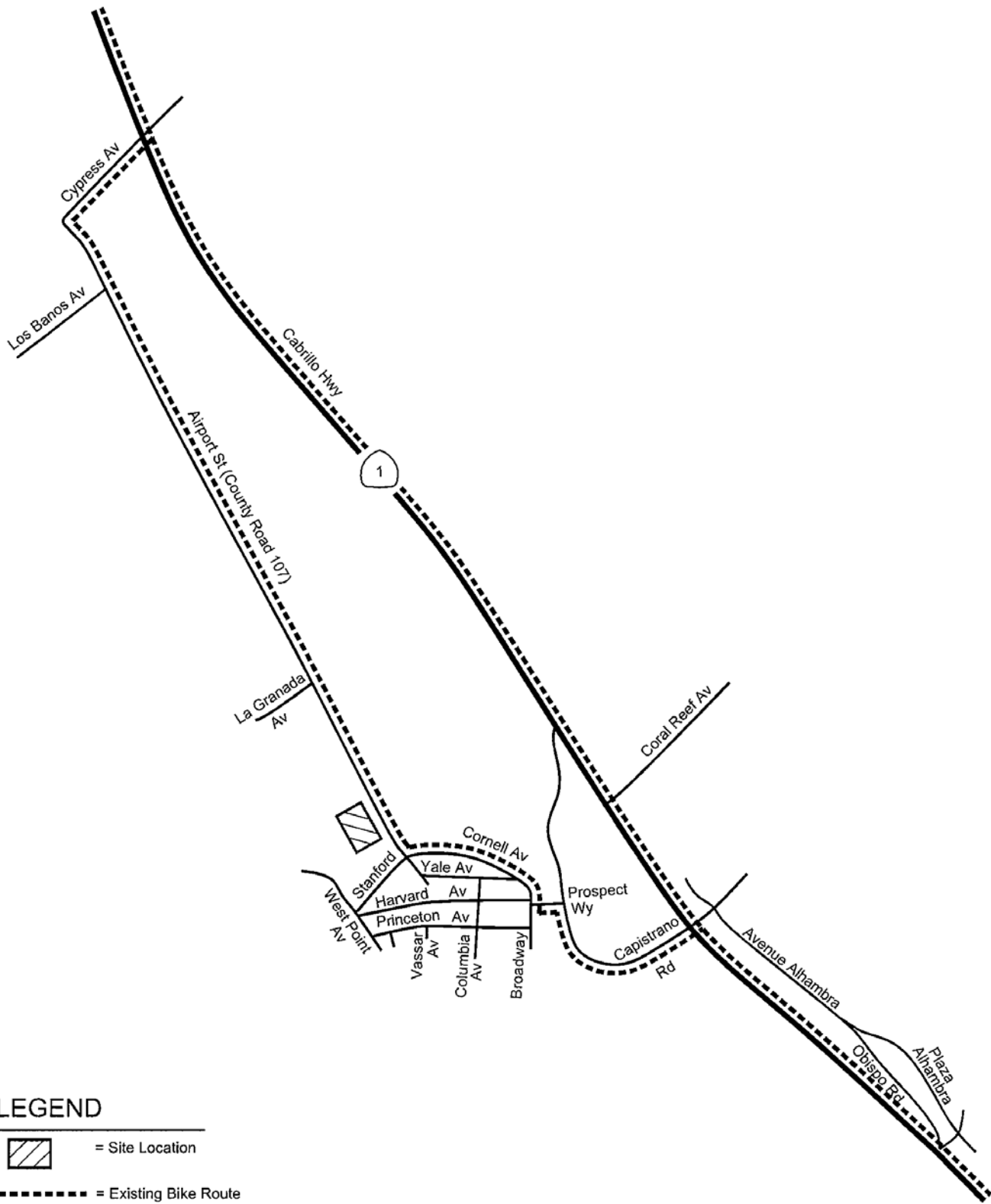


**LEGEND**



-  = Site Location
-  = Existing Bus Route
-  = Bus Stops in Project Vicinity

Source: Hexagon Transportation Consultants, June 24, 2009.

  
Not to Scale

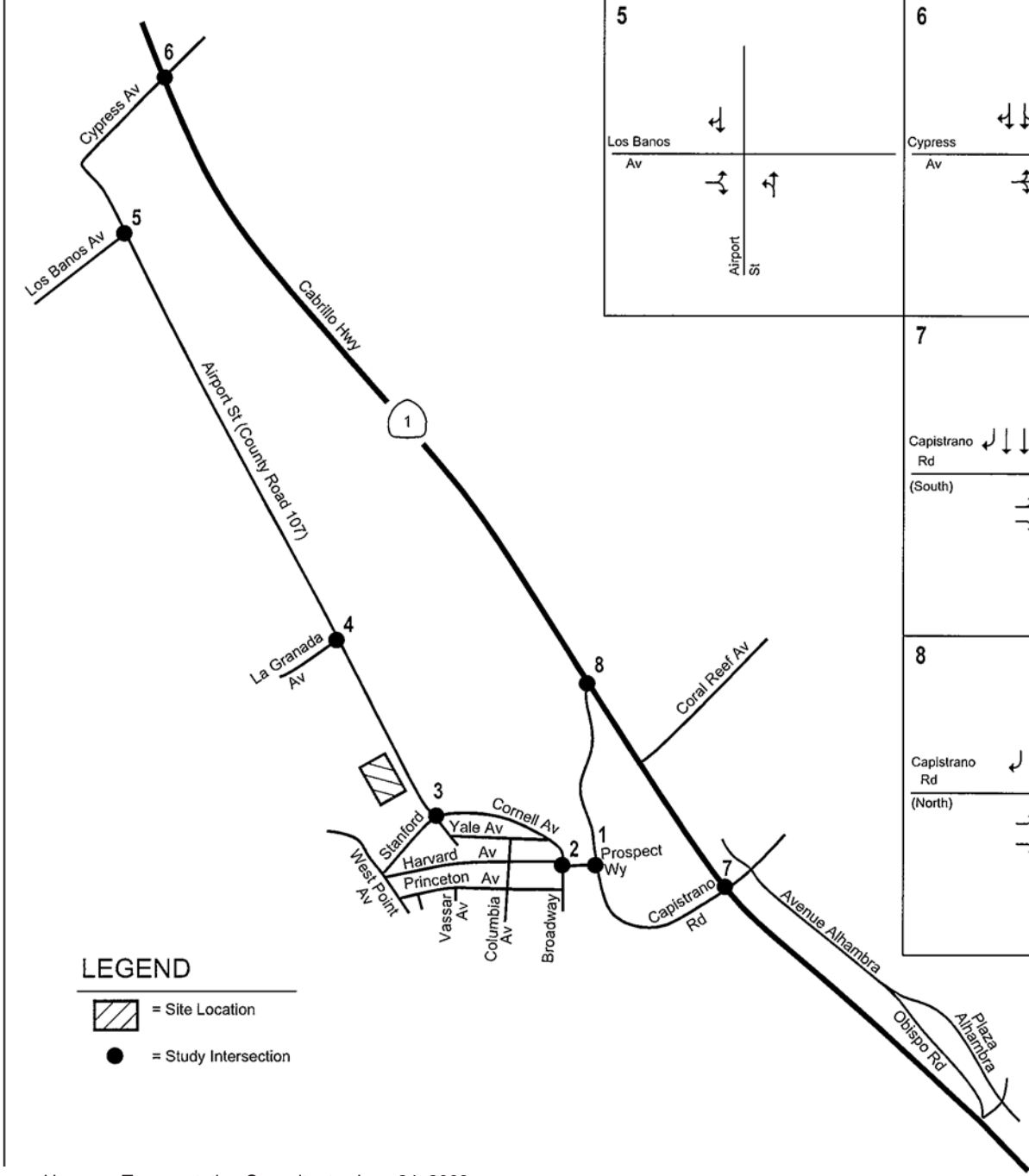
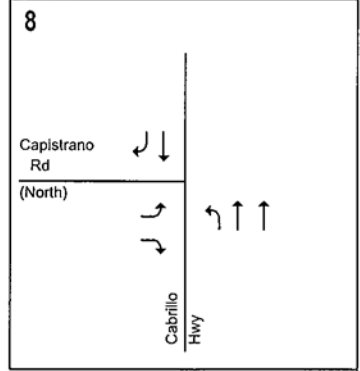
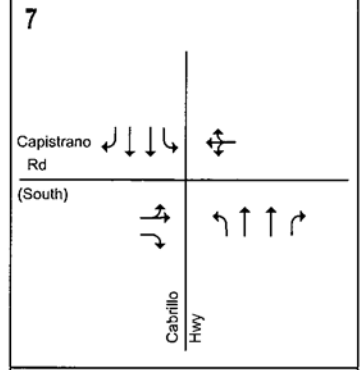
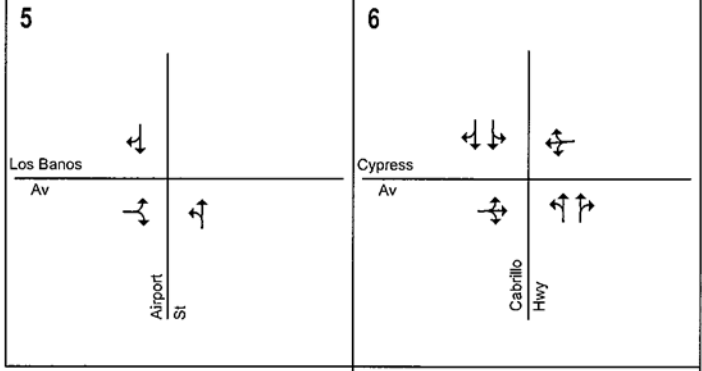
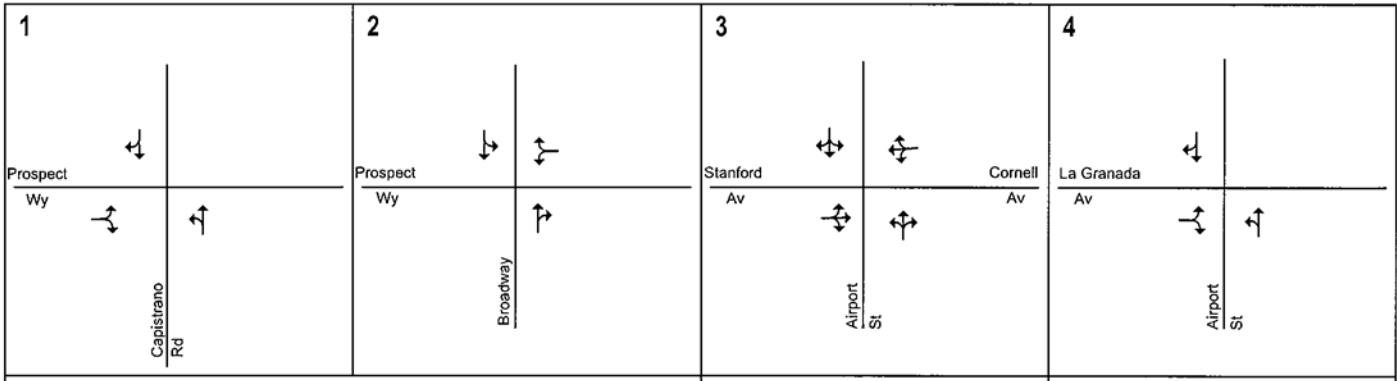


**LEGEND**



-  = Site Location
-  = Existing Bike Route

Source: Hexagon Transportation Consultants, June 24, 2009.

  
Not to Scale



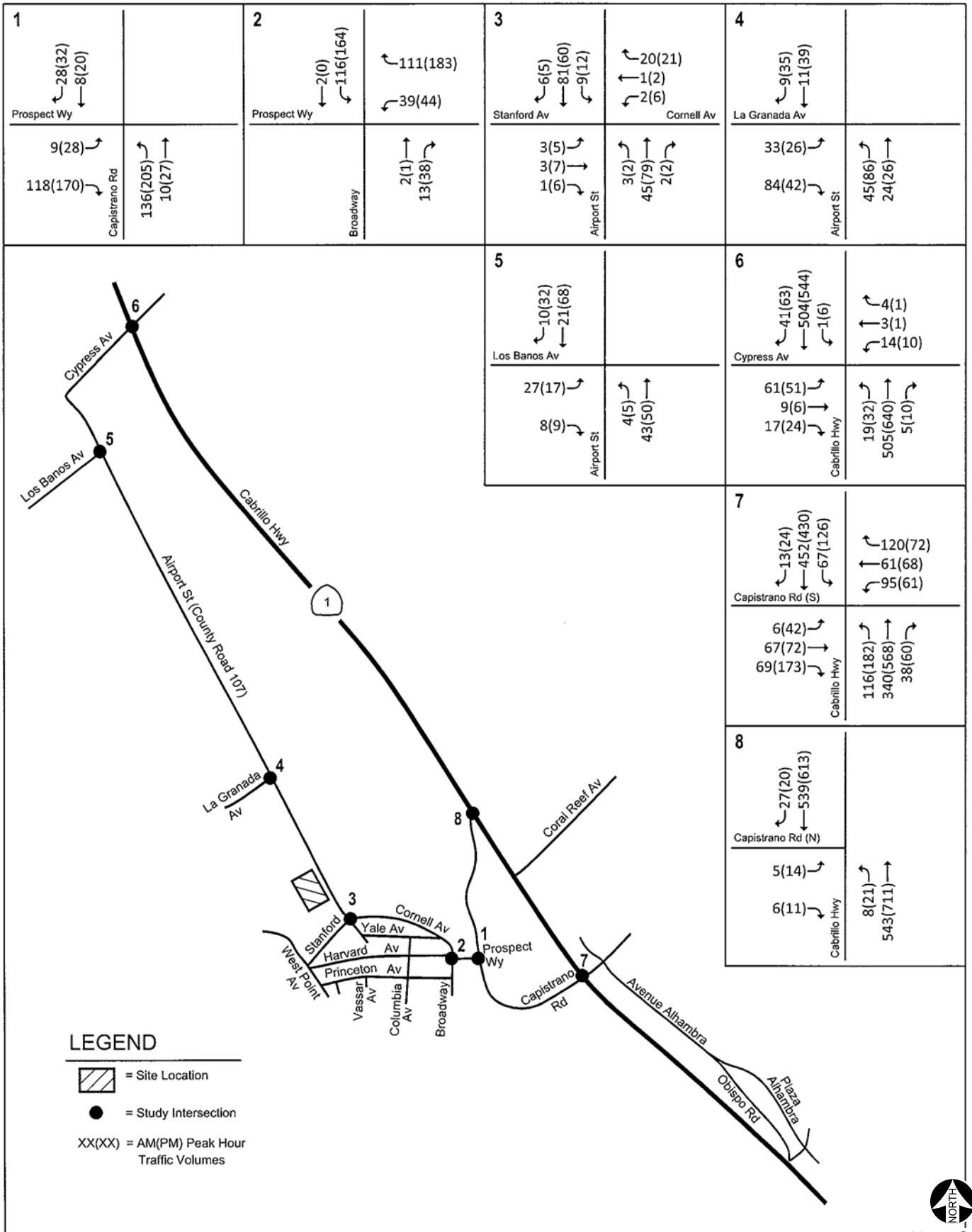
**LEGEND**

-  = Site Location
-  = Study Intersection



Not to Scale

Source: Hexagon Transportation Consultants, June 24, 2009.



Source: Hexagon Transportation Consultants, June 24, 2009.





### ***Existing Intersection Levels of Service (LOS)***

The results of the LOS analysis under existing conditions show that all of the study intersections currently operate at an acceptable LOS D or better during peak periods (see Table IV.M-3). For the unsignalized intersections, the table reports the average delay (in seconds) and LOS for the intersection overall, as well as the worst-case turning movement delay and LOS. The LOS calculation sheets are included in Appendix J of this DEIR.

### ***Existing Signal Warrants***

The peak-hour signal warrant (*MUTCD 2003*, Urban Warrant) was checked for the seven unsignalized intersections to determine whether signalization would be justified on the basis of existing peak-hour volumes. The analysis showed that none of the study intersections would meet the signal warrant under existing conditions. The signal warrant analysis sheets are included in Appendix J of this DEIR.

### ***Observed Existing Traffic Conditions***

Traffic conditions in the field were observed in order to identify existing operational deficiencies and to confirm the accuracy of calculated levels of service. The purpose of this effort was (1) to identify any existing traffic problems that may not be directly related to intersection LOS and (2) to identify any locations where the LOS calculation does not accurately reflect LOS in the field. Overall the study intersections operated adequately during both the AM and PM peak-hours of traffic, and the LOS analysis appears to accurately reflect actual existing traffic conditions.

**Table IV.M-3  
Existing Intersection Levels of Service**

Intersection	Peak-Hour	Count Date	Average		Worst-Case	
			Delay	LOS	Delay	LOS
1. Prospect & Capistrano	AM	01/18/07	7.0	A	9.1	A
	PM	01/18/07	7.4	A	10.1	B
2. Broadway & Prospect	AM	01/18/07	8.1	A	9.5	A
	PM	01/18/07	8.2	A	10.1	B
3. Airport & Stanford/Cornell	AM	01/17/07	2.0	A	9.6	A
	PM	01/17/07	2.6	A	9.7	A
4. Airport & La Granada	AM	01/17/07	6.8	A	9.1	A
	PM	01/17/07	5.1	A	9.5	A
5. Airport & Los Banos	AM	01/17/07	3.0	A	8.9	A
	PM	01/17/07	1.5	A	9.2	A
6. State Route 1 & Cypress	AM	01/16/07	2.1	A	22.4	C
	PM	01/16/07	2.0	A	26.3	D
7. State Route 1 & Capistrano (South)*	AM	01/18/07	24.0	C	–	–
	PM	01/18/07	23.0	C	–	–
8. State Route 1 & Capistrano (North)	AM	01/16/07	0.2	A	13.5	B
	PM	01/16/07	0.4	A	16.3	C

*Notes: \* Signalized Intersection*

*Source: Hexagon Transportation Consultants, 2009.*

**Background Conditions**

Background conditions are defined as conditions just prior to completion of the proposed development. Traffic volumes for background conditions comprise volumes from existing traffic counts plus traffic expected to be generated by other approved developments in the vicinity of the project site. Approved projects are those developments that have been approved, but which are not yet constructed or occupied. Approved projects may require developer-conditioned transportation improvements.

**Background Roadway Network**

It is assumed in this analysis that the transportation network under background conditions would be the same as the existing transportation network.

**Approved Developments**

Table IV.M-4 lists the approved but not-yet-completed developments in the project vicinity, which would add traffic to the roadway network under background conditions. The traffic associated with these developments is further discussed in the Cumulative analysis presented below. Trips generated by small or distant developments would be negligible on the study roadway segments. The effect of other foreseeable development that has not been approved by the County of San Mateo is also addressed in the Cumulative analysis presented below.

**Table IV.M-4  
Approved Developments**

<b>Land Use</b>	<b>Size</b>	<b>Location</b>
Restaurant Addition	1,600 sf	214 Princeton Avenue
Boat and Machine Storage	3,163 sf	179 Harvard Avenue
Warehouse/Office	3,625 sf	175 Harvard Avenue
Warehouse	4,346 sf	141 California Avenue
Warehouse/Office	4,346 sf	121 California Avenue
Hotel/Extended-Stay/Meeting	84 short-stay rooms 11 extended-stay rooms meeting rooms	240 Capistrano Road
Restaurant and Retail	8,697 sf restaurant 40,000 sf retail	240 Capistrano Road
Marine Sales	3,450 sf	West Point Avenue
Storage/Office/Vacation Rental	3,425 sf	Princeton Avenue at Columbia Avenue
Indoor Storage/Marine Usage	3,155 sf	151 Vassar Street
Mixed-Use	2,374 sf	358 Princeton Avenue
Warehouse/Office	1,982 sf	102 California Avenue
<i>Notes: sf = square feet</i>		
<i>Source: Hexagon Transportation Consultants, 2009.</i>		

**Background Traffic Volumes**

Background peak-hour traffic volumes were calculated by adding to existing volumes the estimated traffic from approved but not yet constructed developments. The latter are called approved trips, and were obtained or derived from information provided by C/CAG. The traffic added to the study intersections from approved, but not yet constructed developments, was estimated by distributing and assigning trips generated by these developments to the roadway network. Background traffic volumes are shown on Figure IV.M-6. The approved trip assignments are included in Appendix J of this DEIR.

**Background Intersection Levels of Service**

The results of the LOS analysis under average background conditions show that all of the study intersections would operate at an acceptable LOS C or better, and would operate at an acceptable LOS D or better during peak-hour periods at the worst turning movement (see Table IV.M-5). The LOS calculation sheets are included in Appendix J of this DEIR.

**Background Signal Warrants**

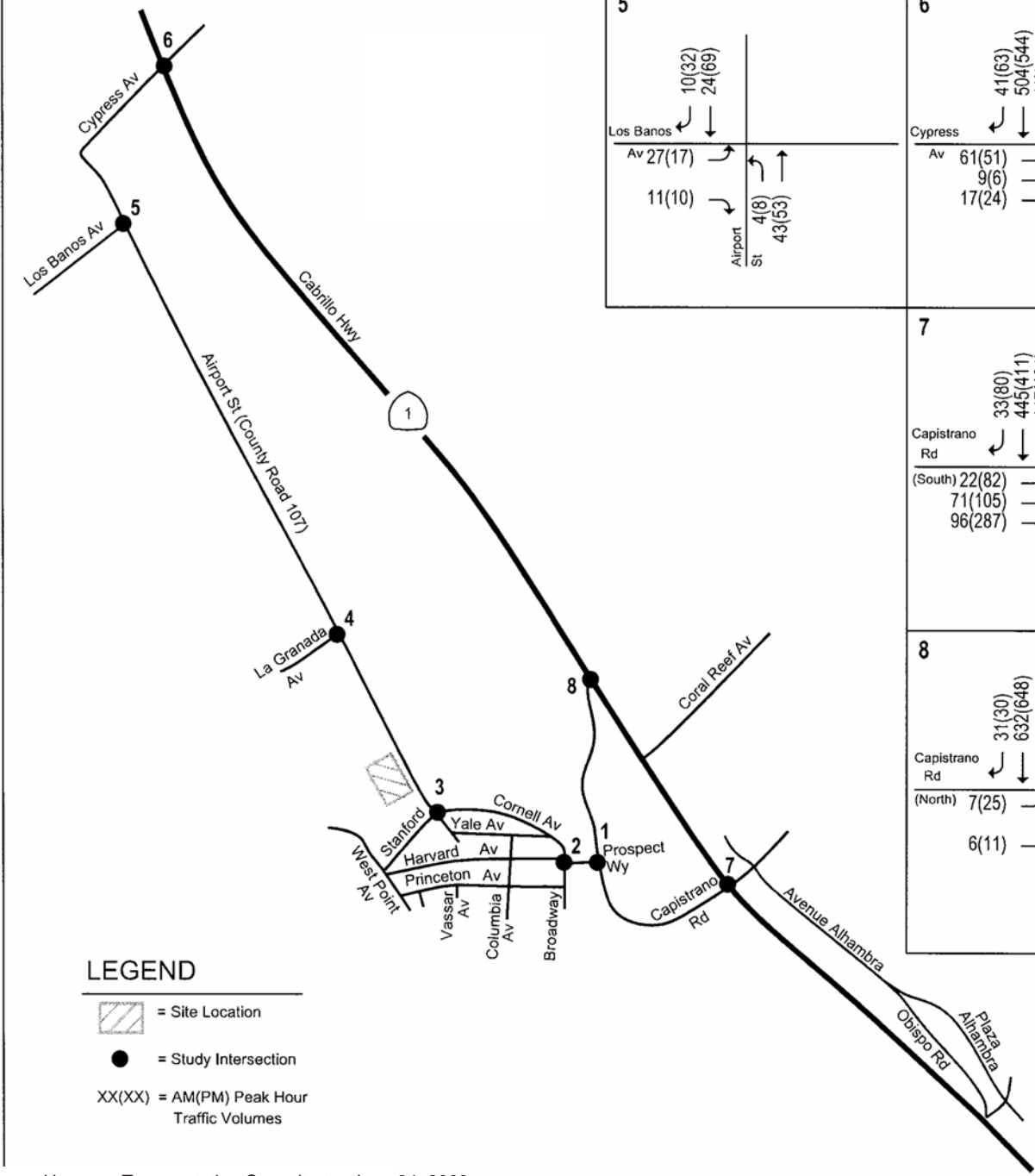
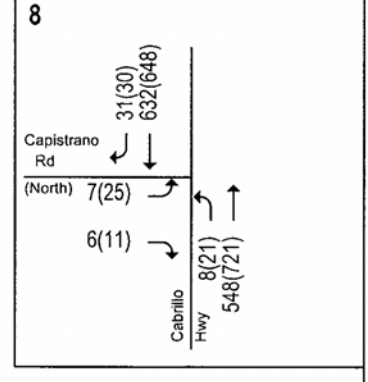
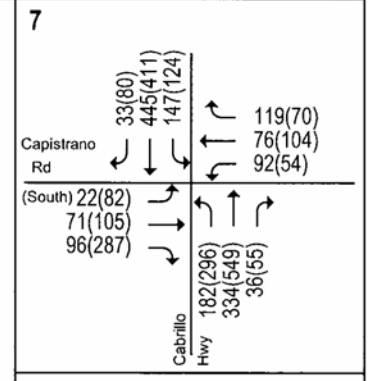
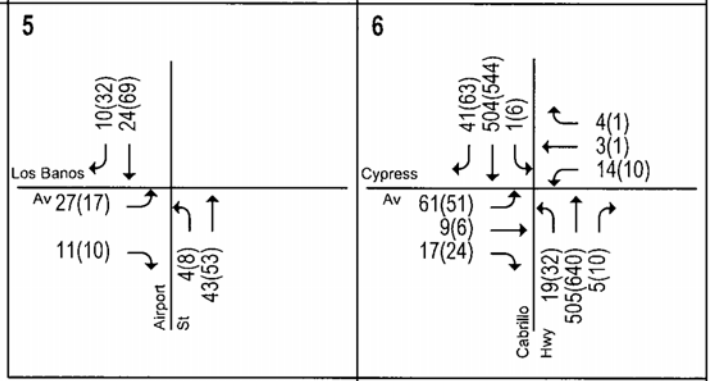
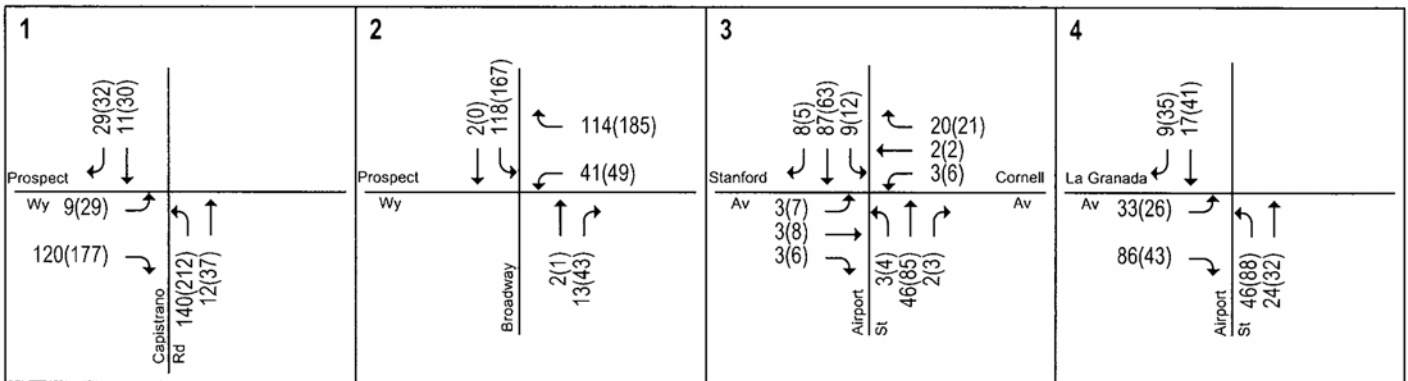
The peak-hour signal warrant (*MUTCD 2003*, Urban Warrant) was checked for the seven unsignalized intersections to determine whether signalization would be justified on the basis of background peak-hour volumes. The analysis showed that none of the study intersections would meet the signal warrant under background conditions. The signal warrant analysis sheets are included in Appendix J of this DEIR.

**Table IV.M-5  
Background Intersection Levels of Service**

Intersection	Peak-Hour	Existing				Background			
		Average		Worst-Case		Average		Worst-Case	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Prospect & Capistrano	AM	7.0	A	9.1	A	6.9	A	9.1	A
	PM	7.4	A	10.1	B	7.3	A	10.3	B
2. Broadway & Prospect	AM	8.1	A	9.5	A	8.1	A	9.6	A
	PM	8.2	A	10.1	B	8.3	A	10.3	B
3. Airport & Stanford/Cornell	AM	2.0	A	9.6	A	2.1	A	9.5	A
	PM	2.6	A	9.7	A	2.6	A	11.5	B
4. Airport & La Granada	AM	6.8	A	9.1	A	6.6	A	9.1	A
	PM	5.1	A	9.5	A	5.0	A	9.5	A
5. Airport & Los Banos	AM	3.0	A	8.9	A	3.1	A	8.9	A
	PM	1.5	A	9.2	A	1.6	A	9.2	A
6. State Route 1 & Cypress	AM	2.1	A	22.4	C	2.1	A	22.4	C
	PM	2.0	A	26.3	D	2.0	A	26.3	D
7. State Route 1 & Capistrano (South)*	AM	24.0	C	-	-	25.4	C	-	-
	PM	23.0	C	-	-	24.9	C	-	-
8. State Route 1 & Capistrano (North)	AM	0.2	A	13.5	B	0.2	A	15.1	C
	PM	0.4	A	16.3	C	0.6	A	18.5	C

Notes:

\* Signalized Intersection Source: Hexagon Transportation Consultants, 2009.



**LEGEND**

- = Site Location
- = Study Intersection
- XX(XX) = AM(PM) Peak Hour Traffic Volumes

Source: Hexagon Transportation Consultants, June 24, 2009.



Not to Scale

## REGULATORY SETTING

### Federal and State

Currently no Federal and State plan, policies and/or regulations related to transportation exist. Therefore, in addition to the thresholds of significance outlined in Appendix G of the CEQA Guidelines, the local policies and guidelines associated with circulation and transportation as defined by San Mateo County will be utilized for this analysis.

### Regional and Local

#### *City/County Association of Governments of San Mateo County (C/CAG), Countywide Transportation Plan*

The San Mateo C/CAG Countywide Transportation Plan (CTP) 2030 was adopted on January 18, 2001 in association with the cities of San Mateo County, the San Mateo County Transit District (SamTrans), and San Mateo County Transportation Authority (TA). The CTP 2010 is a planning document that envisions, directs, and prioritizes the transportation needs of San Mateo County by analyzing various transportation-related elements: roadways, transit services, land use, transportation systems management, and pricing. C/CAG is currently working on a 2009 CMP update.

#### *City/County Association of Governments of San Mateo County (C/CAG), Congestion Management Program*

The funding package associated with Propositions 111 and 108 included a requirement that every urban county within California designate a Congestion Management Agency (CMA) that would prepare, implement, and biennially update a Congestion Management Program (CMP). In San Mateo County, the C/CAG was designated as the CMA. Subsequent legislation (Assembly Bill (AB) 2419) allowed existing CMAs to discontinue participation in the Program. San Mateo County C/CAG voted to continue to participate in and adopt a CMP. The first CMP for San Mateo County was adopted by C/CAG in 1991. It was updated and amended in 1993, 1995, 1997, 1999, 2001, 2003, and 2005. The current 2007 CMP is the eighth CMP for San Mateo County. It describes the decisions adopted by C/CAG in 2000, 2001, 2003, and 2005 to comply with the applicable sections of AB 471, AB 1791, AB 1963, Senate Bill (SB) 1636 and to include new provisions required by SB 45 and Transportation Equity Act (TEA) 21. The purpose of CMP's is to develop a procedure to alleviate or control anticipated increases in roadway congestion and to ensure that federal, state, and local agencies join with transit districts, business, private, and environmental interests to develop and implement comprehensive strategies needed to develop appropriate responses to transportation needs.

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***City/County Association of Governments of San Mateo County (C/CAG), San Mateo County Comprehensive Bicycle Route Plan***

The San Mateo County Comprehensive Bicycle Route Plan (CBRP) was developed by San Mateo C/CAG, the Bicycle and Pedestrian Advisory Committee, the individual cities and agencies, and citizens interested in improving the San Mateo County bicycling environment. The primary study area of the CBRP includes the entire County and all connections into adjacent communities. The focus of the CBRP is on a primary (rather than local) network of bikeway corridors for inter-city and regional travel. As an Element of the CTP, the CBRP is intended to coordinate and guide the provisions of all bicycle-related plans, programs, and projects within the County. As a Countywide Bicycle Plan, it focuses on providing bikeway connections between the incorporated cities, adjacent counties, and major regional destinations within the County. The CBRP also prioritizes recommended bikeway projects through the study area, and serves as a guide to the incorporated cities regarding bikeway policies and design standards.

***San Mateo County General Plan***

The General Plan contains the following policies related to transportation that are applicable to the proposed project:

*Automobile Travel*12.8 Additional Capacity

- When providing additional capacity for automobile traffic where needed, give priority to upgrading and expanding existing roads before developing new road alignments.

12.10 Urban Road Improvements

- In urban areas, where improvements are needed due to safety concerns or congestion, support the construction of interchange and intersection improvements, additional traffic lanes, turning lanes, redesign of parking, channelization, traffic control signals, or other improvements.

12.14 Financing Local Road Improvements

- Utilize all available techniques for funding local road improvements in unincorporated areas, including assessment districts, developer contributions, and County road funds. Ensure road improvements are consistent with adopted land use plans and area plans.

12.15 Local Circulation Policies

- In unincorporated communities, plan for providing:
  - Maximum freedom of movement and adequate access to various land uses;

- Improved streets, sidewalks, and bikeways in developed areas;
- Minimal through traffic in residential areas;
- Routes for truck traffic which avoid residential areas and are structurally designed to accommodate trucks;
- Access for emergency vehicles;
- Bicycle and pedestrian travel;
- Access by physically handicapped persons to public buildings, shopping areas, hospitals, offices, and schools;
- Routes and turnouts for public transit;
- Parking areas for ridesharing;
- Coordination of transportation improvement with adjacent jurisdictions.

#### 12.16 Local Road Standards

- Allow for modification of road standards for sub-areas of the County, which respond to local needs and conditions as identified in area plans.

#### 12.19 Parking Standards

- Review and update the County's off-street and on-street parking standards in order to reflect current conditions and requirements. Consider the needs of each individual land use, the potential for joint use of parking areas, fees in lieu of parking, spaces for smaller cars, and parking management strategies.

### *Public Transit and Ridesharing*

#### 12.23 SamTrans Service

- Encourage SamTrans to continue to work toward improving service levels on both local and mainline routes through reevaluation and expansion of routes, increased service to the Coastside, provision of more satellite parking facilities, and evaluation of smaller buses for local routes.

#### 12.30 Population Groups with Special Needs

- Encourage and support SamTrans and the Paratransit Coordinating Council to work toward meeting the transportation needs of the mobility-impaired, the young, and the elderly.

*Bicycle and Pedestrian Travel*

12.39 Pedestrian Paths

- Encourage the provision of safe and adequate pedestrian paths in new development connecting to activity centers, schools, transit stops, and shopping centers.

***San Mateo County Local Coastal Program***

The Local Coastal Program contains the following policies related to transportation that are applicable to the proposed project:

*Roads*

2.48 Capacity Limits

- Limit expansion of roadways to capacity which does not exceed that needed to accommodate commuter peak period traffic when buildout of the Land Use Plan occurs.
- Use the requirements of commuter peak period traffic as the basis for determining appropriate increases in capacity.

2.49 Desired Level of Service

- In assessing the need for road expansion, consider Service Level D acceptable during commuter peak periods and Service Level E acceptable during recreation peak periods.

2.52 Phase I Monitoring

- Monitor the number and rate of new residential construction, particularly in the rural Mid-Coast.

*Transit*

2.60 Increased Service for Coastside Residents

- Encourage SamTrans to expand bus service to and along the Coastside to improve transit service to Coastside residents.



## ENVIRONMENTAL IMPACTS

### Thresholds of Significance

Based on Appendix G of the CEQA Guidelines, the proposed project would have a significant transportation/traffic impact if it would:

- a) 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 (V/C) ratio on roads, or congestions at intersections).
- b) exceed, either individually or cumulatively, a level of service (LOS) standard established by the county congestion management agency for designated roads or highways.
- c) 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.
- d) substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- e) result in inadequate emergency access.
- f) result in inadequate parking capacity.
- g) conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

For this analysis, the relevant criteria for impacts at intersections are based on the County of San Mateo intersection LOS standards. According to the County of San Mateo LOS guidelines, a development is said to create a significant adverse impact on traffic conditions at a signalized intersection if for either peak-hour:

1. the level of service at the intersection degrades from an acceptable LOS D or better (for CMP intersections the minimum acceptable level of service is LOS E) under baseline conditions to an unacceptable LOS E or F under project conditions, or
2. the level of service at the intersection is an unacceptable LOS E or LOS F under baseline conditions and the addition of project trips causes the critical-movement volume-to-capacity ratio (V/C) to increase by 0.02 or more.

A significant impact at a signalized intersection is said to be satisfactorily mitigated when measures are implemented that would restore intersection operations back to background (without the project) conditions or better.

Further, any feature of the site layout that might result in unsafe pedestrian or vehicular circulation would be considered a significant impact. Revisions to the project site plans (refer to Figures III-9 and III-16) may be recommended to make the site circulation function more efficiently. Any on-site circulation recommendations that are not related to safety are not considered significant impacts under the CEQA, but may be required as a condition of approval.

As discussed in Section V.C (Impacts Found to be Less Than Significant) of this DEIR, potential impacts associated with Threshold (b) above were determined to have no impact because the roadway segments and intersections in the immediate vicinity of the project site are not designated roadways with established LOS standards in the County's 2007 Congestion Management Program (CMP); therefore, no monitoring or analysis under the CMP is required. However, the proposed project's approximately 2,123 peak-hour trips added to roadways in the vicinity of the project site are evaluated under Impact TRANS-1 (Intersection Level of Service and Capacity) as well as under Impact TRANS-9 (Intersection Levels of Service Under Cumulative Conditions). Potential impacts associated with Threshold (c) were determined to have no impact because the proposed project does not include any aviation-related uses and would not have the potential to result in a change to air traffic patterns at nearby Half Moon Bay Airport. Therefore, only Thresholds (a), (d), (e), (f), and (g) listed above are addressed in the following discussion.

### **Proposed Project**

The project proposes development of residential, limited commercial, office, and limited recreational uses. The project proposes development that provides housing and employment opportunities for low-income developmentally disabled (DD) adults. The project site consists of two parcels: (1) the northern parcel (Office Park); and (2) the southern parcel (Wellness Center).

The primary development of the Office Park would consist of four three-story office buildings and associated common areas (i.e., parking lot, walkways, wetland area, and a Communications Building). Three ingress/egress access points would be developed along the northern boundary of the proposed parking lot, which would connect to the adjacent Airport Street. Sidewalks and islands would be developed within the site to accommodate pedestrian traffic. Additionally, onsite walkways and a trail system would provide circulation within the proposed Office Park property. The project proposes to provide 640 parking spaces on the northern parcel, 12 of which would be ADA (Americans with Disabilities Act) handicap accessible. The project proposes low-density office use and the applicant is requesting a parking space exception from the County in order to provide one parking space for every 250 square feet of office space. The County parking ordinance requires one space for every 200 square feet of office space and does not specify parking requirements for lower density uses. Furthermore, the applicant proposes to implement parking options to reduce any potential impacts from the proposed parking exception, which are described further below under Impact TRANS-5 (Parking).

The primary development of the Wellness Center would consist of 70 residential units for approximately 50 DD adults and 20 live-in staff members, and associated common and living areas and recreational facilities (i.e., parking lot, walkways, wetland area, fencing, commercial kitchen, dining area, laundry

area, office space, a multipurpose auditorium/theater, indoor pool, basketball courts, fitness center, and a separate Storage Building). Two ingress/egress access points would be developed on the northeast and northwest sides of the proposed Wellness Center parking lot with access from the adjacent Airport Street. The proposed 20-foot wide wetlands trail would also provide fire access to both sides of all buildings on the site. Onsite walkways and a trail system would provide pedestrian circulation within the proposed Wellness Center property. On the southern parcel, 73 parking spaces would be required to accommodate the live-in staff (caregivers and employees), customers receiving services, and guests. It was assumed for the proposed parking requirements that all of the Wellness Center staff would live at the Center, and that the DD residents would not drive. Approximately 10 handicap parking spaces would be available within this parking lot and would be in compliance with ADA requirements. Given the use of the site, an additional 5 handicap spaces may be added.

In addition to the primary components, the proposed project includes development of onsite and offsite farming, an onsite native plant nursery, dog walking and grooming services; and development of bus stops and shuttle services.

Emergency vehicle access to the project site is provided from major roadways near and adjacent to the site. Major roadways near the project site include: State Route (SR) 1 (Cabrillo Highway) and Airport Street. The project site can be directly accessed from the surrounding streets, including: Cypress Avenue, Marine Boulevard; Capistrano Road, Prospect Way; and California and Cornell Avenues, located to the northwest, east and south of the site, respectively.

For a more detailed description of the proposed project, refer to Section III (Project Description) of this DEIR.

## **Project Impacts and Mitigation Measures**

### ***Project Conditions***

Project conditions are defined as background traffic conditions with the addition of traffic generated by the proposed project. It is assumed in this analysis that the transportation network under project conditions would be the same as the existing network.

### ***Trip Generation***

Through empirical research, data have been collected that correlate to common land uses their propensity for producing traffic. Thus, for the most common land uses there are standard trip generation rates that can be applied to help predict the future traffic increases that would result from a new development.

The magnitude of traffic added to the roadway system by a particular development is estimated by multiplying the applicable trip generation rates to the size of the development. Standard trip generation rates are published in the Institute of Transportation Engineers (ITE) manual entitled *Trip Generation, Eighth Edition*, 2008. The project includes a Wellness Center with the following components:

- 36 one-bedroom units for developmentally disabled adults;
- 7 two-bedroom units for developmentally disabled adults;
- 5 breezeway units with 4 bedrooms each which can house up to 20 residents/staff aides;
- 20,000 square feet of storage space; and
- 5,326 square feet of community center (pool/fitness center).

The proposed project would include a mixed-use Office Park with 90,000 square feet of general office, 56,250 square feet of research and development, 33,750 square feet of storage, and 45,000 square feet of light manufacturing.

The trip generation estimates for each of these components are described below.

#### Residential Uses

- *One and Two Bedroom Apartment Units* – Since it has not yet been determined where the residents versus staff will reside, it is assumed for purposes of this analysis that these apartment units will house developmentally disabled residents. There would be a common recreation area provided for use by all apartment residents. This common area would include a basketball court, an indoor pool and fitness center. As shown in Table IV.M-6, these units would not generate any trips as the residents would not drive. The residents would have care-givers residing on the project site that would drive them to and from activities, appointments, errands, etc. The care-giver trips would be included in the breezeway unit trip generation numbers.
- *Breezeway Units* – For purposes of this analysis, it is assumed the proposed breezeway apartment units would be for staff members. They are fourplexes (with single bed/bath units sharing a common living area and kitchen). There are five breezeway fourplexes so the total number of breezeway residential units proposed is 20. According to the project applicant, an option for these units is the addition of a common area that could be opened to the outside and would function as a living room, recreation room or dining room.

#### Community Center

- The community center would provide services for local area residents as well as residents living on the project site. The community center facilities would include an indoor pool, a fitness center and locker rooms. The community center might provide such services as classes, exercise facilities, a location for special events, public meetings, and private social functions. Community Center is not a land use for which the ITE manual can be used for trip generation estimates. The estimated trip generation for this portion of the project was based on a survey conducted by Hexagon Transportation Consultants at the Almaden Community Center located in San Jose, California.

### Storage

- Storage is proposed as a small portion of the project. This storage would most likely be utilized by project residents or Princeton area residents and would likely not generate any trips outside the study area. The ITE warehousing land use category was utilized to estimate trips for this portion of the project.

### Office Park

- The northernmost and largest section of the proposed project would be the proposed Office Park. The traffic analysis used the ITE general office building category for the 90,000 square feet general office portion of the project. The research and development component of the project is proposed as being 56,250 square feet in size. There is a proposed 33,750 square feet storage component and a 45,000 square feet light manufacturing component to the Office Park. This park could draw potential employees from the surrounding residential areas such as Moss Beach, Montara, El Granada and Miramar and other outlying regions. It should be noted that the 2,000 square feet Communications Building at the Office Park property would be an unstaffed maintenance building and would not contribute to traffic trips.

The estimated peak-hour and daily trip generation totals for the project are shown in Table IV.M-6. The table shows that the proposed project is estimated to generate 2,123 daily trips, including 292 trips (243 inbound and 49 outbound) during the AM peak-hour, and 268 trips (63 inbound and 206 outbound) during the PM peak-hour.

### *Trip Distribution and Assignment*

The trip distribution pattern for the proposed project was estimated based on existing travel patterns on the surrounding roadway system and the locations of complementary land uses. Separate trip distribution patterns were developed for each land use component of the proposed project. In determining the trip distribution patterns for vehicles traveling from the project site to northbound SR 1, the traffic study conducted travel time runs from the proposed project site to northbound SR 1 using two different routes as per the applicant's request and the County's approval.

The first route included northbound Airport Street and eastbound Cypress Avenue to northbound SR 1. The second route included southbound Airport Street to eastbound Cornell Avenue to eastbound Prospect Way to northbound Capistrano Road to northbound SR 1. The travel time runs showed that the northbound Airport Street route took half the time of the southbound Airport Street route (two minutes as opposed to four minutes). As a result, the traffic analysis assumed that vehicular traffic traveling from the project site to northbound SR 1 would proceed north on Airport Street to Cypress Avenue and turn left onto SR 1.

**Table IV.M-6  
Project Trip Generation Estimates**

Use	Size	Daily		AM Peak-Hour			PM Peak-Hour				
		Rate <sup>1</sup>	Trips	Rate <sup>1</sup>	In	Out	Total	Rate <sup>1</sup>	In	Out	Total
<b>Office Park</b>											
General Office <sup>2</sup>	90,000 sf	11.01	991	1.55	123	17	140	1.49	23	111	134
Research & Development <sup>3</sup>	56,250 sf	8.11	456	1.22	57	12	69	1.07	9	51	6
Storage <sup>4</sup>	33,750 sf	3.56	120	0.30	8	2	10	0.32	3	8	11
Light Manufacturing <sup>5</sup>	45,000 sf	3.82	172	0.73	23	7	33	0.73	12	21	33
<b>Wellness Center</b>											
Residential:											
One-bedroom <sup>6</sup>	36 units	n/a	0	n/a	0	0	0	n/a	0	0	0
Two-bedroom <sup>6</sup>	7 units	n/a	0	n/a	0	0	0	n/a	0	0	0
Breezeway <sup>7</sup>	20 units	6.65	133	0.51	2	8	10	0.62	8	4	12
Storage <sup>4</sup>	20,000 sf	3.56	71	0.30	5	1	6	0.32	2	5	6
Community Center <sup>8</sup>	5,326 sf	33.80	180	4.57	22	2	24	2.19	7	5	12
<b>Total</b>			<b>2,123</b>	<b>-</b>	<b>243</b>	<b>49</b>	<b>292</b>	<b>-</b>	<b>63</b>	<b>206</b>	<b>268</b>

Notes: n/a = not applicable; sf = square feet

<sup>1</sup> Rates based on ITE Trip Generation Manual, 8<sup>th</sup> Edition average rates – numbers may not add due to rounding.

<sup>2</sup> ITE Code 710, General Office Building.

<sup>3</sup> ITE Code 760, Research and Development Center.

<sup>4</sup> ITE Code 150, Warehousing.

<sup>5</sup> ITE Code 140, Manufacturing.

<sup>6</sup> These units are for the developmentally disabled and will not generate any vehicular trips.

<sup>7</sup> A breezeway unit is a one-story unit that can house up to 4 residents/staff aides. The project is proposing 5 breezeway units (5x4=20).  
ITE Code 220, Apartment.

<sup>8</sup> Community Center rates are based on a trip generation survey conducted at the Almaden Community Center located in San Jose, CA.

Source: Hexagon Transportation Consultants, 2009.

The peak-hour trips generated by the project were assigned to the roadway system using the TRAFFIX software and in accordance with the trip distribution pattern shown. The trip distribution patterns for particular land uses are shown graphically on Figures IV.M-7, -8, -9 and -10. The traffic study conducted travel time runs on Wednesday, April 2, 2008. Figure IV.M-11 shows the assignment of project trips at each study intersection.

### Cumulative Conditions

This section presents a summary of the traffic conditions that would occur under cumulative conditions with and without the project. Cumulative conditions represent conditions 20 years into the future.

#### Roadway Network Under Cumulative Conditions

The intersection lane configurations under cumulative conditions were assumed to be the same as described under project conditions.

**Cumulative Traffic Volumes**

Traffic volumes under cumulative conditions were estimated by applying to the existing volumes an annual growth rate of one percent for twenty years, then adding the trips from approved developments and the project. In addition to the approved projects factored into the background condition scenario, there are two additional approved developments on the list received from the County (see Table IV.M-7). As these projects had not yet been approved at the time of this report, they are included in the cumulative scenario but not the background scenario. The one percent growth rate factor was based upon C/CAG model forecasts. The growth was based on a 20-year projection. Cumulative traffic volumes without the project trips are shown on Figure IV.M-12. Cumulative traffic volumes with project trips are shown on Figure IV.M-13.

**Table IV.M-7  
Approved Developments – Cumulative Scenario**

Land Use	Size	Location
Commercial	17,147 sf	264, 268, 272, 276 & 280 Princeton Avenue
Mixed-Use	1,622 sf	Princeton Avenue at Broadway
<i>Notes: sf = square feet</i>		
<i>Source: Hexagon Transportation Consultants, 2009.</i>		

**Impact TRANS-1 Intersection Level of Service and Capacity**

The proposed project would bring additional traffic to the project site and the surrounding roadways. As discussed above, the proposed project would add approximately 2,123 daily trips to roads in the vicinity of the project site. Project traffic volumes were estimated by adding the project trips to background traffic volumes. Background plus project traffic volumes are typically referred to simply as project traffic volumes; this is contrasted with the term project trips, which is used to signify the traffic that is produced specifically by the project. The project traffic volumes are shown graphically on Figure IV.M-14. Traffic volumes for all components of traffic are tabulated and included in Appendix J of this DEIR.

As shown in Table IV.M-8, the results of the LOS analysis under average project conditions show that all of the study intersections would operate at an acceptable LOS C or better. However, the eastbound left-turn movement at the intersection of SR 1 and Cypress Avenue is shown to operate at LOS F with a delay of 59.8 seconds under worst-case project conditions (the LOS calculation sheets are included in Appendix J of this DEIR). The traffic analysis found that there are no improvements possible at this intersection to improve this LOS F other than signalization; therefore, with the project, the peak-hour signal warrant would be met at the intersection of SR 1 at Cypress Avenue and impacts to intersection LOS and capacity would be **significant** (the signal warrant analysis sheets are included in Appendix J of this DEIR). With signalization, this intersection would operate at LOS A under the AM and PM peak-hours for both (average and worst-case) project scenarios. Under signalized conditions, the existing roadway geometry would be adequate to handle the anticipated traffic demand.

The following mitigation measure would reduce the impact related to project peak-hour traffic volumes and intersection LOS to a *less-than-significant* level:

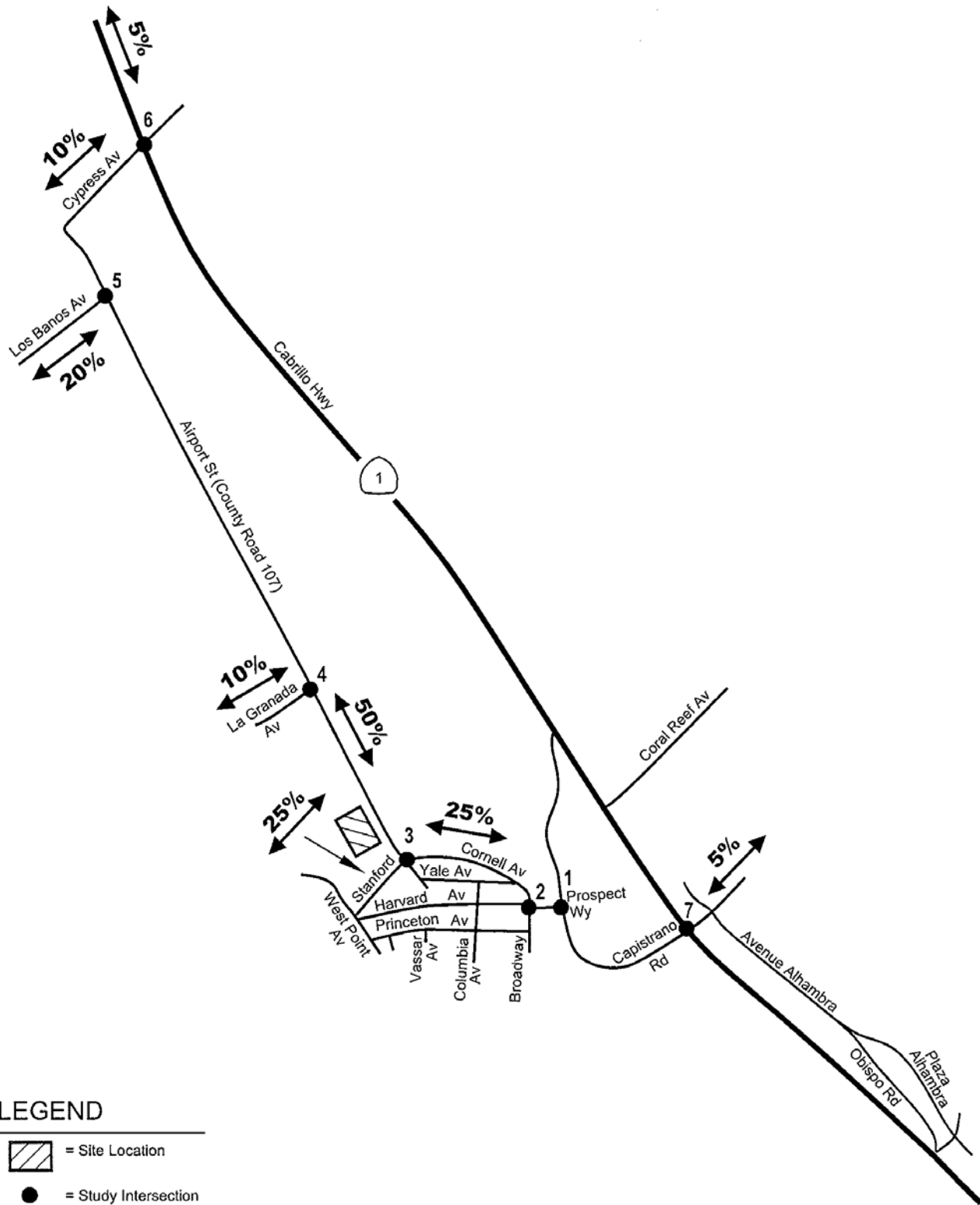
**Mitigation Measure TRANS-1 Intersection Level of Service and Capacity**

Following project occupancy, the applicant shall submit a bi-annual report, signed and stamped by a Professional Transportation Engineer in the State of California, to the Director of Planning and Building on the level of service at the intersection of Cypress Avenue and SR 1 stating whether or not this location warrants a signal. If it meets warrants, then the applicant shall coordinate with Caltrans to pay a fair share for the installation of a signal within 5 years of the date of that report.

**Table IV.M-8  
Project Intersection Levels of Service**

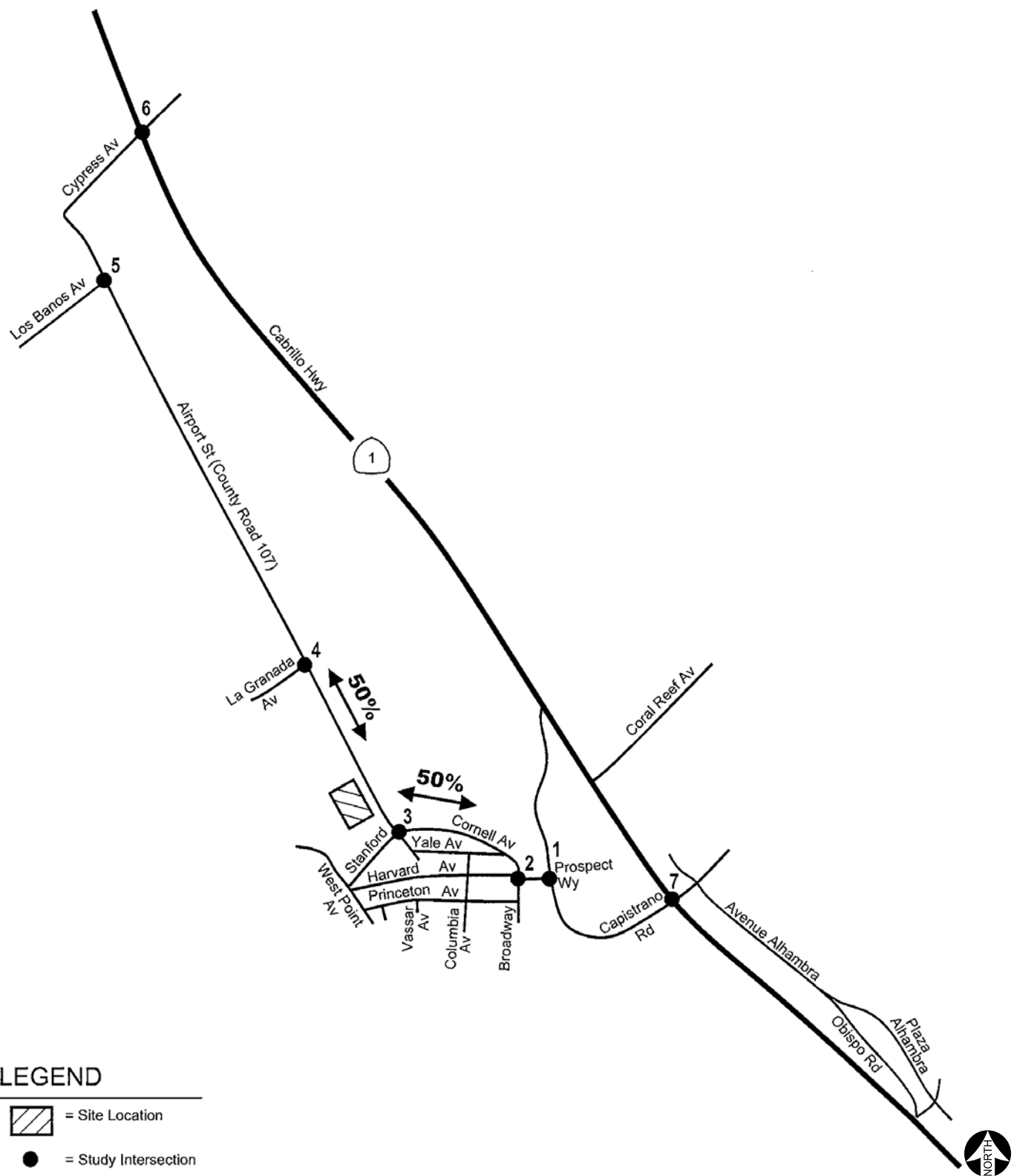
Intersection	Peak-Hour	Background				Project			
		Average		Worst-Case		Average		Worst-Case	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Prospect & Capistrano	AM	6.9	A	9.1	A	7.4	A	9.4	A
	PM	7.3	A	10.3	B	8.1	A	11.0	B
2. Broadway & Prospect	AM	8.1	A	9.6	A	10.1	A	11.8	B
	PM	8.3	A	10.3	B	10.9	A	13.8	B
3. Airport & Stanford/Cornell	AM	2.1	A	9.5	A	5.1	A	10.7	B
	PM	2.6	A	11.5	A	4.7	A	11.9	B
4. Airport & La Granada	AM	6.6	A	9.1	A	4.6	A	9.9	A
	PM	5.0	A	9.5	A	3.7	A	10.0	B
5. Airport & Los Banos	AM	3.1	A	8.9	A	2.2	A	8.9	A
	PM	1.6	A	9.2	A	1.4	A	9.7	A
6. State Route 1 & Cypress	AM	2.1	A	22.4	C	3.1	A	28.7	D
	PM	2.0	A	26.3	D	6.9	A	59.8	F
7. State Route 1 & Capistrano (South)*	AM	25.4	C	–	–	26.1	C	–	–
	PM	24.9	C	–	–	25.4	C	–	–
8.State Route 1 & Capistrano (North)	AM	0.2	A	15.1	C	0.2	A	15.1	C
	PM	0.6	A	18.5	C	0.6	A	18.5	C
Notes: * Signalized Intersection  Source: Hexagon Transportation Consultants, 2009.									





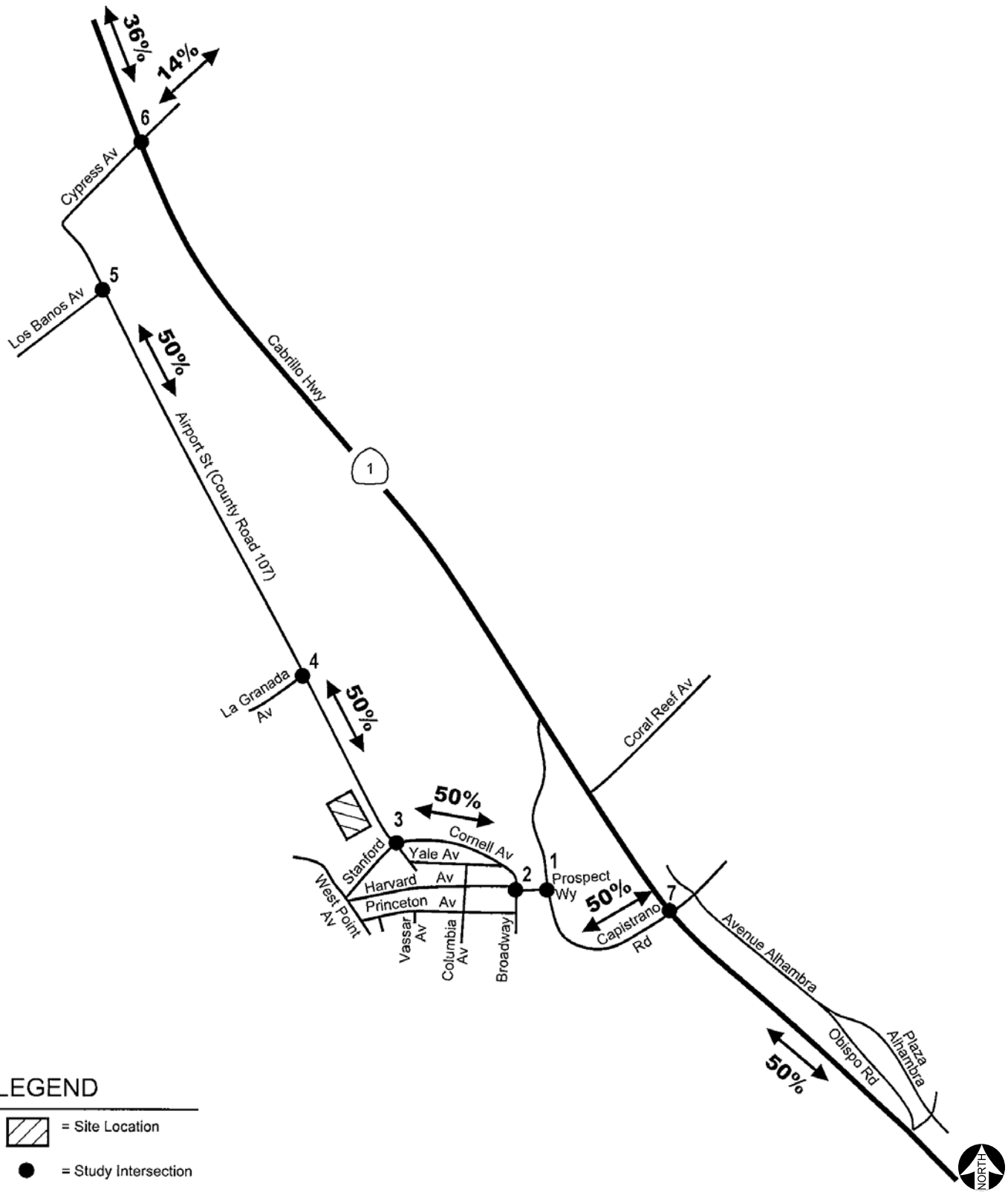
Source: Hexagon Transportation Consultants, June 24, 2009.

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Source: Hexagon Transportation Consultants, June 24, 2009.

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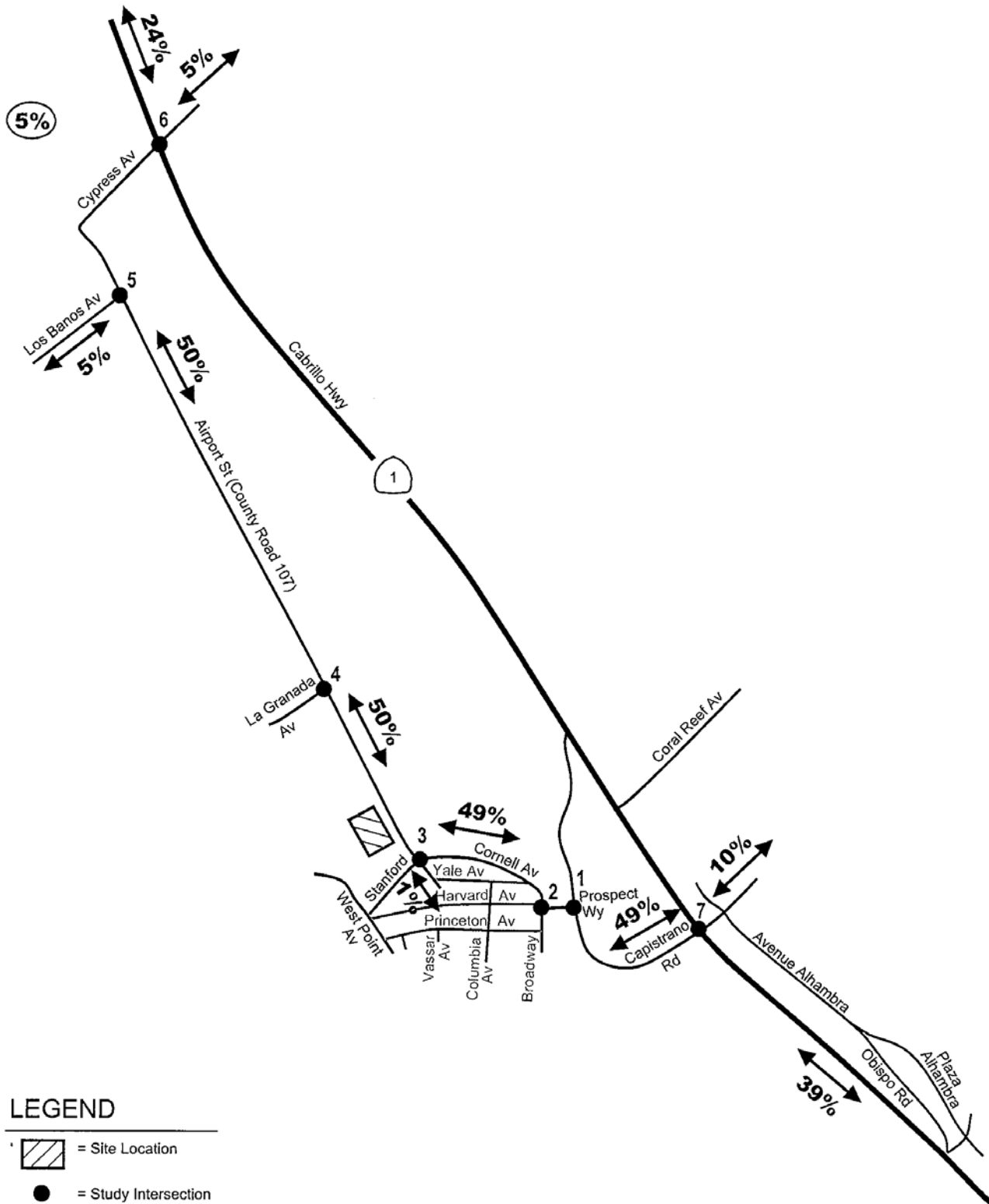


**LEGEND**

-  = Site Location
-  = Study Intersection

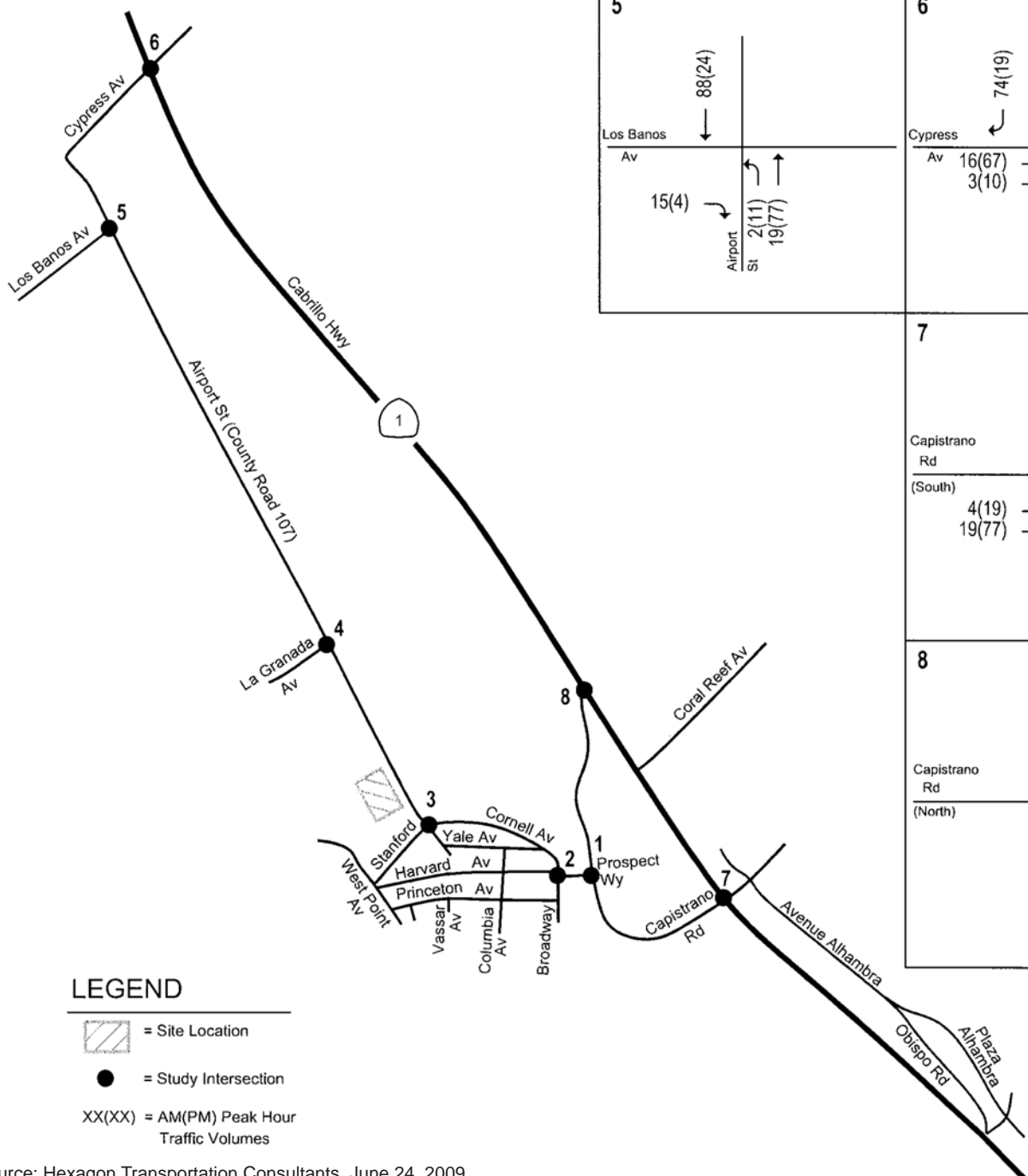
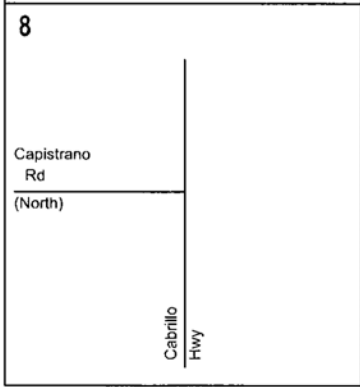
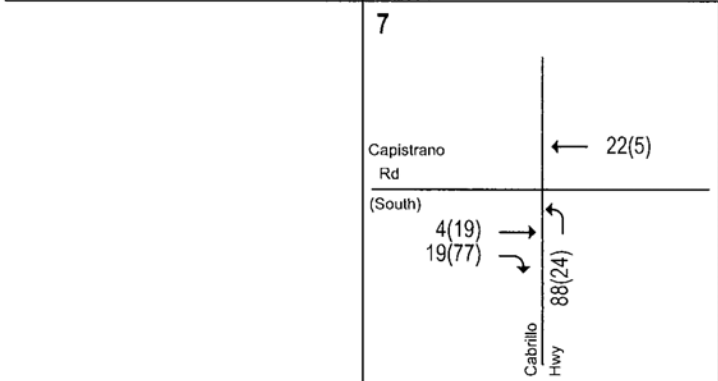
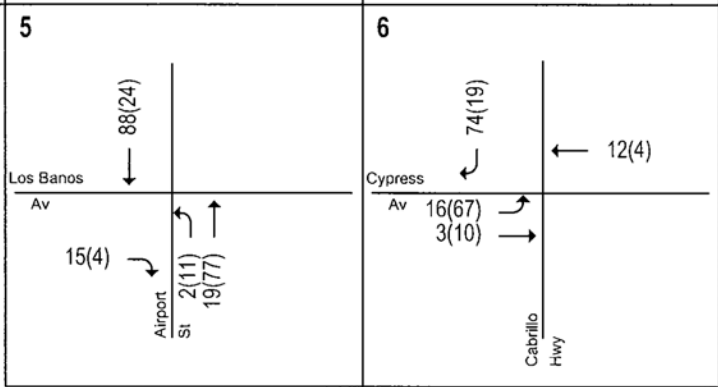
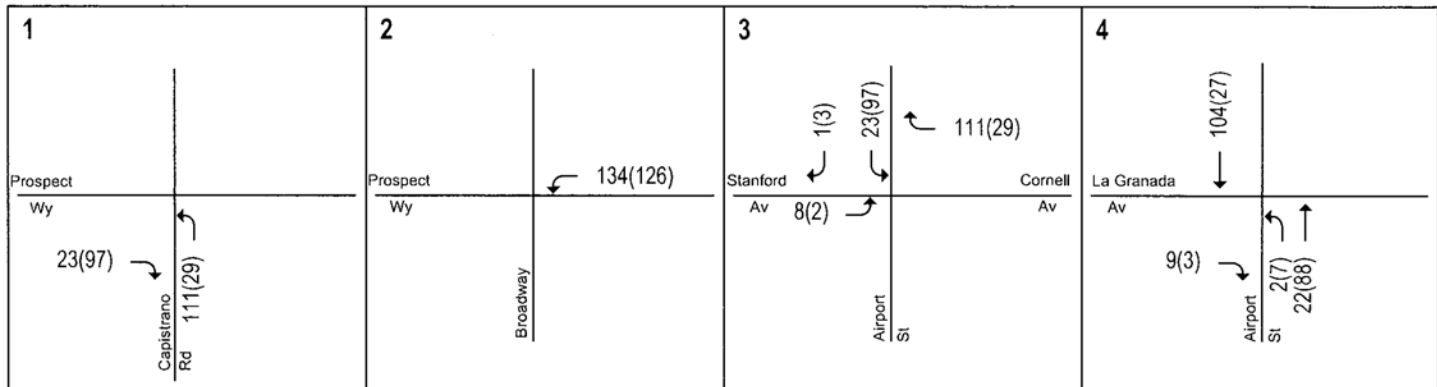
Source: Hexagon Transportation Consultants, June 24, 2009.

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



Source: Hexagon Transportation Consultants, June 24, 2009.

NORTH  
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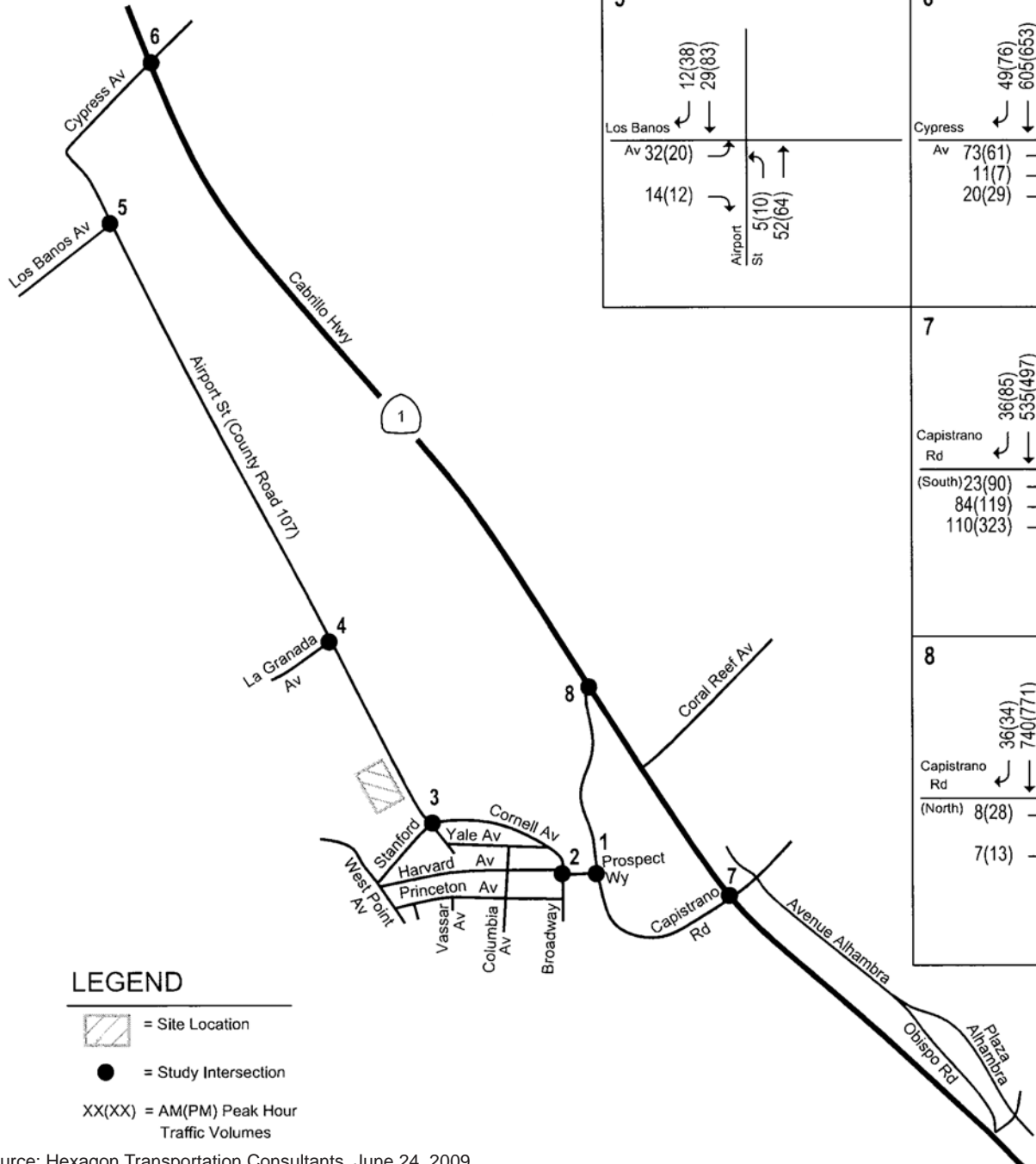
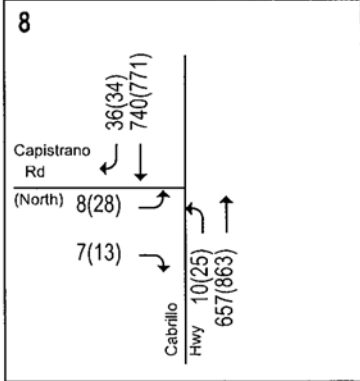
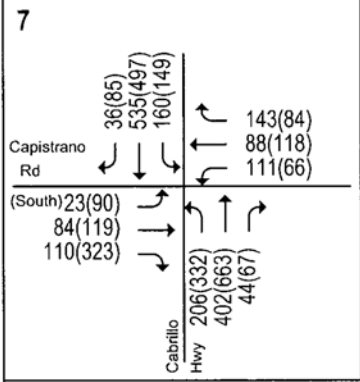
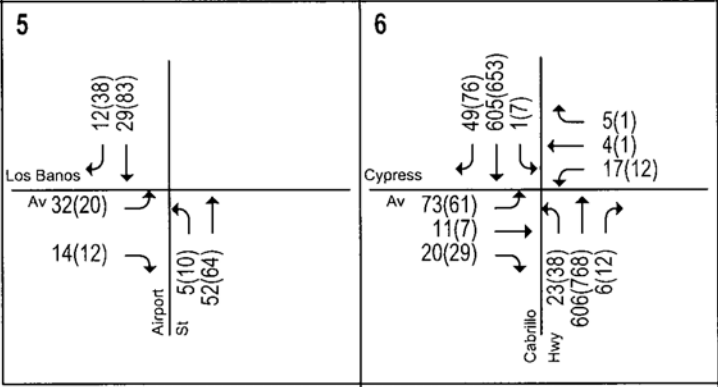
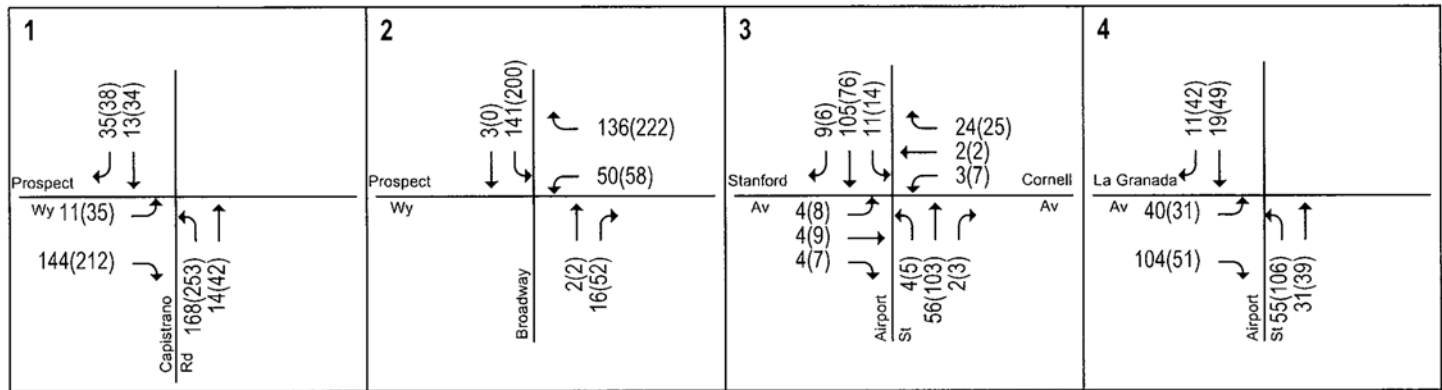
**LEGEND**

-  = Site Location
-  = Study Intersection
- XX(XX) = AM(PM) Peak Hour Traffic Volumes

Source: Hexagon Transportation Consultants, June 24, 2009.



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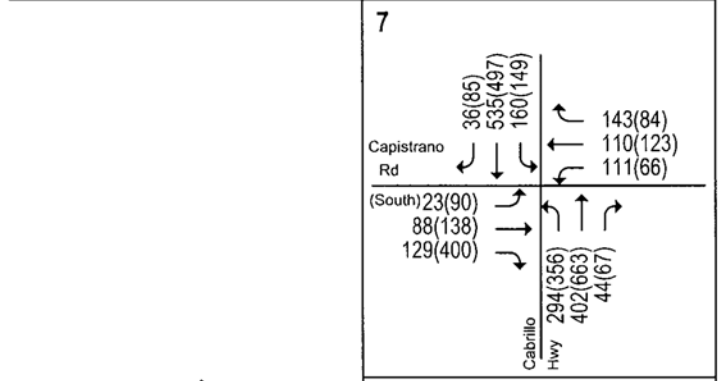
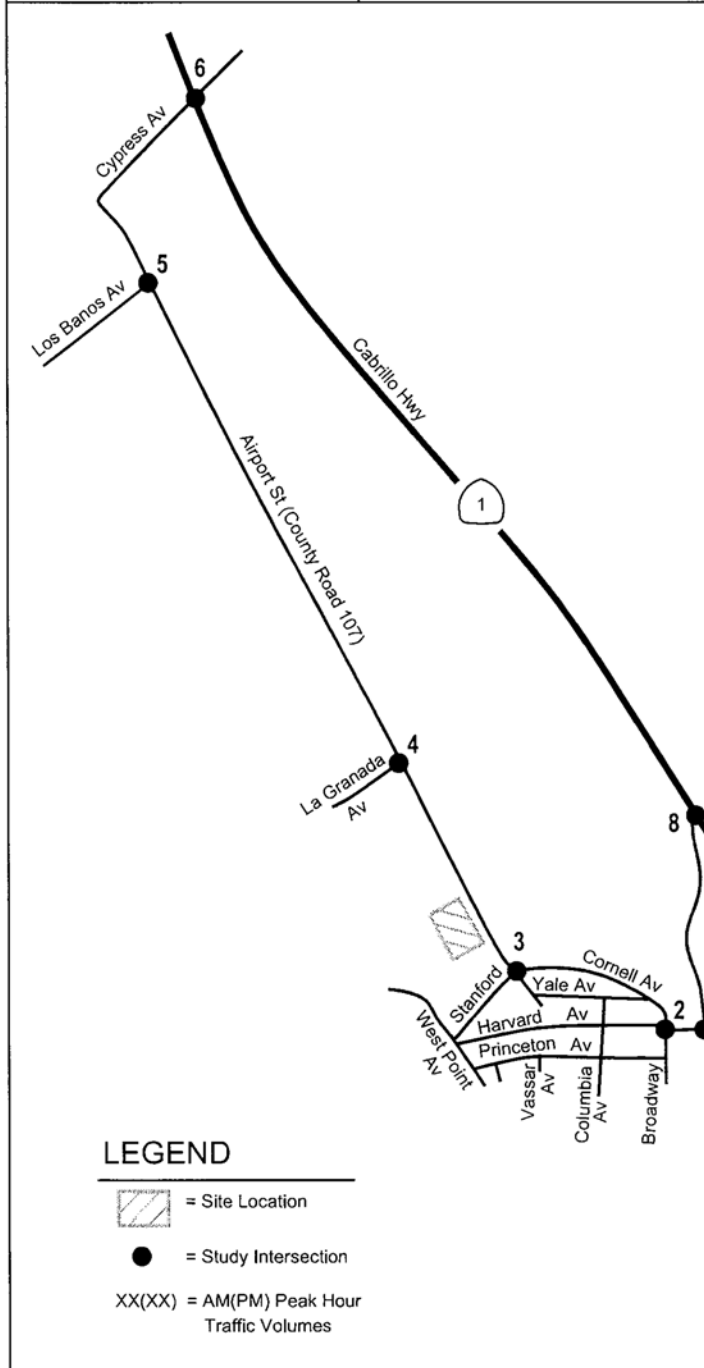
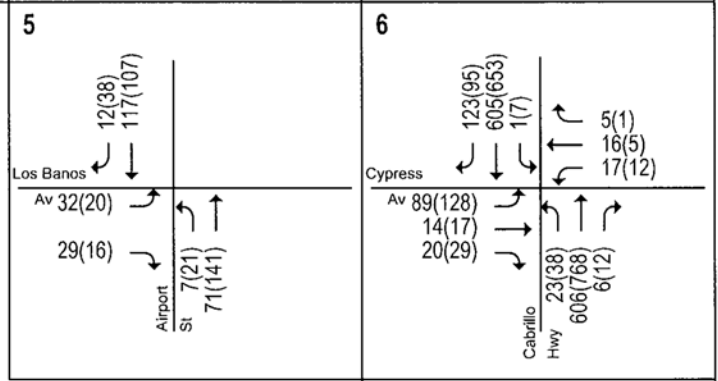
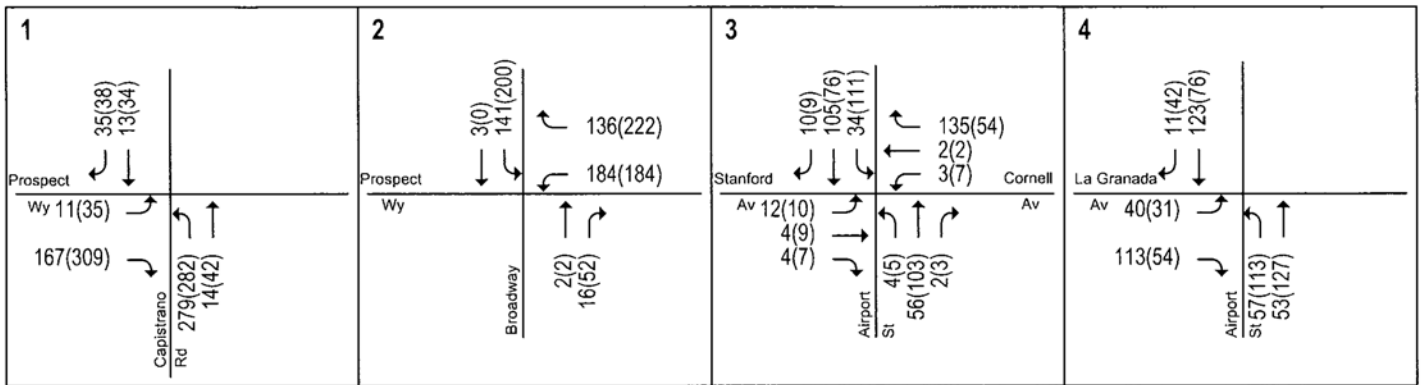
**LEGEND**

- = Site Location
- = Study Intersection
- XX(X) = AM(PM) Peak Hour Traffic Volumes

Source: Hexagon Transportation Consultants, June 24, 2009.



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**LEGEND**

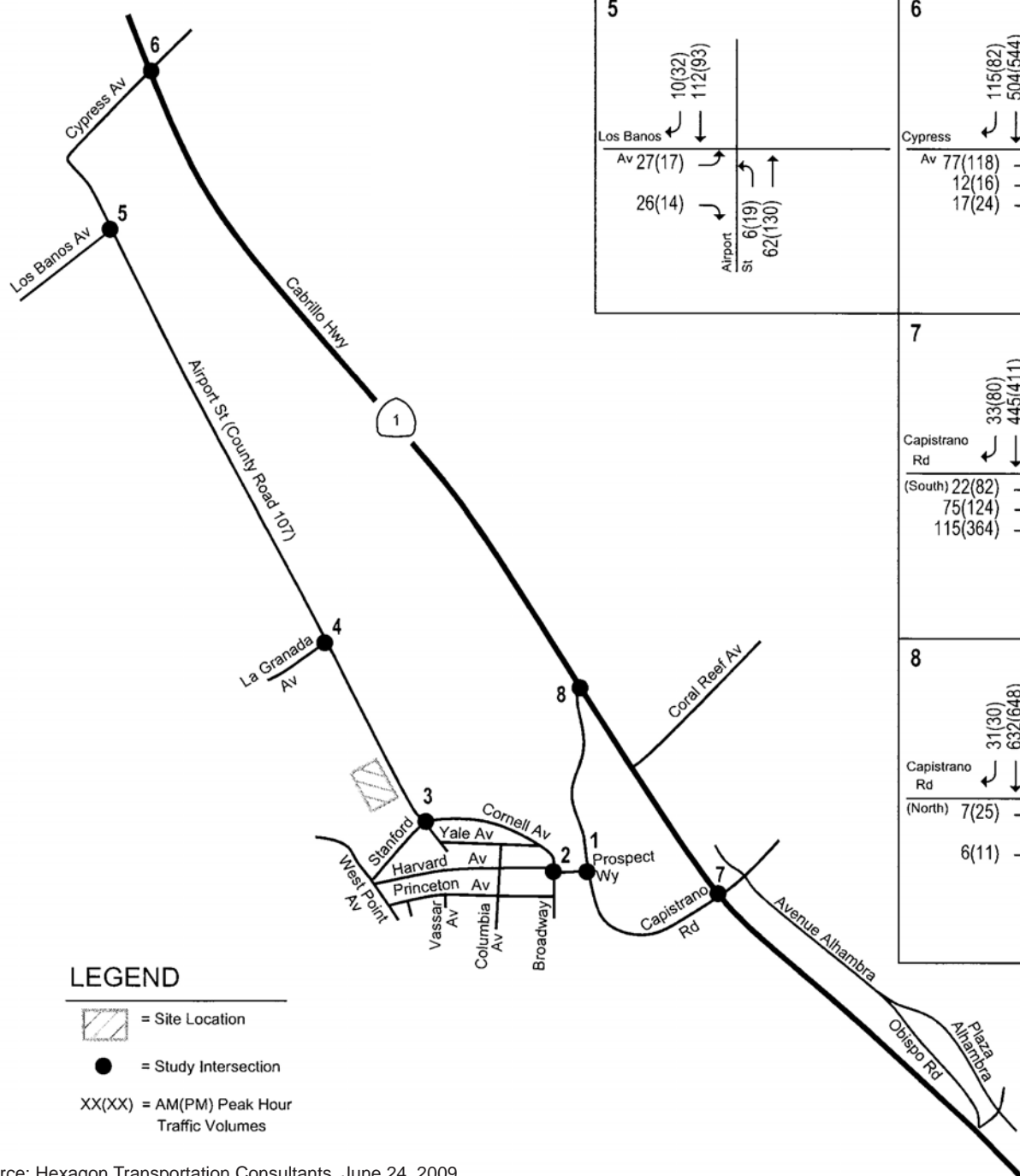
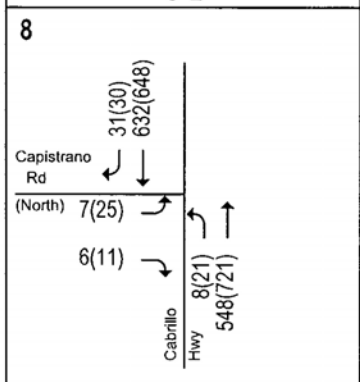
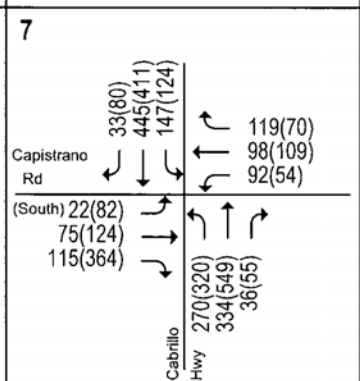
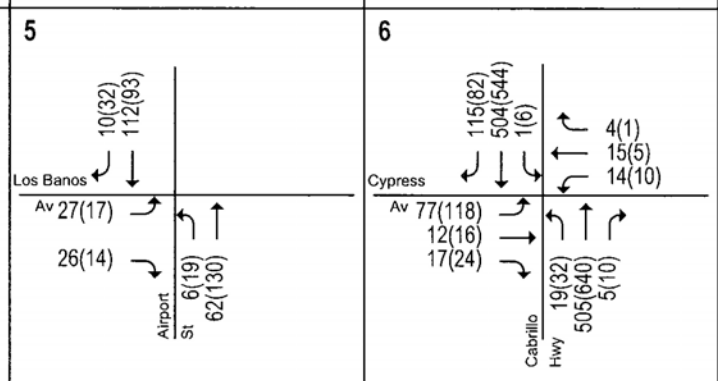
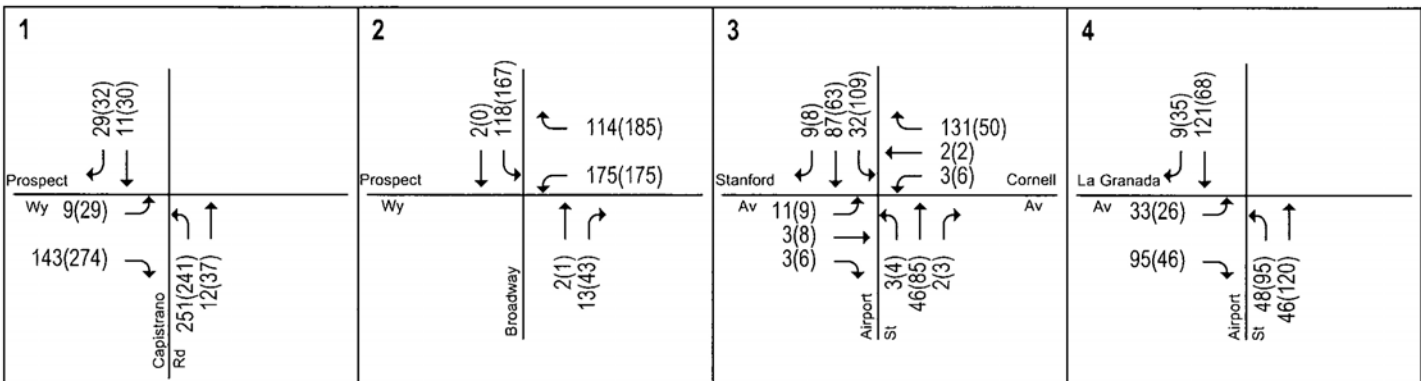
= Site Location

= Study Intersection

XX(X) = AM(PM) Peak Hour Traffic Volumes

Source: Hexagon Transportation Consultants, June 24, 2009.

NORTH  
Not to Scale



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Source: Hexagon Transportation Consultants, June 24, 2009.



**Impact TRANS-2 Hazards**

Access to the project would be from an existing roadway system. No bicycle lanes are located adjacent to the project and no bicycle facilities would cross project driveways. Project driveways would be designed and constructed in accordance with County regulations to ensure visibility of pedestrians, bicyclists, and vehicles. Through the provision of easily accessible two-way vehicle flow driveways into and out of the project site and adequate onsite parking, queuing is not expected to take place on Airport Street or within the driveways. There are also no physical conditions of the site, such as curves, slopes, or walls that could result in safety impacts. Fire lanes, turning radii and back up space around buildings would be designed in cooperation with local officials so as to be adequate for emergency and fire equipment vehicles. The farming, nursery, and wastewater treatment operations proposed to be developed onsite are not anticipated to use any incompatible equipment. Therefore, the project would not substantially increase hazards due to a design feature or incompatible uses and impacts would be **less than significant** and no mitigation measures are required.

**Impact TRANS-3 Site Access and Onsite Circulation**

Site access was evaluated in accordance with generally accepted traffic engineering standards. Access to the site would be provided by five two-way driveways on Airport Street – two driveways to access the Wellness Center (the southern portion of the project site) and three to the Office Park site (the larger, northern portion of the project site). Two of the Office Park driveways would have an island separating ingress and egress. Any landscaping and signage would be located in such a way as to ensure an unobstructed view for drivers exiting the site. Typically, the installation of left turn pockets would be considered for this type of new development. However, analysis shows that left turn pockets are not warranted for the proposed project for the following reasons. First, the peak-hour southbound through traffic volumes are low on Airport Street at the proposed driveway locations for the project (103 AM trips and 84 PM trips). Under proposed conditions, only 119 project trips would make a left turn during the AM peak-hour and 31 trips during the PM peak-hour. These volumes do not warrant the installation of a left turn pocket. Second, Airport Street is not wide enough for a new lane. Finally, there are no left turn pockets on Airport Street in the project vicinity. Thus, the installation of left turn pockets is not warranted as part of the proposed project.

In addition, the onsite circulation was reviewed in accordance with generally accepted traffic engineering standards. Generally, the proposed plan would provide adequate connectivity through the parking areas for vehicles. The drive aisles proposed are approximately 24 feet in width. This aisle dimension is satisfactory for two-way vehicle flow with 90-degree parking. There are no proposed dead-end aisles.

Therefore, overall impacts associated with site access and onsite circulation would be **less than significant** and no mitigation measures are required.

**Impact TRANS-4      Emergency Access**

Emergency vehicle access to the project site is provided from major roadways near and adjacent to the site. Existing major roadways near the project site include: State Route (SR) 1 (Cabrillo Highway) and Airport Street. The project site can be directly accessed from the surrounding streets, including: Cypress Avenue, Marine Boulevard; Capistrano Road, Prospect Way; and California and Cornell Avenues, located to the west, east and south of the site, respectively.

Impacts related to emergency access are generally site-specific, and the applicant would consult with County departments and is expected to implement any access recommendations provided. Fire lanes, turning radii and back up space around buildings would be designed in cooperation with local officials and County regulations to ensure adequacy for emergency and fire equipment vehicles. Pavements would be designed to support loads created by emergency vehicle traffic. In addition, fire access and emergency access fencing and gates would be installed for the Wellness Center property and would run along the Airport Overlay setback line between the buildings (refer to Figure III-24). The gates would be designed to be opened for fire access. Further, two lock box access points would be available to allow fire trucks access to the proposed walking trail behind the Wellness Center. To accommodate the special needs of the DD residents and employees, all trails, sidewalks and buildings would be designed to be compliant with ADA requirements. Wheelchair accessibility and fire access would be provided for all buildings at the Wellness Center and Office Park.

Construction activities have the potential to add construction traffic to the street network and could potentially require partial lane closures during street improvements or utility installations. However, construction activities are temporary by nature and project-related construction activities are not expected to cause a substantial disruption to roadway capacity to result in a limitation to emergency access. County and emergency services would be notified of any planned road closures or restrictions on any roadways, alternative emergency routes, and detours due to construction activities of the project.

Therefore the project would not result in inadequate emergency access and impacts would be *less than significant* and no mitigation measures are required.

**Impact TRANS-5      Parking**

As part of the approval process, the proposed project will be required to provide adequate parking in proportion with and sufficient to accommodate the potential demand created by the project. No offsite parking spaces are proposed for this project; all parking spaces would be provided onsite. As discussed previously, the County parking ordinance requires one space for every 200 square feet of office space, and does not specify parking requirements for lower density uses. The project proposes low-density office use and the applicant is requesting a parking space exception from the County to provide one parking space for every 250 square feet of office space. The project proposes to provide 640 parking spaces for the mixed-use Office Park development on the northern parcel, 12 of which would be ADA handicap accessible. Table IV.M-9 illustrates the method for calculating required parking spaces for the

proposed Office Park uses and compares to the parking space exception requested by the applicant. According to the current County requirement, 737 parking spaces would be required. If the County approves a parking space exception for low-density office use, the requirement would be reduced to 635 parking spaces. Furthermore, if needed, the applicant would implement the following parking options to reduce any potential impacts from the proposed parking exception:

- Implement parking procedures that result in office workers utilizing ride sharing, shuttle service to park and ride lots, and public transportation.
- Work with the County and Transit Authority to increase the San Mateo County Transit Authority Bus Service along Airport Street.
- Provide Shuttle Bus Service to the Office Park location from the Park and Ride located in Pacifica, Princeton and Half Moon Bay.
- Extend multi-purpose bike and walking trails connecting the project to parks and services. These trails may include the trail to the Post Ridge property and the multipurpose trail along Airport Street and Princeton.

**Table IV.M-9  
Office Park Required Parking Spaces\***

Proposed Use	Area (sf)	Average Trip Rate <sup>1</sup>	Office Trip Equivalency Ratio <sup>2</sup>	Equivalent Office Space (sf) <sup>3</sup>	Parking Spaces Required <sup>4</sup> (200 sf/space)	Parking Exception <sup>5</sup> (250 sf/space)
General Office	90,000	11.01	1.0	90,000	450	360
Research & Development	56,250	8.11	.74	41,625	208	167
Storage	33,750	3.56	.33	11,138	0	45
Manufacturing	45,000	3.82	.35	15,750	79	63
<b>Total</b>	<b>225,000</b>	—	—	<b>158,513</b>	<b>737</b>	<b>635</b>

Notes: sf = square feet.

\*Proposed Office Park would provide 640 parking spaces.

<sup>1</sup> Rates are based on the ITE Trip Generation Manual, 8<sup>th</sup> Edition's average rates.

<sup>2</sup> The ratio of vehicle trips for different commercial uses as compared to General Office uses (General Office calculates by dividing 11.01 rate by itself, ratio equaling 1.0; Research & Development calculates by dividing 8.11 rate by 11.01, ratio equaling 0.74; Storage calculates by dividing 3.56 rate by 11.01, ratio equaling 0.33; and Manufacturing calculates by dividing 3.82 rate by 11.01, ratio equaling 0.35.

<sup>3</sup> The equivalent office space was calculated by multiplying the office trip equivalency ratio by the proposed use area (sf) to quantify the equivalent office space area (sf) that would generate the requirement of parking spaces.

<sup>4</sup> Current County Parking Ordinance is one space for every 200 sf of office space (or equivalent office space), 793 parking spaces are required.

<sup>5</sup> Parking exception of one space for every 250 sf of equivalent office space, 634 parking spaces are required.

Source: Big Wave, LLC, Facilities Plan: Draft #2, Big Wave Property, January 2009.

Big Wave Office Park and Wellness Center Traffic Report, prepared by Hexagon Transportation Consultants, Inc., June 24, 2009.

Table IV.M-10 illustrates the parking spaces proposed for the Wellness Center (southern parcel), which includes 73 parking spaces to accommodate the live-in staff (caregivers and employees), guests, and service areas (i.e., pick-up/drop-off services). It was assumed for the Wellness Center's parking requirements that all Wellness Center employees (special needs individuals and staff) would live at the

Center, and that the special needs residents would not drive or require parking accommodations. It is expected that approximately 10 handicap parking spaces would be available within this parking lot and would be in compliance with ADA requirements. Given the use of the site, an additional 5 handicap spaces may be added.

**Table IV.M-10  
Wellness Center Proposed Parking Spaces**

Proposed Use	Type of Use	Parking Spaces
Residential <sup>1</sup>		
50 units	50 special needs individuals do not drive	0
20 units	20 live-in staff (caregivers and employees)	20
Storage	Pick-up/drop-off services	10
Community Center (pool and fitness center)	Guests	33
Services (laundry, dog grooming, maintenance/janitorial)	Pick-up/drop-off services	10
<b>Total Proposed Parking Spaces</b>		<b>73</b>
<p><sup>1</sup>The residential unit configurations may vary; however for the DEIR impact analysis, a worst case scenario of a maximum of 70 residential units with 70 residents is used.</p> <p>Source: Big Wave, LLC, Facilities Plan: Draft #2, Big Wave Property, January 2009. Email correspondence with applicant, Scott Holmes, July 28, 2009.</p>		

All project-associated parking would be provided onsite, would follow appropriate County parking requirements, and the parking exception request would be subject to County approval; therefore, the project would not result in inadequate parking capacity and impacts would be **less than significant** and no mitigation measures are required.

**Impact TRANS-6 Transit Service**

The transit service in the project vicinity is minimal. As mentioned previously, this area is serviced by only one route (Route 17) which provides 1-2 hour headways. However, the proposed project would not generate a need for additional transit service. Assuming a transit mode share of five percent, the new development would add 15 and 13 potential new transit trips during the AM and PM peak-hours, respectively. It is expected that these additional riders could be accommodated by the existing transit service. As mentioned above, the project proposes to develop bus stops and shuttle services for residents and visitors. Therefore, impacts related to transit services would be **less than significant** and no mitigation measures are required.

**Impact TRANS-7 Pedestrian and Bicycle Facilities**

As discussed above, the project area is somewhat rural and there are generally no sidewalks in the project vicinity. Airport Street has minimal fronting development, with no existing need for sidewalks. The project would develop sidewalks and islands within the site to accommodate pedestrian traffic. In addition, onsite walkways and a trail system would provide circulation within the proposed Office Park

and Wellness Center properties. The proposed project would develop a pedestrian path along the project frontage on Airport Street. It is recommended that the applicant extend a sidewalk from the project frontage to the transit stop located on Airport Street near the La Granada Avenue intersection to facilitate and encourage transit usage by both residents and visitors.

Within the vicinity of the project site there are designated bike routes. It is reasonable to assume that bicycle trips will comprise no more than five percent of the travel mode share to the site during the peak commute periods. This would equate to 22 and 17 new bicycle trips during the AM and PM peak-hours, respectively. These volumes of bicycle trips are not expected to exceed the bicycle-carrying capacity of streets surrounding the site, and the increase in bicycle trips is not expected to require new offsite bicycle facilities.

Furthermore, and prior to approval, the proposed internal and connecting pedestrian and bicycle system is subject to design review by the County to ensure that a safe movement of people is maintained. Therefore, overall impacts related to pedestrian and bicycle facilities would be *less than significant* and no mitigation measures are required.

#### ***Impact TRANS-8      Construction***

Construction activities have the potential to add construction traffic to the street network in the vicinity of the project site. Construction activities are temporary by nature and project-related construction activities are not expected to cause a substantial disruption to roadway capacity. To fully complete the Wellness Center and Office Park development, the project's construction time schedule is anticipated to last between 30 and 36 months. Construction activities would occur in phases and would be required to comply with applicable County construction standards. The proposed project would not import or export any soil and grading would be balanced on the project site, eliminating truck haul-trips on regional roads. County and emergency services would be notified of any restrictions on any roadways, alternative emergency routes, and detours due to construction activities of the project. Therefore, impacts related to construction traffic would be *less than significant* and no mitigation measures are required.

While traffic impacts during construction would be less than significant, the following mitigation measure is recommended to further reduce adverse construction traffic impacts:

#### ***Mitigation Measure TRANS-8      Construction***

Prior to issuance of grading permits, the applicant shall also submit a traffic control plan to the County Department of Public Works for review and approval. All staging during construction shall occur onsite.

#### ***Impact TRANS-9      Intersection Levels of Service Under Cumulative Conditions***

The results of the LOS analysis under Cumulative Conditions both with and without the project show that all the intersections would operate at LOS C or better under average conditions (see Table IV.M-11). As

mentioned previously, the traffic study performed travel time runs using two different routes to determine the trip distribution patterns for vehicles traveling from the project site to northbound SR 1.

Under cumulative with no project PM peak-hour conditions there would be a 46.0 second delay for the worst-case movement (eastbound left) of the Cypress Avenue at SR 1 intersection. This delay would continue to increase under the project condition scenario. The worst-case delay for this movement would be 177.7 seconds during the PM peak-hour (131.7 seconds more than without the project). As a result, some of the project trips might take the southbound Airport Street route to equalize this delay. However, the traffic analysis found that even if 25 percent of the project traffic took the southbound route as opposed to the northbound route, the delay at the intersection would continue to operate at LOS F for the left turn from Cypress Avenue onto SR 1 and the signal warrant would be met. This would result in a *significant* impact.

With implementation of Mitigation Measure TRANS-1 above, cumulative impacts related to project peak-hour traffic volume and intersection LOS would be reduced to a *less-than-significant* level. The LOS calculation sheets are included in Appendix J of this DEIR.

**Table IV.M-11  
Cumulative Intersection Levels of Service**

Intersection	Peak-Hour	Cumulative Without Project				Cumulative With Project			
		Average		Worst-Case		Average		Worst-Case	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Prospect & Capistrano	AM	7.1	A	9.3	A	7.5	A	9.6	A
	PM	7.7	A	11.1	B	8.5	A	11.9	B
2. Broadway & Prospect	AM	8.3	A	9.9	A	10.7	A	12.8	B
	PM	8.6	A	11.0	B	12.1	A	16.0	C
3. Airport & Stanford/Cornell	AM	2.1	A	9.7	A	4.8	A	11.0	B
	PM	2.7	A	10.0	A	4.6	A	11.9	B
4. Airport & La Granada	AM	6.7	A	9.3	A	5.0	A	10.2	B
	PM	5.1	A	9.9	A	4.0	A	10.4	B
5. Airport & Los Banos	AM	3.1	A	9.0	A	2.4	A	9.6	A
	PM	1.7	A	9.4	A	1.5	A	9.9	A
6. State Route 1 & Cypress	AM	3.1	A	34.6	D	5.1	A	52.7	F
	PM	3.2	A	46.0	E	18.2	C	177.7	F
7. State Route 1 & Capistrano (South)*	AM	26.0	C	-	-	26.9	C	-	-
	PM	25.5	C	-	-	26.3	C	-	-
8. State Route 1 & Capistrano (North)	AM	0.2	A	17.3	C	0.2	A	17.3	C
	PM	0.7	A	23.2	C	0.7	A	23.2	C
<i>Notes:</i> * Signalized Intersection  <i>Source: Hexagon Transportation Consultants, 2009.</i>									

***Impact TRANS-10 Cumulative Signal Warrant Analysis***

The peak-hour signal warrant (MUTCD 2003, Urban Warrant) was checked for the seven currently unsignalized intersections to determine whether signalization would be justified on the basis of cumulative peak-hour volumes. The analysis showed that the study intersection of SR 1 at Cypress Avenue would meet the peak-hour signal warrant under cumulative conditions both with and without the project. The signal warrant analysis sheets are included in Appendix J of this DEIR.

Based on project and cumulative with and without project conditions, the peak-hour signal warrant is met at the intersection of SR 1 at Cypress Avenue. With this improvement, the SR 1/Cypress Avenue intersection would operate at LOS A during both the AM and PM peak-hours. Under signalized conditions, the existing roadway geometry would be adequate to handle the anticipated traffic demand. With implementation of Mitigation Measure TRANS-1, cumulative impacts related to project peak-hour traffic volume and intersection LOS would be reduced to a *less-than-significant* level.

***Impact TRANS-11 Additional Intersection Analysis***

At the request of the project applicant, Hexagon Transportation Consultants, Inc. also analyzed two additional intersections as a supplement to the traffic impact analysis provided above for the proposed project. The two additional intersections analyzed are as follows:

- Highway 92 at Highway 1
- Highway 92 at Main Street

These intersections were added to the analysis in order to determine whether the project would be beneficial by reducing the traffic that currently travels over the hill on Highway 92 for employment. This potential benefit is based on the idea that the new office development associated with the project would provide jobs for Half Moon Bay residents who currently travel outside the project area to work. These two study intersections were analyzed for the existing, background, project and cumulative conditions for both the AM and PM peak period. Existing AM and PM peak hour turning movement counts for the study intersections were obtained from the City/County Association of Governments of San Mateo County (C/CAG) and lane configurations were determined from aerial photographs. A signal cycle length of 90 seconds was assumed for both study intersections.

***Traffic Volumes***

Existing AM and PM turning movement counts were obtained from the C/CAG of San Mateo County (see Appendix J). These counts were taken on March 25, 2009. Background volumes were determined by adding to existing volumes the estimated traffic from approved but not yet constructed developments. The approved development list was obtained from the County of San Mateo. The traffic added to the study intersections from approved but not yet constructed developments was estimated by distributing and assigning trips generated by these developments to the roadway network. Traffic volumes under

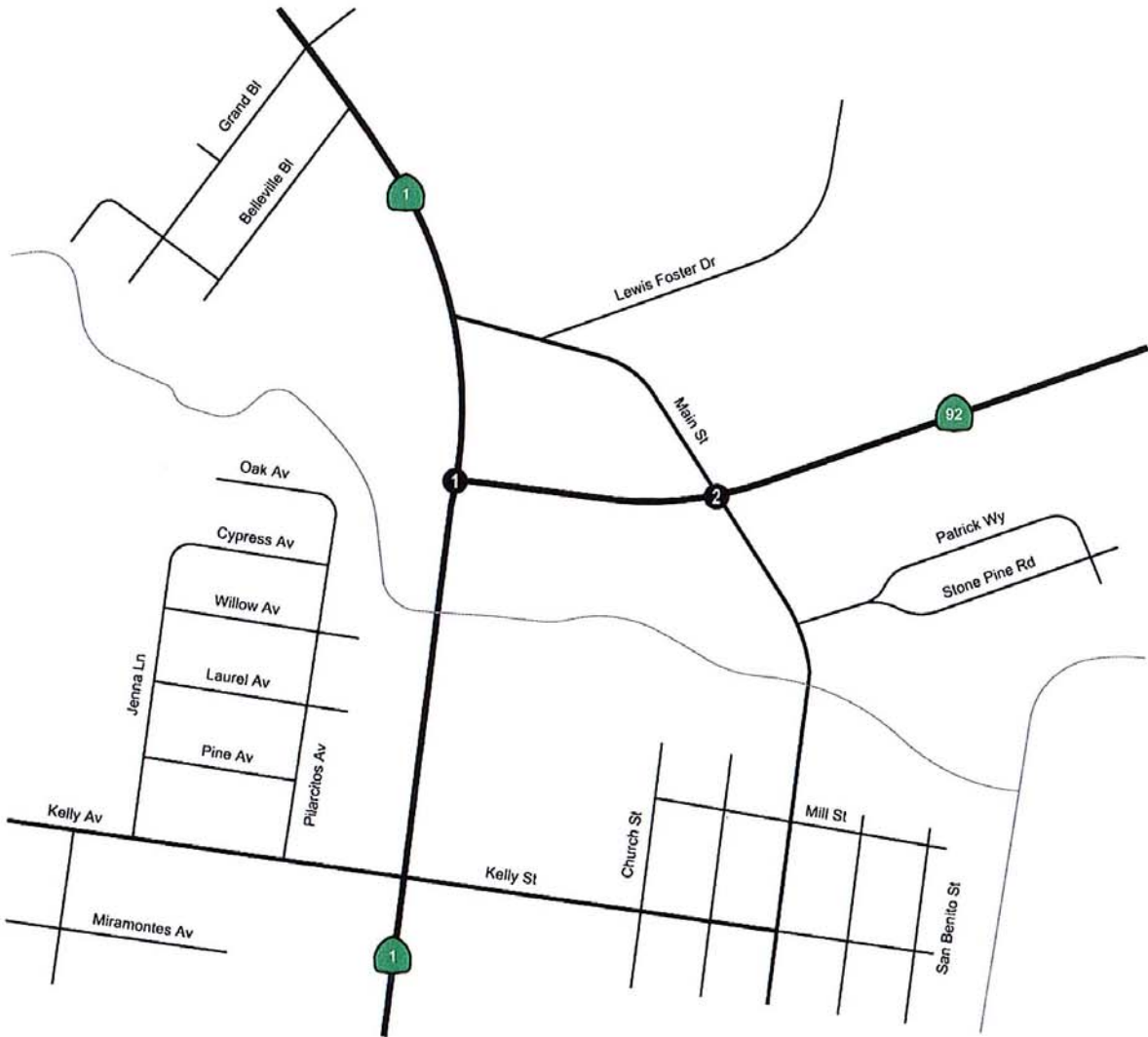
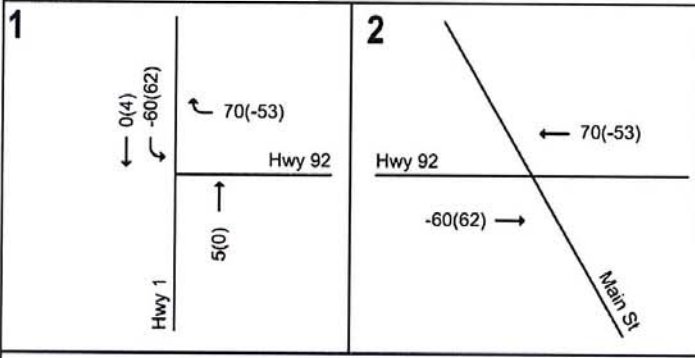
cumulative conditions were estimated by applying to the existing volumes an annual growth rate of one percent for twenty years based on standard traffic engineering practice, then adding the trips from approved developments and the project.

#### *Project Traffic Estimates*

The office use portion of the project would add a service not currently available in the project vicinity, potentially providing employment for residents who typically travel to jobs in other areas. Thus, this land use could reduce traffic currently traveling southbound on Highway 1 to Highway 92 and then over the hill to 1- 280. The trip distribution pattern for the proposed project was estimated based on existing travel patterns on the surrounding roadway system and the locations of complementary land uses. The office, R&D and light manufacturing portions of the project were distributed through the two new study intersections. The difference between the trip distribution in this supplemental traffic analysis and the original traffic impact analysis completed can be attributed to the distance between the intersections studied in this analysis and the project site (approximately four miles).

According to the Year 2000 U.S. Census, 53 percent of employees in the project vicinity travel from outside the area to work in the Half Moon Bay area and 47 percent of employees in the project vicinity live within the Half Moon Bay area. These percentages were applied to the office portion of the proposed project. There are 214 AM trips and 191 PM trips projected for the office land use. Therefore, it was assumed that 101 (47 percent) employee trips in the AM and 90 (47 percent) employee trips in the PM would be attributed to residents of Half Moon Bay. As a result, these employees of the proposed project would no longer have to travel outside of the Half Moon Bay area for employment. For purposes of this analysis, these trips were then subtracted from existing trips travelling out of the project vicinity via Highway 92 and northbound Highway 1. As outlined above in the original traffic impact analysis, approximately 39 percent of the project trips are traveling to/from the south on Highway 1. See Figure IV.M-15 for the project trip assignment.





**LEGEND**

**1** = Study Intersection



Source: Hexagon Transportation Consultants, October 8 2009.

*Intersection Impacts*

As shown in Table IV.M-12, the two study intersections would operate at acceptable levels of service under project conditions. The intersection of Highway 92 and Highway 1 operates at LOS C under project conditions during both peak hours (AM and PM). The intersection of Highway 92 at Main Street operates at LOS D during both the AM and PM peak hour. Under cumulative conditions with and without the project, the Highway 1/Highway 92 intersection will operate at LOS C during the AM peak hour. During the PM peak hour, this intersection will operate at LOS C without the project and LOS D with the project under cumulative conditions. The intersection of Highway 92 at Main Street operates at LOS F both with and without the project under both peak hours. The proposed project would reduce traffic traveling over the hill on Highway 92 for employment by 60 eastbound trips in the AM peak hour and 53 westbound trips in the PM peak hour. Impacts would be *less than significant* and no mitigation measures are required.

**Table IV.M-12  
Intersection Levels of Service Summary**

Intersection	Peak-Hour	Existing		Background		Project		Cumulative Without Project		Cumulative With Project	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Highway 1 at Highway 92*	AM	25.9	C	26.1	C	25.4	C	31.8	C	29.3	C
	PM	29.6	C	29.9	C	30.9	C	34.6	C	35.9	D
Highway 92 at Main Street*	AM	48.3	D	51.0	D	44.2	D	96.6	F	81.2	F
	PM	52.3	D	54.9	D	50.0	D	100.6	F	88.7	F

*Notes:*  
\* Signalized Intersection

*Source: Hexagon Transportation Consultants, October 8, 2009.*

**LEVEL OF SIGNIFICANCE AFTER MITIGATION**

Impacts would be *less than significant*.

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## **IV. ENVIRONMENTAL IMPACT ANALYSIS**

### **N. UTILITIES & SERVICE SYSTEMS**

#### **1. SEWER**

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#### **INTRODUCTION**

This section of the Draft Environmental Impact Report (DEIR) addresses the subject of utilities and service systems with respect to the proposed Big Wave Wellness Center and Office park project (“proposed project”) and includes an examination of the existing services provided to the project site, the impacts that the proposed project would have on existing services, as well as the implementation of proposed services to the project site. The utilities and service systems section is subdivided into the following subsections: (1) Sewer; (2) Water; (3) Solid Waste; and (4) Energy.

#### **METHODOLOGY**

This subsection of the DEIR analyzes the wastewater treatment and disposal plans for the proposed project. The analysis includes: the projected wastewater flows, proposed wastewater treatment facilities, plans for recycling and onsite percolation system (i.e., drain fields or leach fields), and provisions for system operation and management. The following discussion presents the findings and conclusions of Questa Engineering Corporation. Additional related information regarding project-related hydrology and water quality impacts is provided in Section IV.H (Hydrology & Water Quality) of this DEIR. The analysis is based on review of the following:

- the applicant’s conceptual facilities plan and background information for the project;
- applicable regulatory requirements for wastewater treatment, recycling and onsite disposal;
- existing wastewater service and facilities in the area; and
- available information on soil and groundwater conditions for the project site and vicinity.

#### **ENVIRONMENTAL SETTING**

##### **Existing Wastewater Service**

Some properties in the project vicinity utilize individual onsite wastewater treatment and disposal systems (i.e., septic systems). However, most properties are served by public sewer providers, including City of Half Moon Bay, Granada Sanitary District and Montara Water and Sanitary District. These three agencies are members of Sewer Authority Midcoast, a joint powers authority that operates the sewage treatment plant and provides contract sewer maintenance service.

### ***Sewer Authority Mid-Coastside***

Municipal wastewater treatment for the Princeton area is provided by the Sewer Authority Mid-Coastside (SAM), which includes the Granada Sanitary District, the City of Half Moon Bay, and the Montara Water and Sanitary District. SAM was created in 1976 as a Joint Exercise of Powers Agreement and serves a population of approximately 22,000 people with a service area of roughly 12 square miles. SAM owns and operates the regional wastewater treatment plant, an 8-mile transmission line connecting the member districts to the plant, three main pumping stations, and an ocean outfall where the treated water is dispersed to the Pacific Ocean at a point west of Pilarcitos Creek. The two sanitary districts and the City of Half Moon Bay each operate and maintain wastewater collection facilities (sewer systems) within their respective jurisdiction.

SAM's transmission system has 1.9 miles of gravity pipeline and 5.9 miles of force main. The treatment plant is a secondary system, including primary sedimentation, activated sludge, secondary clarification, disinfection and anaerobic sludge digestion. The remaining biosolids are removed and buried in landfill. The plant has a permitted treatment and disposal capacity of 4.0 million gallons per day (mgd), average dry weather flow (ADWF). The existing average dry weather flows at the plant are about 1.7 mgd.<sup>1</sup>

In the past SAM has experienced sewer capacity overflow problems during heavy rain periods. Over the past 10 years SAM has implemented a number of improvements and procedures to control sanitary sewer overflows, including retention facilities and pump station improvements. Additional sewer system improvements are in process or are currently being planned in concert with sewer collection system improvements by the member districts. The environmental review has recently been completed for the construction of wet weather storage facilities in the area known as Burnham Strip in El Granada.<sup>2</sup> The proposed facilities consist of two 700-foot long, 60-inch diameter buried pipes that would be used to temporarily store up to approximately 205,000 gallons of sewage flow during periods of peak infiltration and inflow. This project is intended to alleviate the excess wet weather sewage flows at the Montara and Portola Pump Stations where significant sewage overflow problems have occurred.

### ***Granada Sanitary District***

The project site lies within the boundaries of Granada Sanitary District, which provides sewer and solid waste services to the communities of El Granada, Princeton, Miramar, and the northern portion of Half Moon Bay (Frenchman's Creek north). The Granada Sanitary District sewer system currently extends to the corner of Airport Street and Stanford Avenue, where there is a manhole that would be the probable point of connection for the project. From this manhole there is an 8-inch diameter line that runs west on Stanford Avenue, connecting to a 15-inch line on West Point Avenue, which then connects to the Princeton Pump Station located on West Point Avenue, north of Stanford Avenue. The Princeton Pump Station collects sewage from Princeton, North El Granada and Clipper Ridge. It discharges via a 6-inch

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<sup>1</sup> *Sewer Authority Mid-Coastside, 2008, SAM Sewer System Management Plan.*

<sup>2</sup> *ESA, March 2009, SAM Wet Weather Flow Management Project, Response to Comments Document, prepared for Sewer Authority Mid-Coastside.*

force main which ties into the SAM force main located across State Route 1 (SR 1) near the intersection of Alcatraz Avenue and Sonora Avenue. This section of the SAM force main ties into an 18-inch gravity line that runs along Alhambra Avenue to the El Granada Pump Station. This pump station serves the southern part of El Granada and Miramar. A new Miramar Pump Station is being designed to pump sewage from Miramar directly to the SAM gravity main that runs to the treatment plant. When implemented, this will reduce the pumping demand on the El Granada Pump Station and provide improved capacity for wet weather flows.

Over the past few years the Granada Sanitary District has been actively pursuing a sewer system capacity management program. This has included a sanitary sewer monitoring program that identified inflow and infiltration at six critical sites, and implementation of a web-based GIS portal for its collection system to assist in master planning, capital improvement plans, capacity modeling and system maintenance/management. Since 1988 the District has rehabilitated or replaced 9.7 miles of sewer pipe, roughly 29 percent of the system.<sup>3</sup> The District is currently in the process of developing the schedule for further implementation of its capacity assessment.<sup>4</sup>

### **Project Site Conditions**

Detailed review of the project site topography, geology, soils and hydrology is provided in Sections IV.F (Geology & Soils) and IV.H (Hydrology & Water Quality) of this DEIR. The project site comprises approximately 19.4 acres of relatively flat topography that is currently in vegetable crop production. A natural drainage swale (intermittent stream) exists at a low point between the two project site parcels (northern and southern) and leads to the Pillar Point Marsh. The land slopes gently from north to south, with elevations ranging from about 9 feet National Geodetic Vertical Datum (NGVD) along the western side of the southern parcel, to about 27 feet NGVD in the northeastern corner of the northern parcel.

Geologically, the site is underlain by the Half Moon Bay Terrace, a formation consisting of unconsolidated deposits of sand, silt and clay that serves as the principal water-bearing zone in the Moss Beach and El Granada area. Near surface soils on the site, as mapped by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS); formerly known as the Soil Conservation Service), consist of Denison clay loam.<sup>5</sup> These soils are characterized as moderately deep, moderately to slowly permeable, with low infiltration rates and high water holding capacity. Portions of the site are mapped as “imperfectly drained,” which indicates the potential for high water conditions, at least on a seasonal basis.

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<sup>3</sup> US Environmental Protection Agency Region 9, August 18, 2006. NPDES Compliance Evaluation Report, Sewer Authority Mid-Coastside, Half Moon Bay, Granada Sanitary District, Montara Water and Sanitary District.

<sup>4</sup> Sewer Authority Mid-Coastside, 2008, SAM Sewer System Management Plan.

<sup>5</sup> Wagner, R.J. and R.E. Nelson, 1954, Soil Survey of San Mateo Area, U.S. Department of Agriculture, Soil Conservation Service.

A series of 23 geotechnical borings were completed by the applicant's geotechnical consultant<sup>6</sup> on the project site in May 2000 (southern parcel) and April 2002 (northern parcel). The borings ranged from about 20 feet to 50 feet in depth. A summary of borings in the areas proposed for onsite drain fields is as follows:

Northern Parcel. Borings B1, B3, B8, B13 and B14 were located along or near the area designated for proposed drain fields (refer to Figure III-22). Typical soil profiles from these borings showed the following:

- 0 – 2 feet - Lean to fat clay, moist, medium stiff
- 2 - 6 feet - Sandy lean clay to clayey sand, moist, medium dense
- 6 - 9 feet - Silty sand to clean sand, wet, medium dense to dense

Groundwater was reported at the following depths (below ground surface) on April 10, 2002:

- B1 - 3.8 feet
- B3 - 6.8 feet
- B8 - 6.5 feet
- B13, B14 - 7 feet

Southern Parcel. Borings B1, B5, B7, B8 and B9 were located along or near the area designated for proposed drain fields (refer to Figure III-23). Typical soil profiles from these borings showed the following:

- 0 - 1 feet - Silty, clayey sand, moist, medium dense
- 1 - 4 feet - Sandy lean clay, moist, medium stiff
- 4 – 6 feet - Clayey sand, moist to wet, medium dense
- 6 - 9 feet - Silty sand, wet, medium dense

Groundwater was reported at the following depths (below ground surface) on May 9, 2000:

- B1, B5, B7 - 6 feet
- B8 - 3 feet
- B9 - 8 feet

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<sup>6</sup> Bay Area Geotechnical Group, May 2000 and April 2002, Soil Boring Logs for Commercial Development, Princeton-By-The-Sea.

## REGULATORY SETTING

Section IV.H (Hydrology & Water Quality) of the DEIR provides background discussion of the Clean Water Act (CWA), the Porter-Cologne Water Quality Control Act and the Water Quality Control Plan for the San Francisco Bay Region (Basin Plan), which comprise the key laws and regulatory programs governing activities related to wastewater management and water pollution control. Specific requirements applicable to the proposed wastewater treatment and disposal facilities for the project are provided below.

### State

#### ***San Francisco Bay Regional Water Quality Control Board (RWQCB)***

Waste Discharge Permitting Program. The San Francisco Bay Regional Water Quality Control Board (RWQCB) regulates discharges from wastewater treatment facilities in the project area. As provided under the Porter-Cologne Water Quality Control Act and the CWA, this is done through the adoption of National Pollution Discharge Elimination System (NPDES) permits and Waste Discharge Requirements (WDRs) pursuant to policies set forth in the San Francisco Bay Region's Basin Plan. NPDES permits apply to discharges to surface waters; WDRs apply to discharges to land, including soil absorption (leachfield systems). NPDES permits and WDRs specify conditions under which wastewater treatment facilities are allowed to discharge treated wastewater. They set forth prohibitions, water quality requirements, and monitoring and reporting requirements for discharging facilities based upon wastewater treatment methods and the ultimate location for disposal. The specific requirements incorporate general provisions and site specific limitations deemed necessary to protect the beneficial uses of the waters of the state.

Onsite Sewage Disposal Systems. Since the project includes the proposed use of an onsite soil absorption (drain field) system as part of the wastewater system, it qualifies as an onsite sewage disposal system. Criteria governing the siting and design of onsite sewage disposal facilities in the project area are outlined in the RWQCB's Basin Plan<sup>7</sup>: "*Policy on Discrete Sewerage Facilities*" and "*Minimum Guidelines for the Control of Individual Wastewater Treatment and Disposal Systems.*" The RWQCB's Policy and Minimum Guidelines provide the overall siting criteria and other general requirements for onsite wastewater systems in the San Francisco Bay Region. All systems with flows of greater than 2,500 gpd are regulated by the RWQCB. Since wastewater flows for the project are estimated to be approximately 26,000 gpd, the facilities would be permitted and governed by the requirements of the RWQCB.

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<sup>7</sup> *San Francisco Bay Regional Water Quality Control Board, 2006, Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin.*

Following is an overview of some of the key regulatory/design requirements for onsite wastewater disposal systems contained in the RWQCB's Policy and Minimum Guidelines that are applicable to the drain field element of the proposed project:

- **Soil Depth.** A minimum of 3 feet of soil depth is required below the leaching trenches of a conventional drain field system. For systems discharging secondary or tertiary treated water using drip dispersal or pressure distribution systems, this may be reduced to 2 feet of soil depth over bedrock or an impermeable soil layer, depending on ground slope, percolation rate, and groundwater mounding considerations. The soil within and below the leaching trenches must be permeable and of a suitable texture and structure for absorption of sewage effluent. Coarse sand and gravels are unacceptable due to the lack of fine soil particles for filtration and treatment; heavy clay soils, on the other hand, are generally unsuitable due to inadequate permeability.
- **Percolation Rates.** Percolation rates for all systems are required to be within the range of 1 to 120 minutes per inch (MPI). The percolation rate is a measure of the time (in minutes) for the water level to drop one inch in a standard percolation test hole.
- **Depth to Groundwater.** For drain field systems, the required depth to groundwater below the bottom of the leaching trench varies between 3 and 20 feet, depending on soil characteristics and percolation rate. This requirement may be reduced to a minimum of 2 feet with the incorporation of supplemental treatment (secondary or tertiary) or by using an alternative disposal system design, such as an above-ground sand mound system.
- **Setbacks from Wells and Watercourses.** Required minimum setback distances between wastewater disposal fields and various water features are as follows:

▪ Wells	100 feet
▪ Streams and Water Bodies	100 feet
▪ Reservoirs	200 feet
▪ Drainageways	50 feet
- **Reserve Capacity.** The Minimum Guidelines require that all drain field systems be installed as dual fields, with each field sized to accommodate 100% of the design wastewater flow. A diversion valve (manually operated) is used to allow alternate use of the two drain fields, usually on a 6-month to 12-month cycled.
- **Cumulative Impacts.** Larger commercial and community-type drain field systems require that the long-term cumulative effects be considered in the system sizing and design. Cumulative impacts refer mainly to the potential hydraulic and water quality (e.g., nitrate loading) effects on groundwater (and downstream surface waters) due to the large volume and concentration of wastewater disposal in a given area.



- **Public Entity.** The RWQCB Policy on Discrete Sewerage Facilities requires that a public entity assume legal authority and responsibility for new community wastewater treatment and disposal systems. Community systems are defined in the Policy as "...collection sewers plus treatment facilities serving multiple discharges under separate ownership, such as package plants or common septic tanks, plus disposal facilities such as evaporation ponds or leachfields."

### **California Department of Public Health (CDPH)**

#### *Title 22 - Water Recycling Criteria*

Wastewater treatment facilities proposing to utilize the treated water for recycling (as proposed by the project) are governed by requirements contained in California Code of Regulations, Title 22-Water Recycling Criteria. The California Department of Public Health (CDPH) is responsible for administering Title 22, which requires review of all wastewater recycling projects for conformance with the adopted regulations and criteria. The CDPH acts in an advisory capacity to the RWQCB, who normally incorporate Title 22 requirements into WDRs and NPDES permits, along with CDPH findings and recommendations. Some of the key provisions of Title 22 Water Recycling Criteria are summarized here.

- **Treatment.** Recycling water for toilet flushing and unrestricted landscape irrigation requires "disinfected tertiary recycled water". Among other things, this requires that, following secondary (biological) treatment, the oxidized wastewater must be filtered and disinfected by an approved process and meet the following requirements:
  - **Total Coliform.** "The median concentration of total coliform bacteria measured in the disinfected effluent does not exceed a most probable number (MPN) of 2.2 per 100 mL utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed a MPN of 23 per 100 mL in more than one sample in any 30 day period. No sample shall exceed a MPN of 240 total coliform bacteria per 100 mL."
  - **Turbidity.** "... the filter effluent turbidity does not exceed 2 NTU, the turbidity of the influent to the filters is continuously measured, the influent turbidity does not exceed 5 NTU, and that there is the capability to automatically activate chemical addition or divert the wastewater should the filter influent turbidity exceed 5 NTU at any time."

Title 22 includes daily coliform analysis and continuous turbidity monitoring to verify compliance with the above effluent quality requirements. The sampling requirements are established to assure protection of the public health because there is significant risk of human exposure to the recycled water.

- **Reliability and Storage.** Title 22 includes provisions for emergency storage of sewage influent (minimum one day of design flow) and redundancy in various treatment processes to ensure continuous and reliable operation. Additionally, Title 22 requires provisions for long-term

storage (minimum of 20 days) or an alternate method of disposal for periods when recycling is not possible, e.g., due to the lack of irrigation demand during rainy periods or when/if the treated effluent fails to meet bacteriological limits.

- Use Area Requirements. Title 22 contains the following requirements pertaining to the areas where tertiary recycled water can be applied:
  - (a) No application of tertiary recycled water shall occur within 50 feet of a domestic well, unless supported by a geological investigation;
  - (b) No impoundment of tertiary recycled water shall occur within 100 feet of any domestic water well;
  - (c) No runoff of irrigation water from the recycled use area shall occur unless determined not to pose a public health threat and authorized by the regulatory agency;
  - (d) No spray, mist or runoff shall enter dwellings, designated outdoor eating areas, or food handling facilities;
  - (e) Drinking water fountains shall be protected against contact with recycled water spray, mist or runoff;
  - (f) Standard warning signs shall be posted where recycled water is used that are accessible to the public;
  - (g) No physical connection shall be allowed between recycled water systems and potable water systems;
  - (h) No hose bibs shall be allowed in the recycled water system in areas accessible to the public; quick couplers shall be used instead.
  - (i) No recycled water agency shall deliver recycled water for any internal use to any individually-owned residential units including free-standing structures, multiplexes, or condominiums.

Any project proposing water recycling is required to submit for review and approval to the California Department of Public Health (CDPH), an Engineering Report in compliance with the provisions of Title 22, Section 60323 of the California Code of Regulations. This report is required to follow the document titled “Guidelines for the Preparation of an Engineering Report for the Production, Distribution, and Use of Recycled Water”, issued by CDPH. This report is normally completed prior to, or in conjunction with, the filing of a Report of Waste Discharge with the Regional Water Quality Control Board. This would be a requirement of the proposed project.

## Local

### ***San Mateo County Septic System Regulations***

The San Mateo County Code, Chapter 4, Articles 1 through 6, contains the locally adopted standards and requirements for onsite sewage disposal systems (septic systems) developed to implement the RWQCB's Minimum Guidelines. They have been reviewed and approved by the RWQCB. The County regulations address conventional septic tank-drain field systems and apply to individual residential systems and other small multi-family or commercial facilities with wastewater flows of 2,500 gallons per day (gpd) or less. Systems with flows greater than 2,500 gpd are permitted by the RWQCB; however, the County is involved in the issuance of building permits for the installation of facilities approved by the RWQCB.

Soil percolation tests for the wastewater infiltration drain field must be reviewed and approved by the County Environmental Health Division. The County will also be involved in the review of the specifications, location, and design of the proposed wastewater disposal, recycling and landscape irrigation systems; however, the final review and permit authority rests with the State RWQCB.

### ***Granada Sanitary District (GSD)***

In order to complete the project, there must be 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. While the project lies within the GSD's boundaries, the applicant has not conceded that GSD will or may serve the project, nor that GSD has regulatory authority over it. This document is not intended to resolve regulatory authority, but if it is ultimately determined that GSD will serve or may serve the project, the applicant will need to secure a determination that the GSD has sufficient capacity to serve the project.

The project site lies within the service area boundaries of Granada Sanitary District, which has designated Urban and Rural zones. The project site is within the designated Urban Zone of the District. The District's position is that its Wastewater Ordinance covers the use of private wastewater systems (i.e., onsite septic systems) as well as connections to the public sewers owned and maintained by the District. According to correspondence from the District Counsel,<sup>8</sup> the District would have primary jurisdiction and permitting authority for the installation and use of any private wastewater disposal system within the District. There is a difference of opinion regarding the extent to which the GSD has jurisdiction over permitting of private wastewater systems in district boundaries. The County of San Mateo takes no position regarding this authority or scope of GSD to require permits.

For properties in the Rural Zone where public sanitary sewer is not available, the District Ordinance (Section 501) provides specific criteria and standards for private wastewater disposal systems that are generally equivalent to the septic system regulations contained in San Mateo County Code. For properties located in the Urban Zone, connection to the public sewer is required. The only exception to

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<sup>8</sup> Wittwer, Jonathan, December 5, 2008, *Granada Sanitary District Scoping Comments for Big Wave EIR*, submitted to San Mateo County Planning and Building Department.

this is a provision of the Ordinance that allows for the continued use of existing private wastewater disposal systems on properties designated as rural lands located in the Urban Zone, which is not relevant to the proposed project.

Notwithstanding the above, Section 614 the Ordinance provides a mechanism for the District to enter into a Development Agreement with property owners within the District to address special circumstances related to the provision of sanitary sewer service. Specifically, a Development Agreement under Section 614 may be employed for any of the following purposes:

- (a) To provide for the manner in which wastewater services shall be provided to the property.
- (b) To provide for the construction of new wastewater facilities to be dedicated to the District for the purpose of serving the property.
- (c) To provide for the manner in which the improvements to be constructed on the property shall be connected to the District's wastewater system.

Authorization of a Development Agreement with the District requires approval of a resolution of the Granada Sanitary District Board. The applicant has not conceded that GSD necessarily possesses all of the regulatory authority that GSD asserts over the project. The purpose of this document is to identify potential environmental impacts and mitigation measures for them, rather than to resolve open issues regarding the scope of GSD's regulatory authority. If it is ultimately determined that some or all of GSD's regulations apply to the project, the applicant will need to work with GSD to ensure that the project complies with applicable GSD regulations.

## **ENVIRONMENTAL IMPACTS**

### **Thresholds of Significance**

Based on Appendix G to the CEQA Guidelines, the proposed project would have a significant environmental impact in regards to sewer services if it would:

- require or result in the construction of new 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 does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- fail to satisfy applicable state regulatory requirements adopted for the purpose of avoiding or mitigating an environmental effect.
- result in a public service condition that is inconsistent with pertinent local plans and policies, adopted for the purpose of avoiding or mitigating an environmental effect.

## Proposed Project

The proposed project would recycle all wastewater, through onsite treatment/water recycling and for use in toilet flushing and agricultural irrigation. All excess wastewater not recycled for irrigation or toilet flushing would be infiltrated through three drain fields and discharged into the onsite wastewater infiltration system. During drought periods the project proposes to ration water by reducing agricultural irrigation and would send the majority of the recycled water to the infiltration drain fields for groundwater recharge. The wastewater system and treatment alternative includes connection to the Granada Sanitary District for the discharge and treatment of sewage.

### *Onsite Treatment/Water Recycling*

#### *Wastewater Treatment Plant*

The proposed wastewater treatment system for the project would consist of four primary components (refer to Figures III-25 through 27):

- Sewage collection system consisting of pipes and manholes;
- Treatment system consisting of an onsite membrane bioreactor (MBR), ultraviolet (UV)-disinfected tertiary wastewater treatment plant and sludge treatment/handling facilities, designed to satisfy, at a minimum, state Title 22 standards for application of treated wastewater;
- Treated wastewater distribution system and a storage tank for operational and wet weather storage of treated wastewater; and
- Treated wastewater disposal through a combination of toilet flushing uses, via a subsurface drip emitter infiltration system for agricultural and landscaping irrigation uses, as well as through infiltration via three drain fields.

A detailed discussion of the wastewater collection, treatment and disposal system is provided below:

#### *Collection System*

All sanitary wastewater from both the Office Park and the Wellness Center would be collected in a gravity sewer system terminating in the southern corner of the project site where the MBR plant would be located. According to Figures III-25 and -26, the sanitary sewer systems would include a network of 6-inch and 8-inch diameter pipes and 13 manholes. According to email correspondence from the applicant<sup>9</sup>, the connecting sewer line from the Office Park property to the Wellness Center property would either be installed: (a) in the roadway with an encroachment permit from San Mateo County; or (b) under the seasonal creek using horizontal directional drilling methods. The final sewer grades would be determined based on the sewer route chosen. As discussed in Section III (Project Description), the proposed project

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<sup>9</sup> Holmes, Scott, June 6, 2009 and July 21, 2009, email correspondence.

also includes provisions for a possible gravity sewer line connection to the Granada Sanitary District sewer system. This would consist of an 8-inch line running from the onsite MBR plant, along the southern side of the Wellness Center property to Airport Street, and in a southerly direction along Airport Street approximately 150 feet to the Granada Sanitary District manhole located at the intersection of Airport Street and Stanford Avenue.

### *Treatment System*

The proposed MBR plant proposed for the project would be constructed by Enviroquip, using processes and equipment recognized by CDPH as compliant with Title 22 requirements for tertiary recycled water. The MBR is designed to utilize a single complete mix reactor in which all the steps of the conventional activated sludge process occur with a membrane filter system submerged in the reactor. The membrane filter system filters the water continuously from the reactor by the suction of a pump. For the proposed project, the system will include initial screening of influent, an anoxic basin, and a pre-aeration basin ahead of the MBR basin. The filtered water from the MBR will then pass through an ultra-violet (UV) light disinfection system as the final step in the production of recycled water. The applicant proposes to build a treatment plant sized to handle double the required capacity for redundancy and to allow potential future expansion of service. Initially, only the equipment required for the project would be installed and the additional concrete tanks for expansion would be used as the clearwell for irrigation storage and dosing the infiltration field. The proposed effluent quality for the MBR plant is listed in Table IV.N-1, along with relevant standards for tertiary recycled water (i.e., Title 22).

**Table IV.N-1  
Membrane Bioreactor (MBR) Process Plant Treatment Criteria**

<b>Pollutant</b>	<b>Proposed Project Wastewater Plan Discharge</b>	<b>Title 22 Standards<sup>2</sup></b>
Biochemical Oxygen Demand (BOD) 30-Day Average	<5mg/l	Not specified <sup>1</sup>
Total Nitrogen	<10 mg/l	Not specified
Total Suspended Solids	<3 mg/l	Not specified
Turbidity	<0.2 NTU	<2 NTU
Total Coliform	<23 MPN/100ml	<2.2 MPN/100ml – 7-day median 23 MPN/100ml – no more than once/30-days 240 MPN/100ml – single sample max.
<i>Notes:</i> NTU = Nephelometric Turbidity Unit; MPN = Most Probable Number <sup>1</sup> Must be fully oxidized wastewater <sup>2</sup> California Code of Regulations, Division 4, Chapter 3 Water Recycling Criteria		

The system will also produce sludge that would either be: (1) pressed and hauled to Ox Mountain Landfill; or (2) blended into a worm composting operation constructed in portable spreaders located on the adjacent 12-acre row crop farm. Sludge from the plant after composting is planned to meet Class A sludge standards for agricultural uses.

The treatment plant would be completely covered with aluminum plates and hatches and sealed with rubber gaskets or a sealed fiberglass enclosure. A vacuum fan would distribute all process air through a

soil scrubber constructed adjacent to the plant. The scrubber would be 150 square feet in area, covered in loam, wood or root chips, and planted in native vegetation.

### ***Treated Wastewater Storage***

The MBR plant would include a 30,000-gallon storage tank for treated wastewater. The tank would serve to store and regulate the flow of recycled water for irrigation and toilet recycling. It would also be used for flow equalization and for dosing the infiltration (leachfield) system. Separate submersible pumps would be provided for the toilet flushing and irrigation dosing systems. As the storage tank reaches capacity, the water would be pumped to the infiltration system. This tank would also be covered with the aluminum plate system.

### ***Water Recycling***

The recycled water produced by the MBR plant is proposed to be used onsite for toilet flushing within project buildings, and for irrigation of landscaping, crops and wetland restoration areas. During the dry season the project proposes to recycle all of the treated wastewater. During the wet season, excess water would either be discharged to the Granada Sanitary District system or dispersed onsite via subsurface disposal fields (leachfield). Areas proposed for irrigation with recycled water include: (1) native plants used for ornamental landscaping; (2) wetland restoration areas (initial three years only); (3) and row crops. Subsurface drip irrigation methods would be used.

### ***Drain Field System***

An onsite drain field (infiltration) system would be installed to percolate surplus treated water during the wet season or at any other time needed. The plan for the drain field is to install a series of leaching beds on both the Office Park property (two fields) and the Wellness Center property (one field). The beds would be constructed using leaching chambers (rather than drain rock), and would each cover an area of approximately 11,000 square feet (33,000 square feet total). Based on an assumed wastewater loading rate of 0.6 gallons per day per square foot (gpd/ft<sup>2</sup>), the applicant estimates the leachfields to have a disposal capacity of approximately 20,000 gpd. Percolation testing of the soils would be completed to verify the final design parameters and sizing.

According to the preliminary utility plans,<sup>10</sup> the leaching beds would be 20-feet wide by 3-feet deep, and would extend in a long linear configuration adjacent to and/or around several of the buildings or adjacent roadways on the two parcels. The proposed cross-section detail of the leachfield beds shows two parallel leaching chambers, six-feet on center, and silty soil used to backfill the leaching bed area. The leaching chambers in each field would have approximately 12,000 gallons of storage capacity. Treated wastewater would be pumped into the chambers as needed; a typical dose volume of 8,000 gallons is proposed.

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<sup>10</sup> MacLeod and Associates, April 7, 2009, Preliminary Grading/Drainage & Utility Plans, Big Wave Wellness Center.

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***Optional Connection to Granada Sanitary District***

The wastewater plans for the project indicate that the project may seek approval for connection to the Granada Sanitary District sewer system as a contingency for surplus wastewater flow during the wet season, or for other emergency needs. The point of connection would be the existing manhole at the intersection of Airport Street and Stanford Avenue, near the southeast corner of the project site.

***Estimated Wastewater Flows***

According to the project plans,<sup>11</sup> the wastewater flow for the proposed project is estimated to be 26,000 gpd for average conditions. This is based on the applicant's estimate that water demand and wastewater flow will be approximately equal. Refer to Table IV.N-2 in the Water subsection for the supporting assumptions and calculations for this estimate. During drought periods the applicant proposes to ration water to reduce the average domestic water demand by about 20 percent, to approximately 21,000 gpd, which would result in an equivalent reduction in wastewater flow.

***Wastewater Recycling Flows***

The applicant estimates<sup>12</sup> that approximately 16,000 gpd (out of the 26,000 gpd total) will be recycled for toilet flushing in the Office Park and the Wellness Center buildings. This is based on the assumption that the amount of water use for toilet flushing will be 70 percent in the Office Park (14,000 gpd) and 30 percent in the Wellness Center (approximately 2,000 gpd). The remaining flow of approximately 10,000 gpd of recycled water would be available for landscape and crop irrigation, or for percolation via the onsite infiltration (drain field) systems.

***System Operation and Management***

The applicant proposes to fully automate and fully alarm the MBR plant to comply with Title 22 requirements. The applicant proposes monitoring of the MBR system, including 24-hour composite sampling. Operation of the system would require a State-Certified Wastewater Treatment Plant Operator, Grade 4. It is also proposed that residents of the proposed project would provide labor and staff support for treatment plant operations, with the plan to eventually become certified operators.

The wastewater system for the project is planned to serve the Wellness Center and Office Park properties, which will be under separate ownership. As a consequence of serving multiple discharges under separate ownership, the wastewater system will be classified a community system. Per the provisions of the RWQCB's "Policy on Discrete Sewerage Systems", this will require that a public entity assume legal and financial responsibility for the wastewater facilities. To comply with this requirement, the applicant proposes to either: (a) secure an agreement with Granada Sanitary District to own and operate the project wastewater facilities; (b) modify the project plans to bring all property under single ownership; or (c)

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<sup>11</sup> *Big Wave Project, January 1, 2009, Facilities Plan: Draft #2.*

<sup>12</sup> *Big Wave Project, Undated, Facilities Plan: Draft #3.*



obtain an exemption from the RWQCB to their requirement for a public entity for discrete sewerage systems.

### **Project Impacts and Mitigation Measures**

#### ***Impact UTIL-1 Wastewater Treatment Facilities and Capacity***

The project proposes to construct and operate its own onsite wastewater treatment system, such that no new wastewater treatment facilities will need to be constructed or expanded to serve the project. Municipal wastewater treatment service in the project area is provided by the regional facility operated by the Sewer Authority Mid-Coastside (SAM). The treatment plant has rated capacity of 4.0 million gallons per day (mgd), and existing average dry weather flows of 1.7 mgd (i.e., the plant has surplus treatment capacity of approximately 2.3 mgd). The estimated wastewater flows from the project are approximately 26,000 gallons per day (gpd). If the project were to be connected to the SAM system, e.g., for emergency, short-term purposes, the additional flow contribution to the system would amount to about 1.1 percent of the available surplus treatment capacity in the system. This is a ***less-than-significant*** impact and no mitigation measures are required.

#### ***Impact UTIL-2 Wastewater Collection System Capacity***

The project proposes to have a sewer connection to the Granada Sanitary District as a contingency for surplus flows during the wet season and for other emergency purposes. The applicant has not provided estimates of the amount of sewage flow that would be directed to the sewer system from the project. However, based on the analysis in this DEIR, it should be anticipated that there will be times when the entire daily sewage flow (26,000 gpd) would be discharged to the sewer. This would occur, for example, as a result of having to suspend water recycling due to non-compliance with Title 22 treatment limits. No hydraulic analysis has been completed by the applicant to confirm that the existing 8-inch sewer line in Stanford Avenue has sufficient capacity to accommodate additional flows of 26,000 gpd. Analysis by the DEIR authors indicate that an average flow of 26,000 gpd would likely require a minimum sewer line diameter of 12 inches or greater; thus the existing 8-inch line would not be adequate for the project. The Princeton Pump Station may also have inadequate capacity for the additional surcharge of 26,000 gpd sewage flow from the project. The potential lack of adequate capacity for the project wastewater flows in the existing Granada Sanitary District sewage collection system may require improvements that have not been accounted for in the project plans. This is a ***potentially significant*** impact.

#### ***Mitigation Measure UTIL-2 Wastewater Collection System Capacity***

The applicant shall either: (a) revise the project design to limit the maximum amount of sewage flow to the Granada Sanitary District sewer system to that which can be accommodated by the existing 8-inch sewer line in Stanford Avenue and the Princeton Pump Station; or (b) provide necessary expansion of the capacity of the sewer system to accommodate the addition of the expected maximum sewage flow of 26,000 gpd from the project.

**Impact UTIL-3 Granada Sanitary District Regulations<sup>13</sup>**

The proposed project lies within the designated Urban Zone of the service area of the Granada Sanitary District, a local wastewater permitting agency. The District Wastewater Ordinance covers the use of private wastewater systems (i.e., onsite septic systems) as well as connections to the public sewers owned and maintained by the District. According to District Ordinance (Section 501) the Big Wave project site, which lies within the Urban Zone of the District, would be required to connect to public sewer and would not be permitted to operate a private onsite wastewater system. Therefore, the wastewater plans for the project are in conflict with the District Ordinance. While to date no efforts have been made to resolve this regulatory conflict, the project would be required to comply with all applicable requirements of local permitting agencies. Therefore, this is a *less-than-significant* impact and no mitigation measures are required.

**Impact UTIL-4 Wastewater Recycling and Disposal Requirements***Title 22 Water Recycling Criteria*

The proposed MBR treatment system and associated facilities described for the project appear to be capable of complying with Title 22 requirements for recycled wastewater. However, some requirements are not clearly addressed in the preliminary plans presented for environmental review. For example, Title 22 requires emergency storage capacity for influent wastewater equal to at least one full day of sewage flow, i.e., 26,000 gallons in this case. The preliminary plans do not indicate that an emergency storage tank of this capacity will be provided. An alternative means of meeting this requirement could be the sewer connection to the Granada Sanitary District (GSD) system. However, it is not clear from the applicant if this is a firm part of the plan or an option that may or not be included.

Title 22 also requires an alternate means of wastewater disposal or long-term storage (minimum of 20 days) for periods when the recycled water may be out of compliance with effluent specifications. The preliminary plans for the drain field, as discussed below, do not indicate that it has been sized for the entire wastewater flow of 26,000 gpd; therefore, it would not be able to satisfy this particular requirement of Title 22. Winter discharge to the GSD sewer system would be acceptable; however, as discussed above, it is uncertain if the connection to the GSD sewer system discussed in the plans is optional or a firm part of the proposed project.

*Drain Field System*

The wastewater facilities plan includes leachfield beds for onsite percolation of treated water primarily during the winter season when irrigation uses are minimal or nil. The leachfield would also be available for use at any other time there is surplus wastewater requiring disposal. The utility plans indicate the design of the leachfield has been prepared to conform to guidelines and criteria contained in the U.S. EPA

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<sup>13</sup> As noted above, there is some uncertainty regarding the whether it is the County or GSD that has regulatory authority over onsite wastewater systems with the GSD. However, due to the size and nature of the wastewater system for the proposed project, the overall regulatory authority for the project will be the RWQCB.

“Design Manual for Onsite Wastewater Treatment and Disposal System”. This EPA Design Manual is referenced in San Mateo County Onsite Sewage Disposal Regulations. While the EPA Design Manual contains useful technical information that may be incorporated in the system design, it will not be the governing document for the proposed drain fields. As discussed earlier under Regulatory Setting, the size of the project and the nature of the proposed wastewater system require that it be permitted by the RWQCB. The RWQCB Basin Plan contains policies and guidelines for drain field systems; and these will be the criteria against which the project plans will be reviewed. The RWQCB may consider exemptions from their standard criteria on a case-by-case basis, and may also incorporate recommendations from Granada Sanitary District, the San Mateo County Health Department, or others. At a minimum, however, the proposed drain fields should comply with the RWQCB guidelines.

Review of the leachfield design presented in the preliminary utility plans indicated several points of uncertainty or clear departure from the RWQCB guidelines, as follows:

1. Percolation and Wastewater Loading Rates. The applicant plans to conduct percolation testing for drain field design, but the work has not yet been undertaken. Instead, the drain field sizing has been estimated on the basis of soil conditions. The estimated wastewater loading rate of 0.6 gpd/ft<sup>2</sup> may be reasonable for the site, based on review of available soils information. However, this will have to be confirmed with formal percolation testing; and this should be completed during the wet weather (winter) season, to properly account for soil moisture and water table conditions that would be representative of the time of year when the drain fields will have their predominant use.
2. Vertical Separation to Groundwater. No investigations of wet weather groundwater conditions have been completed to determine if the proposed drain field areas will comply with the minimum 2-ft vertical separation requirement (below the drain field bottom). Geotechnical borings in May of 2000 and April 2002 provide some limited information, showing the water table at depths as shallow as 3 feet, and typically around 6 to 7 feet below grade in the areas where the drain fields will be located. The water table will rise higher in the wet weather season, and how high will determine whether or not the proposed drain field areas can comply with the RWQCB minimum guidelines. With 3-foot deep leaching beds, the winter water table should be at least 5 feet below grade to comply with RWQCB guidelines. A wet weather groundwater monitoring investigation will need to be completed to obtain accurate information on winter groundwater levels.
3. Groundwater Mounding Effects. In addition to measuring the water table conditions under existing conditions, the RWQCB will require the applicant to determine how much the water table is likely to rise (i.e., groundwater mounding) in response to the percolation of wastewater from the drain fields and other changes in the project site. In particular, use of permeable pavement to maximize rainfall percolation could contribute to a rise in the water table in the drain field areas. A groundwater mounding rise of 1 to 2 feet or more would not be uncommon for the given site conditions and the intensity of wastewater loading proposed. In reviewing the project the RWQCB typically uses the mounded groundwater height, not the pre-development condition,

as the benchmark for determining compliance with the 2-ft vertical separation from the drain field. This criterion has the potential to greatly reduce the allowable wastewater loading rate, below the rate that might be indicated by percolation test results or soil conditions. The result would be the requirement for much greater drain field area than what has been proposed in the applicant's preliminary plans.

In addition to the above soil and groundwater criteria, other aspects of the proposed drain field design that are not consistent with typical practice and would likely be questioned during the RWQCB review include the following:

- Leaching Bed Cross-section Detail. The cross-section detail shows the use of silty soils for backfill of the leaching bed rather than the use of drain rock, which is the standard design practice. The full 20-foot width of the proposed leaching bed cross-section would not be counted as effective infiltration area for sizing calculations unless backfilled with drain rock, pea gravel, or similar coarse filter media.
- Building Setbacks. The cross-section detail shows no setback between the leaching bed and adjacent buildings, which is contrary to County septic system and building regulations, and similar requirements of Granada Sanitary District. Both San Mateo County and Granada Sanitary District require a 10-foot setback between buildings and drain fields.
- Leachfield Dosing Plan. The applicant has indicated that dispersal of wastewater to the leaching beds would be done typically with large volume doses of 8,000 gallons at a time. This will tend to create short-term saturated flow conditions. This is not consistent with current practices for drain field operations, which generally emphasize the use of smaller, frequent doses spread over the course of the day to promote unsaturated flow in the soils and better long-term performance.

Demonstration of the ability of the project wastewater facilities to comply with Title 22 Water Recycling Criteria and RWQCB Minimum Guidelines for drain field systems is critical to establishing project feasibility. Available information is insufficient to make this finding. This is a *potentially significant* impact.

#### ***Mitigation Measure UTIL-4 Wastewater Recycling and Disposal Requirements***

The applicant shall comply with State Health Department and RWQCB requirements for wastewater recycling.

#### ***Impact UTIL-5 Wastewater and Recycling Water Flow Estimates***

As discussed under Water Supply Impact UTIL-8, the projected volume of wastewater recycling for toilet flushing appears to have been overestimated by the project applicant. The applicant estimates that approximately 16,000 gpd of recycled water will be used for toilet flushing at the Office Park and Wellness Center. Per the discussion under UTIL-8, the corrected estimate of water for toilet flushing could be two-thirds this amount. The estimates of toilet flushing flows have been used by the applicant to

estimate: (a) the amount of recycled water available for irrigation uses; and (b) the total amount of wastewater flow to be disposed of by other means (i.e., leachfield beds) during the winter non-irrigation period. As a consequence of overestimating the toilet flushing flows, further analysis is needed to determine whether or not there are sufficient irrigation areas and necessary capacity in the drain fields for the corrected (larger) amount of wastewater flow. This is a *potentially significant* impact.

The following mitigation measure would reduce this impact to a *less-than-significant* level:

***Mitigation Measure UTIL-5 Wastewater and Recycling Water Flow Estimates***

The applicant shall revise the project plans and water budget analysis to correct the inconsistencies in the water recycling assumptions and calculations, and shall use this information to verify: (a) the adequacy of plans for irrigation uses of recycled water; and (b) the sufficiency of the proposed leachfields for winter season dispersal of all wastewater flow not distributed for toilet flushing. This information shall be provided for review and approval by the RWQCB.

***Impact UTIL-6 Creek Crossing by Sewage Pipeline***

The preliminary utility plans for the project show a gravity sewer line running from the North Parcel to the South Parcel along the westerly side of Airport Street. It appears that the proposed alignment for the sewer line, as well as other utilities, crosses through the open creek channel area, on the downstream side of the existing concrete headwall. Correspondence from the applicant<sup>14</sup> explains that the utilities are intended to be installed under the drainage channel by jack and bore or horizontal directional drilling methods to avoid any disturbance to the drainage channel. This method of pipeline installation is feasible; however, it requires the pipelines be installed a minimum depth of 3 to 4 feet below the creek bottom to comply with requirements of the California Department of Fish and Game (CDFG) for this type of work and to avoid disturbance to the drainage channel. The elevation of the creek bottom at the proposed point of crossing is approximately 15 feet NGVD. Therefore, the sewer line will be at an elevation of approximately 11 to 12 feet NGVD where it crosses the creek. This elevation is about 3 feet lower than the sewer invert elevation (14.32 feet) shown on the Preliminary Utility Plan (4/07/09) at the northernmost sanitary sewer manhole on the south side of the creek crossing on the Wellness Center parcel. Therefore, the sewer line will have to be lowered by about 3 feet from this point forward throughout the Wellness Center property.

The applicant has further indicated<sup>15</sup> that an alternative route for the connecting sewer line would be in Airport Street, subject to obtaining an encroachment permit from San Mateo County. If this route is selected and approved by the County, the sewer line could probably be installed with a minimum of one foot clearance below the invert of the two existing 48-inch diameter culverts in Airport Street. This would put the sewer line invert at an elevation of about 13 feet, which would be higher than via the creek undercrossing, but still lower than the proposed 14.32-foot invert elevation at the manhole on Wellness

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<sup>14</sup> Holmes, Scott, June 26, 2009, Email Correspondence.

<sup>15</sup> Holmes, Scott, July 21, 2009, Email Correspondence.

Center parcel. Regardless of which route is selected, the sewer line would still have to be deepened which would either: (a) lower the hydraulic profile at the treatment plant and may also affect the feasibility of having a gravity overflow to the Granada Sanitary District manhole located at the intersection of Airport Street and Stanford Avenue; or (b) require the use of a lift station on either the Office Park or Wellness Center parcel. Since this has not been accounted for in the project plans, this is a ***potentially significant*** impact.

Assuming compliance with CDFG requirements, the following mitigation measure will reduce this impact to a ***less-than-significant*** level:

***Mitigation Measure UTIL-6 Creek Crossing by Sewage Pipeline***

The project applicant shall modify the current plans for sewer connection between the North and South parcels to provide either: (a) re-alignment and profile correction to accommodate a gravity sewer line; or (b) incorporation of a lift station on either the North or South parcel.

## **CUMULATIVE IMPACTS**

By providing a self-contained onsite wastewater treatment, recycling and disposal system, the project will not add to the demand for wastewater treatment capacity at the SAM facility, and will, therefore, not contribute to cumulative wastewater treatment impacts. However, since the project will rely on the regional wastewater system for periodic or short-term emergency and surplus wet weather flows, the project will contribute to cumulative impacts on Granada Sanitary District and SAM collection system. This is a potentially significant cumulative impact, since bottlenecks and infiltration and inflow in the sewage collection system has been a chronic source of wet weather sewage overflow problems in the recent past and is the subject of continuing corrective efforts by SAM and its member sewer districts. By having to rely on the SAM sewer system as a wet weather contingency, the project has the potential to impact collection system flows during the most vulnerable times.

## **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

Some of the identified wastewater-related impacts can be mitigated to a level of less than significant through compliance with requirements of permitting agencies and implementation of the recommended mitigation measures. Some aspects of the proposed wastewater treatment and disposal system have been found to be in conflict with existing policies and requirements of several agencies that have jurisdiction and permitting authority over various aspects of the wastewater system, including the RWQCB, CDPH, CDFG, San Mateo County, and Granada Sanitary District. The agencies, through the established permitting process, will ensure compliance, or, where appropriate, issue the necessary waiver, to the applicable requirements. Assuming the applicant will resolve these wastewater regulatory issues, impacts would be ***less than significant***.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### N. UTILITIES & SERVICE SYSTEMS

#### 2. WATER

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#### METHODOLOGY

This subsection of the DEIR analyzes the proposed project plans to provide water supply for the project, including water for both domestic and irrigation needs. The analysis covers the evaluation of projected water demand and the adequacy of the proposed sources of supply, in terms of water quantity and water quality. The following discussion presents the findings and conclusions of Questa Engineering Corporation. Additional review of water supply, in terms of hydrological setting and impacts, is provided in Section IV.H (Hydrology & Water Quality) of this DEIR. The analysis is based on review of the following:

- the applicant's conceptual facilities plan and background information for the project;
- regulatory requirements for small water systems and water recycling; and
- pertinent literature related to the ground water conditions and water service in the project area.

#### ENVIRONMENTAL SETTING

##### Regional Groundwater Resources

The project site is located in the Mid-Coast area of unincorporated San Mateo County, northwest of the community of Princeton by the Sea and south of the Half Moon Bay Airport. As described in Section IV.H (Hydrology & Water Quality), the project area is underlain by the Half Moon Bay Terrace, which is the principal water-bearing formation and a major source of water supply in the vicinity. The Half Moon Bay Terrace has an areal extent of approximately 25 square miles, including several identified sub-basins. The project site lies within the Airport Terrace sub-area of the Airport Sub-basin.

In April 2009 Kleinfelder, Inc. completed a groundwater study of the Mid-Coast area of San Mateo County, roughly between Frenchman's Creek to the south and Martini Creek to the north.<sup>16</sup> The study was commissioned by San Mateo County to assist in long-term groundwater basin and watershed planning. As part of the study Kleinfelder developed generalized water balance models to estimate the basins' inputs (e.g., rainfall and creek recharge) and outputs (e.g., pumping and outflow), and how variations in annual rainfall affect groundwater levels and storage.

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<sup>16</sup> *Planning & Building Department of San Mateo County, April 2009, Kleinfelder Midcoast Groundwater Study – Summary and Errata.*

According to the study, approximately 513 acre-feet per year (AFY) of groundwater (167 million gallons per year (MGY)) is pumped from the Airport Sub-basin for agricultural, municipal, and individual domestic uses. The average annual withdrawals are estimated as follows:

- 169 AFY by Coastside Community Water District (CCWD);
- 224 AFY by Montara Water and Sanitary District;
- 96 AFY by approximately six agricultural wells; and
- 24 AFY by about 87 domestic and other wells.

Recharge to groundwater basin occurs principally by percolation of rainfall and infiltration of creek water. Through an examination of 55 years of precipitation records, water well monitoring data and other factors, Kleinfelder estimated the average inflow to the Airport Sub-basin to be about 2,780 AFY, and estimated this to be equal to the average annual output. Therefore, the study concluded that the groundwater basin appears to be in long-term hydrologic balance under current pumping conditions and should remain so with a moderate increase in water extractions. The study also noted that current pumping rates have occasionally lowered the water table to near sea level during dry years, but that the water table recovers quickly during subsequent wet years.

### **Municipal Water Service**

The main supplier of municipal water service in the project area is the CCWD, which serves approximately 18,000 people, including the unincorporated communities of Princeton by the Sea, El Granada, and Miramar, as well as the City of Half Moon Bay.<sup>17</sup> CCWD obtains its water from four sources: (1) Pilarcitos Lake; (2) Crystal Springs Reservoir; (3) Pilarcitos well field; and (4) the Denniston Project. The first two sources are owned and operated by the San Francisco Water Department (SFWD); the latter two are owned and operated by CCWD. Approximately 35 percent of CCWD's water supply is produced locally through stream diversions and wells along Pilarcitos and Denniston Creeks, while the remaining 65 percent is purchased from the City of San Francisco. CCWD operates two water treatment plants, the Denniston Plant near the Half Moon Bay Airport, and the Nunes Plant in the City of Half Moon Bay. Water from SFWD is conveyed through the Pilarcitos pipeline to the Nunes Plant, which has a capacity of 4.5 mgd, from there it is stored in ten storage tanks with a total capacity of 8.1 million gallons. Within the district there are three pressure zones, five pump stations, 500 hydrants and 52 miles of water mains. The majority of the water use in the district is for residential use, with residential customers accounting for 91 percent of the connections and 59 percent of the total water demand.

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<sup>17</sup> CCWD, [www.coastsidewater.org/water-district-map](http://www.coastsidewater.org/water-district-map).



## Project Site Water<sup>18</sup>

The project site lies outside the CCWD boundaries and does not currently have municipal water service. Water for historical agricultural operations on the property has been provided by an existing onsite well located near the northern side of the northern parcel. According to the Water Well Driller's Report,<sup>19</sup> the well is 100-foot deep, and screened between 20 to 60 feet and 80 to 100 feet, and has a 20-foot deep annular well seal. The well was installed in 1986, and there is a 1987 letter from the San Mateo County Department of Health Services indicating their approval of the well for "...agricultural, single family residential and commercial, industrial use." The County letter indicates that the well water quality data (chemical and bacteriological) reviewed at the time showed conformance with applicable standards for potable use. The County also advised that additional water quality analysis may be required to determine the suitability of the well water as a source of supply for a public water system.

In June 2009 a pumping test was conducted in accordance with San Mateo County procedures and water quality testing was completed for samples taken from the well following the pumping test.<sup>20</sup> The static water level at the start of the test was 8'-2" below grade. The pumping test was run for 8 hours, producing a stabilized rate of approximately 33 gallons per minute (gpm) with drawdown of about 18.3 feet (final water level at 26.5'). Over a 7-hour recovery period the water level returned to a depth of 9'-1/2", or about 95 percent of the drawdown amount. The pump was set at a depth of 60 feet for the test.

In correspondence following the pumping test,<sup>21</sup> the applicant indicated that the existing 20-foot well seal will be extended to a depth of 50 feet to meet the State community well standards. This will be accomplished by drilling a 50-foot deep caisson around the existing well, plugging the screened section with a pig and tremi concreting the seal between the soil and well casing as the caisson is being pulled.

Water samples were taken on June 16, 2009 and June 30, 2009, and were analyzed by Monterey Bay Analytical Services (MBAS).<sup>22</sup> The laboratory results indicated compliance with all drinking water standards except for color, iron and manganese, which had reported levels above the secondary drinking water standards for these constituents. Secondary drinking water standards relate to levels of consumer acceptance, rather than health effects. Elevated levels of iron and manganese cause brown and black staining of sinks and other household fixtures. The bacteriological test results were negative for total coliform. Historically, the onsite well has been used solely as a source of irrigation water for the

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<sup>18</sup> *The project site is in the sphere of influence of the CCWD, contiguous to District boundaries and eligible for annexation. Annexation would require application to LAFCo and because the CDP A-2-SMC-99-63 restricts the District's ability to provide water to areas in the boundaries of the district at the time of the CDP, LAFCo approval of the annexation would require a condition of approval that the CDP be amended to remove the restriction.*

<sup>19</sup> *Department of Water Resources, September 9, 1986, Water Well Driller's Report No. 154360 by Earth Flow Drilling Co.*

<sup>20</sup> *San Mateo County, June 16, 2009, Completed Pump Test Form for Big Wave, Signed by Scott Holmes, RCE C28972.*

<sup>21</sup> *Holmes, Scott, June 29, 2009, Email Correspondence.*

<sup>22</sup> *MBAS, July 4, 2009 and July 8, 2009, Laboratory Report Nos. AA57890 and AA58212.*

agricultural operations on both the northern and southern parcels. Based on information from the applicant, over the past five years the agricultural operations have consisted of irrigated crops during the period of March through November. Typically, this has included two to three harvests of peas and beans, followed by three different types of pumpkins. Annual irrigation water requirements have averaged about 0.6 acre-feet per acre (7 inches of applied water), for a total of about 12 AFY.

Conversion of this well to a source of domestic supply would require a coastal permit and compliance with County and State standards for community water wells and water systems. Approval from the Coastal Commission would also require protection of the Pillar Point Marsh, including assurance that aquifer withdrawals would not exceed groundwater recharge rate locally or otherwise cause an adverse decline impact on groundwater conditions. See Section IV.H (Hydrology & Water Quality) for further discussion of this issue.

## **REGULATORY SETTING**

### **Federal**

#### ***United States Environmental Protection Agency***

The Safe Drinking Water Act (SDWA), established on December 16, 1974, is the main federal law that ensures the quality of Americans' drinking water by setting standards for drinking water quality and provides guidance to the states, localities, and water suppliers who implement those standards.

### **State**

#### ***State Water Resources Control Board***

The Porter-Cologne Act entrusts the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs) with protecting California's waters (California Water Code 13001). As discussed in Section IV.H (Hydrology & Water Quality), the RWQCBs are responsible for developing Basin Plans and regulating all pollutant or nuisance discharges that may affect either surface water or groundwater in the region's jurisdiction (California Water Code 13240). Any person proposing to discharge waste within any region must file a report of waste discharge with the appropriate RWQCB (California Water Code 13260). No discharge may take place until a RWQCB issues Water Discharge Requirements (WDR) or a waiver of the WDRs (California Water Code 13264).

#### ***California Department of Water Resources***

The California Department of Water Resources (DWR) is responsible for the overall management of California's water resources. The regulations overseen by DWR regarding water service availability include Senate Bills (SB) 221 and 610 and the California UWMP Act.

*Senate Bills 221 and 610*

SB 221 and SB 610 amended State law in January 2002, and are intended to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 221 and SB 610 are companion measures, which seek to promote more collaborative planning between local water suppliers, cities, and counties. SB 221 applies to the Subdivision Map Act, requiring an applicant's tentative map to verify that the public water supplier has "sufficient water supply" available to serve it. SB 610 applies to the Water Code, augmenting the CEQA process to definitively establish water availability.

*SB 221*

SB 221 applies to any "subdivision," defined as:

- A proposed residential development of more than 500 dwelling units, if the public water supplier has more than 5,000 service connections; or
- Any proposed development that increases connections by 10 percent or more, if the public water supplier has fewer than 5,000 connections.

SB 221 does not apply to any residential project proposed for a site that is within an urbanized area and has been previously developed for urban uses, or to housing projects that are exclusively for very low and low-income households. The proposed project would not be subject to this bill because it contains fewer than 500 residential units.

*SB 610*

SB 610 requires water supply assessments (WSAs) to evaluate whether total projected water supplies will meet the projected water demand for certain development projects that are otherwise subject to CEQA review. Section 10912(a) of the California Water Code defines seven types of projects, which are subject to the mandates of SB 610, such as: (1) a residential development of more than 500 dwelling units; (2) a shopping center or business employing more than 1,000 persons or having more than 500,000 square feet of floor space; (3) a commercial office building employing more than 1,000 persons or having more than 250,000 square feet; (4) a hotel or motel with more than 500 rooms; (5) an industrial or manufacturing establishment housing more than 1,000 persons or having more than 650,000 square feet or 40 acres; (6) a mixed use project containing any of the foregoing; or (7) any other project that would have a water demand at least equal to a 500 dwelling unit project. The proposed project would not be subject to the provisions of this bill because it does not meet any of the above-listed criteria.

*Urban Water Management Plan*

In accordance with the California Water Code Division 6, Part 2.6, Sections 10610 through 10656, also known as the UWMP Act, all urban water suppliers who directly serve 3,000 or more customers or who

provide 3,000 or more AFY are required to prepare a UWMP. UWMPs are comprehensive reports identifying service area, sources of supply, reliability of supply, past, current and projected water use by type of use, conservation programs, public information and school education programs, capital projects. The purpose of the UWMP Act is to ensure that water suppliers plan for the long-term conservation and efficient use of the State's limited urban water supplies. The UWMP must be updated every five years and filed with the DWR and any city or county in the service area of the water provider. The 2005 UWMP for the CCWD was adopted by the CCWD Board of Directors on December 13, 2005 and was submitted to DWR within 30 days of approval. The 2005 UWMP covers the period from 2005-2010.

### ***California Department of Public Health (CDPH)***

The California Department of Public Health (CDPH) Drinking Water Program (DWP)<sup>23</sup> is within the Division of Drinking Water and Environmental Management. The DWP regulates public water systems; certifies drinking water treatment and distribution operators; supports and promotes water system security; provides support for small water systems and for improving technical, managerial, and financial (TMF) capacity; and provides funding opportunities for water system improvements. DWP consists of three branches: (1) the Northern California Field Operations Branch, (2) the Southern California Field Operations Branch, and (3) the Technical Programs Branch. The Field Operations Branch (FOB) are responsible for the enforcement of the federal and California SDWAs and the regulatory oversight of approximately 7,500 public water systems to assure the delivery of safe drinking water to all Californians. In this capacity, FOB staff perform field inspections, issue operating permits, review plans and specifications for new facilities, take enforcement actions for non-compliance with laws and regulations, review water quality monitoring results, and support and promote water system security.

FOB staff work with the U.S. Environmental Protection Agency (USEPA), the SWRCB, RWQCBs, and a wide variety of other parties interested in the protection of drinking water supplies. On the local level, FOB staff work with county health departments, planning departments, and boards of supervisors. Primacy has been delegated by CDPH to certain county health departments for regulatory oversight of small water systems, and FOB staff provide oversight, technical assistance, and training for the local primacy agency personnel.

Prior to construction of a new water system, the identified water supply and the design of all proposed treatment, storage and distribution facilities are subject to review and approval by CDPH. In addition, to ensure the water system will be able to deliver a high quality water service throughout the life of the improvements within its service area, the applicant must prepare a detailed plan for the long term operation, financing and management of the entire system. Once the system begins operation, monthly and quarterly water quality reports must be filed with CDPH to document the system's continued compliance with all applicable water quality regulations.

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<sup>23</sup> *California Department of Public Health (CDPH), Drinking Water Program, 2009, Obtained by CAJA Staff, <http://www.cdph.ca.gov/programs/Pages/DWP.aspx>, May 27.*

The CDPH, under the provisions of Section 116330 of the California Health and Safety Code (CHSC), delegates the permitting and regulation of certain water systems of under 200 connections to local agencies; in San Mateo County, the Department of Environmental Health Services has been delegated this water system permitting and regulatory authority by the CDPH. The proposed project includes less than 200 water supply connections and will therefore be regulated by the Department of Environmental Health Services.

### *Drinking Water Quality*

Drinking water quality is governed by the provisions of Title 22 of the California Code of Regulations (CCR), which specify the allowable maximum contaminant levels (MCL) for a wide range of primary and secondary water quality constituents. Of particular note is the change in the MCL of arsenic, which dropped from the current value of 50 parts per billion (ppb) to 10 ppb in January 2006.

### *California Safe Drinking Water Act*

The California Safe Drinking Water Act was passed to build on and strengthen the federal Safe Drinking Water Act. The California Safe Drinking Water Act authorizes the CDPH to protect the public from contaminants in drinking water by establishing MCLs that are at least as stringent as those developed by the USEPA, as required by the federal Safe Drinking Water Act.

### *Groundwater Management Act (California Water Code 10750)*

There are no statewide statutory regulations of groundwater in California except for groundwater flowing in subterranean streams through known and defined channels. Landowners overlying groundwater have the right to share the groundwater under their property with other overlying landowners without obtaining a permit from any state agency. Groundwater may also be used on adjacent lands, but this right is subordinate to the prior use of any overlying landowners. Surface water can be diverted or pumped into aquifers for later extraction, with SWRCB approval.

The California Ground Water Management Act, commonly referred to as Assembly Bill (AB) 3030, promotes development of voluntary groundwater management plans to guide ongoing management procedures for groundwater basins and ensure stable groundwater supplies in the future. The legislation is designed to provide local public agencies with increased management authority over groundwater resources in addition to those existing groundwater management capabilities. Several California counties have adopted groundwater regulation programs. Litigation has also resulted in court decrees regulating groundwater use in some cases.

## Regional and Local

### *San Mateo County Department of Environmental Health Services*

#### *San Mateo County's Small Drinking Water Systems Program*

The onsite water system proposed for the project would be classified as a Small Community Water System, and would be regulated under San Mateo County's Small Drinking Water Systems Program. Community water systems are defined under the California Safe Drinking Water Act as those that serve drinking water to at least 15 service connections used by yearlong residents or that regularly serve at least 25 yearlong residents. As stated previously, the CDPH regulates large water systems, having more than 200 connections. Those with less than 200 connections are considered Small Community Water Systems and are normally regulated by the local authority, in this case San Mateo County Department of Environmental Health Services. Through their local program, the County is responsible for enforcing the requirements of the California Safe Drinking Water Act, which cover such things as water quality standards, monitoring and reporting, operator qualifications, system design and maintenance, and system management.

In addition to meeting specific water system facility requirements, notable requirements for small community water systems include the following:

Water Quality Monitoring. Standard water quality monitoring requirements include:

- Bacteriological                      Monthly
- Chemical                              Once every 3 years
- Nitrates                                Annually
- Radiological                         Once every 3 years

Consumer Confidence Reports. All community water systems are required to prepare a Consumer Confidence Report (CCR), which is an annual water quality report for distribution to their customers. The CCR includes information on the source water, the levels of any detected contaminants, any associated health effects, and compliance with drinking water regulations.

Technical, Managerial Financial Capacity Assessment. TMF capacity is ability of a small community water system to provide a safe and reliable drinking water supply to their customers. TMF capacity assessment is required for all new community water systems.

Source Water Assessment Program. The Source Water Assessment Program (SWAP) is a study and report of each water system that provides basic information about the drinking water source and identifies any possible contaminating activities in the area.

***County of San Mateo General Plan***

Following are a listing of applicable goals and policies from the San Mateo County General Plan pertaining to the planning and development water supplies, including water conservation, reuse and efficiencies.

10.1 Coordinate Planning

- Coordinate water supply planning with land use and wastewater management planning to assure that the supply and quality of water is commensurate with the level of development planned for an area.

10.3 Water Conservation

- Promote the conservation and efficient use of water supplies.

10.4 Development of Water Supplies

- Promote the development of water supplies to serve: (1) agricultural uses, as the highest priority; (2) domestic uses; and (3) recreational uses.

10.10 Water Suppliers in Urban Areas

- Consider water systems as the preferred method of water supply in urban areas. Discourage use of wells to serve urban uses.

10.12 Coordination of Water Suppliers

- Encourage water providers to coordinate the planned capacity of their facilities commensurate with the level of development permitted by adopted land use plans and wastewater management plans.

10.13 Water Systems in Unincorporated Areas

- Support efforts to improve water distribution and storage systems in unincorporated neighborhoods and communities.

10.25 Efficient Water Use

- Encourage the efficient use of water supplies through effective conservation methods.
- Require the use of water conservation devices in new structural development.
- Encourage exterior water conservation.

### 10.26 Wastewater Reuse

- Encourage the reuse and recycling of water whenever feasible.
- Encourage the use of treated wastewater that meets applicable County and State health agency criteria.

### 15.30 Standards for Water Supply and Fire Flow for New Development

- Require connection to a public water system or private water company or provision of an onsite water supply as a condition of approval for any new development proposal.
- Determine the quantity of onsite water supply, fire flow requirements and spacing and installation of hydrants in accordance with the standards of the agency responsible for fire protection for the site proposed for development.

### ***County of San Mateo Green Building Ordinance***

On February 26th 2008, the San Mateo County Board of Supervisors approved a Green Building Ordinance that will apply to building projects within the unincorporated areas of San Mateo County. On October 7, 2008 the Board of Supervisors adopted an ordinance amending the regulations clarifying standards and requirements to improve the effectiveness of the Green Building Program. The purpose of the Green Building Program is to enhance public health and welfare by encouraging green building measures in the design, building and maintenance of buildings. Green Building Practices are intended to: (a) encourage the conservation of natural resources; (b) reduce waste in landfills generated by construction projects; (c) increase energy efficiency and lower energy usage; (d) reduce operating and maintenance costs for buildings; and (e) promote a healthier indoor environment.

### ***San Mateo County Local Agency Formation Commission***

The project site is not within the district boundaries of a domestic water supplier, which would require annexation via Local Agency Formation Commission (LAFCO) if the project was to receive back-up services. The project applicant proposes to connect to the CCWD for emergency water supply and fire flow. This proposed annexation to CCWD would require review and approval by LAFCO and approval of amendments to the Coastal Development Permits for the El Granada Pipeline replacement project. Any temporary or permanent extension of water services outside of the service boundary as defined on January 1, 2003 would require amendments to Coastal Development Permits A-1-HMB-99-20 and A-2-SMC-99-63 as well as amendment(s) to the County of San Mateo and Half Moon Bay Local Coastal Plans. LAFCO annexation would require:

- Application by property owner to the San Mateo LAFCO, including a map and legal description and LAFCO and State Board of Equalization Fees;



- Adoption of a property tax exchange resolution by the Board regarding amount of property tax to be transferred between the County General Property Tax and County governed districts;
- Approval by LAFCO and recordation of certificate of completion; and
- Approval of community onsite water by the California Department of Public Health (CDPH) and wastewater systems by the Regional Water Quality Control Board (RWQCB).

## **ENVIRONMENTAL IMPACTS**

### **Thresholds of Significance**

Based on Appendix G to the CEQA Guidelines, the proposed project would have a significant environmental impact in regards to water supply if it would:

- Require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or
- Not have sufficient water supplies available to serve the project from existing entitlements and resources, or if new or expanded entitlements are needed.

### **Proposed Project**

#### ***Water Sources and Facilities***

The project proposes to meet project water demands from three sources:

##### *Onsite Well Water*

The primary source of domestic water supply would be the existing onsite agricultural well. It would be converted to provide potable water for the project, and would also continue to be used to supply a portion of the irrigation needs for wetland restoration, native plant nursery, and start-up ornamental nursery. The water used for the domestic supply would be treated with membrane micro-filtration (two 10,000 gallons per day (gpd) AMPAC Reverse Osmosis (RO) systems), followed by ultra-violet (UV) light disinfection (Trojan). One treatment unit would be located in the Storage Mechanical room on the first floor of the Wellness Center (Building 1), and the other would be located in the Communications Building at the Office Park property. For redundancy the two systems would be interconnected with a 4-inch pipe. The RO system would be fully automatic with continuous turbidity readings and alarmed shutdown. The water treatment system would remove salt, minerals, organic pollutants and pathogens. The applicant proposes water treatment to assure the quality of domestic water supply in the event that future testing reveals contaminants in the well water.

### *Recycled Wastewater*

The proposed project would recycle all wastewater for toilet flushing and irrigation. For toilet flushing the recycled water would be supplied in a separate system of water pipes (dual plumbing) in accordance with State requirements for water recycling (refer to Sewer sub-discussion). All areas receiving recycled water for irrigation would also require a piping system separate from any domestic water supply system or raw well water piping. Recycled water is expected to fulfill the bulk of irrigation needs, but could be supplemented with well water. Excess recycled water not used for toilet flushing or irrigation would be percolated into the ground via three drain fields (leach fields) on the site for groundwater recharge.

### *Annexation to CCWD*

The project proposes to annex to the CCWD for provision of water to meet fire flow requirements and as emergency back-up supply for domestic needs. The project is not presently within the CCWD service area, and would require annexation approval by San Mateo County LAFCO. The nearest CCWD main is located at Stanford Avenue and Airport Street. The proposed Wellness Center indoor swimming pool would provide supplemental, back-up storage for fire service water.

### *Facilities*

An onsite water distribution system would also be provided under the project (refer to Figures III-24 and III-25). The potable water supply would include a 6-inch waterline distribution system. This system would distribute water from the CCWD or treated groundwater for potable use. Recycled water would be distributed in a separate 6-inch waterline for irrigation and/or toilet flushing. Reduced pressure back flow preventers would be provided for all potable and CCWD connections. The potable water system for each building in the Office Park and Wellness Center would be fed by 5/8-inch diameter metered waterlines to six 1,000-gallon hydro-pneumatic tanks. The hydro-pneumatic tanks would minimize potable flow requirements to reduce the meter sizes or reduce the size of the water treatment facilities.

As mentioned previously, CCWD would provide fire service water, with the proposed Wellness Center indoor swimming pool storage serving as back-up fire service water. The fire water suppression system would be designed by a licensed Fire Suppression Engineer. The onsite fire distribution system would most likely be an 8-inch to 12-inch main at 150 pounds per square inch (psi), capable of delivering 2,000 gallons per minute (gpm) at a minimum pressure of 30 psi for 30 minutes. Booster pumps in a pump well located in the parking lot and directly powered from an emergency generator would be designed to provide supplemental fire flow. This system would provide either primary or secondary fire flow.

### ***Estimated Water Demands***

#### *Domestic Water Demand*

The estimated domestic water demand for the proposed project is 26,000 gpd for average conditions. Table IV.N-2 presents the assumptions and calculations from which this estimate is derived; based on information supplied by the applicant. As indicated, the project will serve an up to an estimated 850

people. Although there will be multiple buildings, there will be only two official connections – the Office Park and the Wellness Center. During drought periods the project proposes to ration water to reduce the average domestic water demand by about 20 percent, to approximately 21,000 gpd.

**Table IV.N-2  
Estimated Domestic Water Demand Average Conditions**

Building/Activity	Units	Unit Flow (gpd)	Number of Units	Estimated Water Demand (gpd)
<b>Office Park</b>				
Restrooms/Sinks	Employee	16	780	12,480
Other Miscellaneous <sup>1</sup>				7,500
<b>Subtotal</b>				<b>19,980</b>
<b>Rounded Subtotal</b>				<b>20,000</b>
<b>Wellness Center</b>				
Residents	Person	70	70	4,900
Dog Grooming		–	–	500
Catering and Cleaning		–	–	400
Swimming Pool Evaporation		–	–	100
<b>Subtotal</b>				<b>5,900</b>
<b>Rounded Subtotal</b>				<b>6,000</b>
<b>Overall Total</b>				<b>26,000</b>
<i>Notes:</i> gpd = gallons per day <sup>1</sup> Includes shower use at Wellness Center fitness center, light manufacturing, microfiltration reject water, etc.  Source: Facilities Plan Draft #2 (January 1, 2009) and Draft #3 (undated), and email correspondence from Scott Holmes, dated May 15, 2009.				

#### *Agricultural Irrigation Water Demand*

According to the water budget flow chart prepared by the applicant, the estimated agricultural irrigation water demand for the proposed project is 10,000 gpd. This is to supply water for approximately 9 acres of restored wetlands, and 12 acres of high yield farming. The 12-acre farming area is an adjacent/nearby parcel, not part of the project site. During drought years, the project proposes to ration water and reduce agricultural irrigation use by 80 percent, to 2,000 gpd. This is the minimum amount of irrigation needed for the project's Catering/Food Services food production.

#### *Landscape Irrigation Water Demand*

The proposed project documents (Facilities Plan<sup>24</sup>) discuss plans for irrigated landscaping; however, no estimate is provided regarding the amount of landscaping and the associated irrigation water demand. The EIR analysis assumes that landscaping would be matched to the amount of available recycled water.

<sup>24</sup> Big Wave Project, 2009, Facilities Plan: Draft #2, January 2009, provided by applicant.

### *Wastewater Recycling*

As described in the Sewer subsection, the plan for wastewater treatment proposed by the project includes the reclamation and recycling of tertiary treated wastewater for toilet flushing and onsite landscape and crop irrigation. The wastewater flows are estimated to be approximately 26,000 gpd, based on the applicant's assumption that all domestic water use would be collected and leave the building as wastewater flow. The applicant estimates that approximately 16,000 gpd (out of the 26,000 gpd total) would be recycled for toilet flushing in the Office Park and the Wellness Center buildings. This is based on the assumption that the amount of water use for toilet flushing would be 70 percent in the Office Park (14,000 gpd) and 30 percent in the Wellness Center (approximately 2,000 gpd). The remaining flow of approximately 10,000 gpd of recycled water would be available for landscape and crop irrigation, or for percolation via the three drain field (leach field) systems.

### *Net Potable Water Demand*

According to the applicant's analysis,<sup>25</sup> after subtracting the volume of water recycled for toilet flushing (16,000 gpd), the net potable water demand for the Office Park and Wellness Center would be approximately 10,000 gpd.

### *Net Demand for Onsite Water Well Production*

According to the applicant's analysis, the net demand for water well pumping would be 10,000 gpd, which is the estimated amount required to meet the net potable water demand.

### *Fire Flow*

The quantity of water necessary for fire protection varies with the type of development, occupancy, and the degree of fire hazard. The adequacy of fire flow for a given area is based on required fire flow, response distance from the existing fire station, and the Fire Marshal's judgment of needs in the area. Required fire flow is directly related to land use. The preliminary estimate of fire flow requirements for the project is 2,000 gpm, at a minimum pressure of 30 psi for 30 minutes (60,000 gallons or more). The CCWD main located at Stanford Avenue and Airport Street is capable of delivering this flow.<sup>26</sup> Onsite facilities to distribute the water for fire protection are estimated to include an 8-inch diameter main. If the onsite swimming pool will be used as a source of fire flow water, and will accommodate a storage capacity of 60,000 to 90,000 gallons and require a booster pump with capacity to deliver the above mentioned flow of 2,000 gpm through the distribution system.

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<sup>25</sup> *Big Wave Project, 2009, Facilities Plan: Draft #2 (January 2009) and Draft #3 (undated), provided by applicant.*

<sup>26</sup> *Big Wave Project, 2009, Facilities Plan: Draft #2, January 2009, provided by applicant.*

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*Water System Operations and Management*

The proposed water system would serve multiple properties and customers and would be classified as a Small Community Water System under provisions of the California Safe Drinking Water Act. As such, the water system would be regulated by the San Mateo County Environmental Health Services. The applicant would be required to submit a permit application to the County and to comply with all pertinent requirements. Among these requirements is the completion of a TMF capacity assessment to verify the ability of the water system to provide a safe and reliable drinking water for their customers. Information from the applicant<sup>27</sup> indicates that the proposed project would seek annexation into the CCWD service area and would work with CCWD on some aspects of water supply. A second obligation for the community water system would be to complete a SWAP, which is a study to identify and evaluate possible contaminating activities in the area that could affect the well water supply and corrective or preventative measures, as appropriate.

**Project Impacts and Mitigation Measures*****Impact UTIL-7 New Water Facilities or Expansion of Existing Facilities***

As part of the building permit process, the project will be required to have a fire safety engineer calculate the fire flow requirements for the project. If the tested flow is determined to be inadequate, the project would be required to increase the building fire proof rating and/or provide storage and booster pumps. The project proposes to obtain its main supply of water via an existing onsite well and annexation and connection to the CCWD as a back-up emergency domestic supply and for fire flow water service. The San Mateo County General Plan anticipates that the CCWD could serve a population of roughly double the current customer base, which would allow sufficient supply for the proposed development without requiring the CCWD to expand existing facilities or construct new facilities. The existing CCWD water main near the project site (Stanford Avenue and Airport Street) is estimated to have the capacity to deliver the necessary fire flow to the project, based on preliminary estimates of fire flow needs.<sup>28</sup> While the project has yet to apply for and gain LAFCO approval for annexation to CCWD, if annexation is approved, the impacts on existing water treatment facilities by the proposed project would be a ***less-than-significant*** impact; therefore, no mitigation measures are required.

***Impact UTIL-8 Estimation of Potable Water Demands***

According to the estimates and analysis of project water demands by the applicant,<sup>29</sup> the proposed project would require a total supply of approximately 26,000 gpd, which would include only 10,000 gpd of potable water. Recycled water for toilet flushing (16,000 gpd) would make up the balance of the 26,000 gpd domestic water use. The 10,000 gpd of potable water is intended to be supplied by the existing on-

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<sup>27</sup> *Big Wave Project, 2009, Facilities Plan: Draft #2 (January 2009) and Draft #3 (undated), provided by applicant.*

<sup>28</sup> *Big Wave Project, 2009, Facilities Plan: Draft#2, January 2009, provided by applicant.*

<sup>29</sup> *Big Wave Project, 2009, Facilities Plan: Draft #2, January 2009 and Draft #3 (undated), provided by applicant.*

site well, pumping at roughly the same annual production rate as for recent agricultural irrigation uses at the site. Questa Engineering Corporation's review indicates inconsistencies in applicant's assumptions that significantly affect the calculated net potable water demand for the project:

1. The applicant estimates that 70 percent of the 20,000 gpd water use at the Office Park (i.e., 14,000 gpd) would be for toilet flushing, which can be supplied by recycled water. However, the water demand estimates only indicate that a total flow of approximately 12,500 gpd would be for restroom use (780 employees at 16 gpd per employee). The balance of the water use assigned to the Office Park is for Miscellaneous (showers, light manufacturing uses, water treatment reject). It is possible that up to 70 percent of the restroom use may be for toilet flushing; giving a potential recycled water use rate of 8,750 gpd for the Office Park, rather than 14,000 gpd.
2. The applicant estimates that 30 percent of the 6,000 gpd water use at the Wellness Center (approximately 2,000 gpd) would be for toilet flushing that can be supplied by recycled water. However, there is insufficient information provided by the applicant to evaluate how this was determined, and whether or not it is realistic. The Wellness Center would have far fewer employees and restrooms than the Office Park. Also, it is not clear from the project documents whether or not recycled water is proposed to be supplied for toilet flushing in the residence quarters, and has been counted as part of the water recycling budget.
3. The project plans provide for the operation of a limited commercial laundry at the Wellness Center that would be available for use by residents of the Wellness Center and employees of the Office Park. The water demand estimates do not include any information indicating how or if the laundry use is accounted for in the projected flows.<sup>30</sup>

Taking into account these inconsistencies and unknowns, we estimate that the net potable water demand for the project is likely to be significantly higher than the 10,000 gpd proposed by the applicant, possibly as much as 16,000 to 17,000 gpd. A pumping test in June 2009 showed the existing well to be capable of delivering a sustained flow of approximately 33 gpm with a drawdown of about 18.3 feet (from 8.2' static to 26.5'). A continuous pumping rate of 33 gpm would equate to a daily water production of approximately 47,500 gpd, which is more than ample to meet the water demands of the project. With pump operation limited to 12 hours per day, which is customary, the well would still produce about 24,000 gpd, which is more than double the applicant's estimated potable water demand of 10,000 gpd. The existing well capacity would also be sufficient to meet an anticipated higher net water demand. This represents a *less-than-significant* impact.

#### ***Impact UTIL-9 Adequacy of Onsite Water Well***

The applicant proposes to extend the existing 20-foot well seal to 50 feet to meet requirements for a community water well, which will alter the hydraulic characteristics of the well. Specifically, half of the

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<sup>30</sup> Big Wave Project, 2009, Facilities Plan: Draft #2 (January 2009), Draft #3 (undated), and email correspondence from Scott Holmes, dated May 15, 2009.

existing well screen (from 20 to 50 feet) will be sealed off, leaving the screened sections only between 50 to 60 feet, and from 80 to 100 feet. This will materially alter the production capacity of the well, such that the results of the recently completed pumping test are no longer valid. The production capacity of the existing onsite well would be expected to decline. Consequently, the EIR assumes that a repeat pumping test will be required by the County for the modified well to document its adequacy to meet project water demands. It is not possible to determine whether or not the modified well will have sufficient production capacity to meet project demands. However, if the modified well is found to be insufficient, the capacity could be supplemented with an additional well to meet the project demands. Review of the well log indicates suitable aquifer conditions to support the water demands for the project. The water quality for the existing onsite well is satisfactory and would not be expected to change with the proposed modification of the well seal. Provision of potable water from the onsite well represents a ***less-than-significant*** impact.

#### ***Impact UTIL-10 Water Treatment System***

The project proposes to employ a RO treatment system and UV disinfection to treat well water for the potable water supply. The treatment system has been proposed in order to assure high quality water for the project facilities, residents, employees and guests. Based on the June 2009 testing of the existing well water, the water quality is suitable for domestic-community water supply, without the need for RO treatment. The observed high levels of color, iron and manganese could be addressed with conventional water treatment methods. The proposed RO system exceeds the treatment needs for the project. Therefore, water treatment is a ***less-than-significant*** impact and no mitigation measures are needed.

### **CUMULATIVE IMPACTS**

The proposed project would obtain its domestic water supply entirely from an onsite well rather than from the CCWD public water supply. The project proposes to connect to the CCWD solely for the purposes of providing fire protection, which would not amount to a significant annual water demand. Therefore, the project would not have a cumulative effect that would diminish the availability of water supply for other projects in CCWD service area. Cumulative water supply impacts would be ***less than significant***.

### **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

Impacts to water supply created by the proposed project would be ***less than significant*** after mitigation.

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**IV. ENVIRONMENTAL IMPACT ANALYSIS**  
**N. UTILITIES & SERVICE SYSTEMS**  
**3. SOLID WASTE**

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**METHODOLOGY**

Potential impacts of the proposed project on solid waste services were evaluated based on the adequacy of existing and planned solid waste disposal capacity of the landfill that would serve the proposed project. Solid waste disposal associated with the operation of the proposed project was estimated using waste generation rates from studies prepared by the California Integrated Waste Management Board (CIWMB) and information provided by the San Mateo County Ordinance 04099, and Ox Mountain Sanitary Landfill. Responses from utilities and service system agencies are included in Appendix C to this DEIR. In addition, various utilities and service system policies and guidelines as defined by San Mateo County were also reviewed and considered during the project impact analysis.

**ENVIRONMENTAL SETTING**

The project site is located in an unincorporated area of San Mateo County. Solid waste generated in the project area is collected by the Seacoast Disposal Company which provides waste collection and disposal, as well as greenwaste and recycling services. Hazardous wastes may also be collected with an appointment. Seacoast Disposal is located at 2305 Palmetto Avenue, Pacifica, California 94044. Solid waste from the project area is hauled approximately five miles southeast to Ox Mountain Sanitary Landfill (Ox Mountain), located at 12310 Highway 92, Half Moon Bay, California 94019. Ox Mountain (Permit No. 41-AA-0002) is owned and operated by Allied Waste Industries, Inc. (formerly Browning-Ferris Industries or BFI) and has been operational since 1976.

Acceptable waste materials at Ox Mountain include asbestos, construction/demolition, mixed municipal, sludge (biosolids), tires and other designated materials. Ox Mountain accepts loads that consist of one of the following recyclable materials for recycling: asphalt, bricks, concrete, dirt, fines, rock, sand, soil, stone, metal, porcelain, cardboard, or untreated wood and yard waste. Since Ox Mountain does not sort material, a load with all of the above mixed together will not be recycled. However, a load with mixed aggregates only (asphalt, brick, concrete, dirt, fines, rock, sand, soil and stone) or mixed green waste only (untreated wood and yard trimmings) will be accepted for recycling. In addition to waste disposal, Ox Mountain also offers chipping and grinding facilities.

As of 2000, permitted capacity at Ox Mountain was 37.9 million cubic yards (mcy), and the permitted maximum disposal was 3,598 tons per day (TPD).<sup>31</sup> According to CIWMB, the closure date for Ox Mountain is planned for 2018. While Ox Mountain is currently in excess by approximately 6.7 mcy (17.8 percent) of its total permitted capacity, it continues to accept waste as the landfill gradually settles and

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<sup>31</sup> California Integrated Waste Management Board, *Facility/Site Summary Details: Ox Mountain Sanitary Landfill (41-AA-0002)*. Available: <http://www.ciwmb.ca.gov/SWIS/41-AA-0002/Detail/>. Accessed by CAJA Staff on June 9, 2009.

new space becomes available. In 2007, the landfill averaged less than 1,906 TPD.<sup>32</sup> The limitation is 178 round trips, made by transfer trucks, per day.

### **Residential and Non-Residential Solid Waste Generation**

Solid waste is generated by industrial, commercial, institutional, residential, and other types of land uses. In the unincorporated portions of San Mateo County in 2007, the residential waste stream accounted for 23 percent of the total waste stream with the remaining 77 percent generated by nonresidential sources.<sup>33</sup>

## **REGULATORY SETTING**

### **Federal and State**

#### ***Integrated Waste Management Act of 1989***

Two pieces of legislation (AB 939 and SB 1322) signed into law as the Integrated Waste Management Act of 1989 created and shaped the authority and responsibility of the CIWMB. The Act was enacted to reduce, recycle, and reuse solid waste generated in the State, the centerpiece of which mandated goals of 25 percent diversion of each city's and county's waste from disposal by 1995, and 50 percent diversion in 2000, along with a process to ensure environmentally safe disposal of waste that could not be diverted. AB 939 requires counties to prepare a Countywide Integrated Waste Management Plan (CIWMP). An adequate CIWMP contains a summary plan that includes: goals and objectives; a summary of waste management issues and problems identified in the incorporated and unincorporated areas of the county; a summary of waste management programs and infrastructure; information about existing and proposed solid waste facilities; and an overview of specific steps that will be taken to achieve the goals outlined in the components of the CIWMP. All jurisdictions within the State were required to reach a 50 percent diversion rate by the year 2000 or be subject to a \$10,000/day fine. The diversion rate of the waste stream from landfill in 2006 for unincorporated areas in the County was 64 percent.

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<sup>32</sup> California Integrated Waste Management Board, 2007 Landfill Summary Tonnage Report. Available: <http://www.ciwmb.ca.gov/Landfills/Tonnage>. Accessed by CAJA Staff on June 15, 2009. Ox Mountain Sanitary Landfill reported 695,680 tons collected for 2007. Tonnage per day was calculated by dividing 695,680 tons by 365 days a year, resulting in approximately 1,906 tons per day.

<sup>33</sup> California Integrated Waste Management Board, Jurisdictional Profile for Unincorporated San Mateo County. Available: <http://www.ciwmb.ca.gov/Profiles/Juris/JurProfile1.asp?RG=U&JURID=455&JUR=San+Mateo-Unincorporated>. Accessed by CAJA Staff on June 5, 2009.

**Local*****County of San Mateo 1986 General Plan***

The General Plan contains the following policies related to solid waste that are applicable to the proposed project:

*Solid Waste (Chapter 13)***13.1 Management of Solid Waste Disposal**

Provide management of solid waste in the most efficient and economical manner which will provide adequate services, protect the public health, prevent the creation of nuisances, reduce waste generation and provide for maximum resource recovery.

**13.4 Maximize Energy Conservation**

Manage solid waste in such a way as to maximize energy conservation.

**13.5 Minimize Dependence on Landfills**

Reduce to a minimum the dependence on landfills by promoting recycling, resource recovery and reduction of residential and commercial wastes.

**13.10 Long-Term Landfill Disposal Capability**

Provide long-term landfill disposal capability for non-renewable wastes and residues from resource recovery operations.

**13.23 Promoting Curbside Recycling**

Promote the establishment of curbside recycling programs as a means to increase recycling.

**13.25 Locating Rubbish Collection Points**

Consider permitting the placement of receptacles for recyclables within appropriate residential and commercial areas.

***County of San Mateo Green Building Ordinance***

On February 26, 2008, the San Mateo County Board of Supervisors approved a Green Building Ordinance that will apply to building projects within the unincorporated areas of San Mateo County. On October 7, 2008 the Board of Supervisors adopted an ordinance amending the regulations, clarifying standards and requirements to improve the effectiveness of the Green Building Program. The purpose of the Green Building Program is to enhance public health and welfare by encouraging green building

measures in the design, building and maintenance of buildings. Green Building Practices are intended to achieve the following goals:

- Encourage the conservation of natural resources.
- Reduce waste in landfills generated by construction projects.
- Increase energy efficiency and lower energy usage.
- Reduce operating and maintenance costs for buildings.
- Promote a healthier indoor environment.

### **County of San Mateo Ordinance No. 04099**

On February 26, 2002, the San Mateo County Board of Supervisors adopted Ordinance No. 04099 that will apply to construction and demolition projects within the unincorporated areas of San Mateo County.<sup>34</sup> The purpose of this ordinance is to promote the reduction of solid waste and reduce the stream of solid waste going to landfills. A Waste Management Plan (WMP) is necessary to demonstrate compliance with County Ordinance 04099 that requires covered projects to salvage, reuse or recycle 100 percent of inert solids (asphalt, brick, concrete, dirt, fines, rock, sand, soil, and stone) and at least 50 percent of the remaining construction and demolition debris generated by the project.<sup>35</sup> A WMP is required if your project consists of one or more of the following:

1. Demolition work only, where the cost of the work exceeds \$5,000 as determined by the Building Official.
2. The renovation, remodel or addition to an existing structure or the construction of a new structure where the cost of the work exceeds \$250,000 as determined by the Building Official.
3. Any new structure that is equal to or greater than 2,000 square feet.

## **ENVIRONMENTAL IMPACTS**

### **Thresholds of Significance**

Based on Appendix G to the CEQA Guidelines and the Regulatory Setting requirements, the proposed project would have a significant environmental impact if it would:

- be served by a landfill (i.e., Ox Mountain Landfill) with insufficient permitted capacity to accommodate the project's solid waste disposal needs; or

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<sup>34</sup> *San Mateo County RecycleWorks, County of San Mateo Ordinance No. 04099. Available: [http://www.recycleworks.org/con\\_dem/or\\_04099.html](http://www.recycleworks.org/con_dem/or_04099.html). Accessed by CAJA Staff on June 5, 2009.*

<sup>35</sup> *San Mateo County RecycleWorks. How to Prepare a Waste Management Plan (WMP). Available: [http://www.recycleworks.org/con\\_dem/ordinance\\_condem.html](http://www.recycleworks.org/con_dem/ordinance_condem.html). Accessed by CAJA Staff June 8, 2009.*

- not comply with federal, state, and/or local statutes and regulations related to solid waste.

### **Proposed Project**

The project proposes to design an environmentally sustainable community; all buildings and development would be designed with numerous components that meet Platinum-level Leadership in Energy and Environmental Design (LEED) certified construction. The LEED Green Building Rating System is a third party certification program and the nationally accepted (approved by the United States Green Building Council) benchmark for the design, construction and operation of high performance green buildings. Sustainable building reduces the impact on natural resources, conserves energy and water, offers better indoor environments, improves air quality, and decreases waste disposal. Refer to Section III (Project Description) of this DEIR for a list of development standards the project proposes to implement for qualification with LEED certification. As part of LEED certification, the project proposes to recycle over 50 percent of the construction waste, with an ultimate goal of 75 percent. In addition, the project proposes to use recycled materials to construct buildings (i.e., use at least 1 percent with a goal of 20 percent, and use approximately 20 percent of crushed recycled concrete for base rock).

To meet the provisions of AB 939, the project, once operational, proposes to purchase recyclable materials and supplies, and to recycle a minimum of 50 percent of its solid waste, with a goal to recycle 95 percent of its solid waste. The proposed project would provide onsite recycling services; both the Office Park and the Wellness Center would have sorting/recycling centers for plastic, paper, glass, cans and metal, which could be collected by Seacoast Disposal. The project would also develop a composting program for all food, shredded paper and yard waste; the compost would be applied as a soil amendment in the farming and/or landscaping operations. Additionally, the proposed wastewater treatment plant would generate approximately 10 pounds of dry solids per day (50 pounds of wet solids, or about 450 gallons of liquid sludge, 12 percent solids); these biosolids would be composted and recycled agriculturally or hauled to Ox Mountain.

Federal, state, and local regulations concerning management and disposal of hazardous substances are analyzed in Section IV.G (Hazards and Hazardous Materials) of this DEIR.

### **Project Impacts and Mitigation Measures**

Implementation of the proposed project would result in an increase in solid waste generation during both the short-term construction phase and long-term operational phase; however, the maximum amount of materials would be diverted in all phases per San Mateo's Ordinance No. 04099 and the Green Building Ordinance.

***Impact UTIL-11 Be Served by a Landfill with Insufficient Permitted Capacity to Accommodate the Project's Solid Waste Disposal Needs***

*Construction Phase*

The construction phase of the proposed project would generate debris in the form of wood, scrap metal, asphalt/concrete, dry wall, plastics, roofing, green waste, and other miscellaneous and composite materials. Much of the solid waste generated during the construction phase would be recycled and salvaged to the maximum extent feasible. County Ordinance Code 04099 requires all major construction projects to submit a Waste Management Plan to the County. This plan requires identifying that 100 percent of inert solids (e.g., asphalt, brick, concrete, dirt, fines, rock, sand, soil and stone) must be recycled or salvaged, and 50 percent of non-inert debris (e.g., wood, metal, roofing, etc.) must be recycled or salvaged. Materials can either be separated onsite and hauled as clean loads to appropriate recycling facilities or combined and taken to an approved recycling facility.<sup>36</sup> The plan must also describe how the debris would be transported from the site. County Ordinance No. 04099 makes approval and acceptance of the Waste Management Plan a requirement for issuance of a building permit.

Construction materials not recycled would be disposed of at local landfills. Provided the project conforms to County Ordinance No. 04099, impacts to landfill and solid waste services associated with the short-term generation of solid waste during project construction would be ***less than significant***.

*Operational Phase*

The site is currently in agricultural use and produces a negligible amount solid waste. Implementation of the proposed project would result in an on-going generation of solid waste throughout the lifespan of the project. The project consists of two components, a Wellness Center and an Office Park. As illustrated below in Table IV.N-3 (Proposed Project Operational Solid Waste Generation), upon completion and full occupancy of the proposed project, the mixed uses (residential, commercial, light industrial, recreation, and wastewater treatment) are expected to generate approximately 1,811 pounds of solid waste per day, or approximately 0.905 tons per day (TPD).

According to the CIWMB's 2006 Diversion Rate Report for Unincorporated San Mateo County, solid waste generation amounts to 123,841 tons per year. For the region's solid waste generation, residential uses account for approximately 23 percent (28,483 tons/year) and non-residential uses account for the remaining 77 percent (95,358 tons/year). The proposed project is anticipated to generate approximately 2.4 pounds of solid waste per resident per day.

As mentioned above, the project area is served by Ox Mountain and solid waste generated by the project is anticipated to be hauled to Ox Mountain. In 2007, Ox Mountain took in approximately 1,906 TPD and has capacity to take in 3,598 TPD. This translates into a remaining capacity of 1,692 TPD that can be potentially taken in by the Ox Mountain Landfill.

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<sup>36</sup> A searchable database of where to recycle certain items is provided by RecycleWorks, a program of San Mateo County. Available at: <http://www.recycleworks.org/cgi-bin/bin/user/searchdatabases.pl>.

**Table IV.N-3  
Proposed Project Operational Solid Waste Generation**

Land Use	Size (units or square feet)	Generation Rate <sup>1</sup>	Solid Waste Generation (pounds/day)
<b>Wellness Center</b>			
Residential Development	70 units <sup>2</sup>	2.4 pounds/unit/day	168
Offices and Meeting Rooms	8,504.4 sf	6 pounds/1,000 sf/day	51
Common areas (dining room, theatre, and living room) <sup>3</sup>	9,548.8 sf	5 pounds/1,000 sf/day	48
Community Center (pool, men and women's locker rooms, and fitness rooms) <sup>3</sup>	5,326.0 sf	5 pounds/1,000 sf/day	27
Services (kitchen, dog grooming, laundry, maintenance/janitorial, and pool equipment room) <sup>3</sup>	4,467.2 sf	5 pounds/1,000 sf/day	22
Non Solid Waste Generation (lobby, hallways, and elevators/stairs)	9,257.0 sf	N/A	N/A
Storage Building <sup>4</sup>	20,000 sf	5 pounds/1,000 sf/day	100
<b>Total Wellness Center Generation</b>			<b>421</b>
<b>Office Park</b>			
General Offices	90,000 sf	6 pounds/1,000 sf/day	540
Research and Development <sup>5</sup>	56,250 sf	7 pounds/1,000 sf/day	394
Storage <sup>4</sup>	33,750 sf	5 pounds/1,000 sf/day	169
Light Manufacturing <sup>6</sup>	45,000 sf	6 pounds/1,000 sf/day	270
Communications Building <sup>7</sup>	2,000 sf	6 pounds/1,000 sf/day	12
<b>Total Office Park Generation</b>			<b>1,385</b>
<b>Wastewater Treatment Facility</b>	Sludge (biosolids)	10 pounds/day	10
<b>Total Project Solid Waste Generation</b>			<b>1,811</b>
<p>Notes:</p> <p>sf: square feet N/A: not applicable</p> <p>(1) All Generation Rates, except for the Residential Development, are estimated by using the City of Los Angeles Bureau of Sanitation's Solid Waste Generation Rates. The Generation Rate for the project's Residential Development (70 units for 70 individuals) is calculated by translating Unincorporated San Mateo County's residential generated solid waste tonnage (23% of total 2006 tonnage) to pounds/person/day. This is carried out as follows: 28,483 tons/year converts to 56,966,000 pounds/year, divided by 365 days converts to 156,071 pounds/day, divided by 64,955 persons (2006 population), equaling 2.4 pounds/person/day.</p> <p>(2) The residential unit configurations may vary; however for the DEIR impact analysis, a worst case scenario of a maximum of 70 residential units with 70 residents/staff is used.</p> <p>(3) Calculation assumes retail/commercial rate.</p> <p>(4) Calculation assumes warehouse rate.</p> <p>(5) Calculation assumes medical/dental office rate.</p> <p>(6) Calculation assumes industrial rate.</p> <p>(7) Calculation assumes office rate.</p> <p>Source (generation rates): City of Los Angeles Bureau of Sanitation Solid Waste Generation Rates (1981). Source (table): Christopher A. Joseph &amp; Associates, June 2009.</p>			

With an anticipated average daily solid waste generation of approximately 0.905 TPD, the proposed project would represent approximately 0.06 percent<sup>37</sup> of the remaining capacity that can be taken in daily by Ox Mountain. As stated above, while the Ox Mountain landfill is currently in excess of its total permitted capacity, it continues to accept waste as the landfill gradually settles and new space becomes available. Ox Mountain has sufficient capacity to meet the solid waste service demands of the proposed project. The proposed project would comply with all applicable County policies and ordinances (e.g., Green Building Ordinance). Implementation of the proposed project would result in a negligible increase in solid waste on a regional scale, and thus would not significantly impact available landfill capacity. The proposed project would not result in the need for additional waste collection routes or recycling or disposal facilities. Therefore, impacts associated with solid waste service during operation of the project would be *less than significant*.

Although impacts were found to be less than significant, the following recommended mitigation measure would further reduce any adverse solid waste impacts.

***Mitigation Measure UTIL-11 Be Served by a Landfill with Insufficient Permitted Capacity to Accommodate the Project's Solid Waste Disposal Needs***

- To facilitate onsite separation and recycling of construction-related wastes, the contractor(s) shall provide temporary waste separation bins onsite during construction. These bins shall be emptied and recycled accordingly as a part of the project's regular solid waste disposal program.
- The applicant shall prepare and submit a facility recycling program for the collection and loading of recyclable materials prepared in response to the California Solid Waste Reuse and Recycling Access Act of 1991 as described by the CIWMB, Model Ordinance, Relating to Areas for Collecting and Loading Recyclable Materials in Development Projects, March 31, 1993. Adequate space or enclosures for recycling bins shall be provided at appropriate locations to promote recycling of paper, metal, glass, and other recyclable material.

***Impact UTIL-12 Comply with Federal, State, and Local Statutes and Regulations Related to Solid Waste***

The California Integrated Waste Management Act of 1989 was enacted to reduce, recycle, and reuse solid waste generated in the State to the maximum extent feasible and requires city and county jurisdictions to identify an implementation schedule to divert 50 percent of the total waste stream from landfill disposal by the year 2000. As discussed above, unincorporated areas in the County are currently diverting 64 percent of the waste stream from landfill. The proposed project would comply with the California Integrated Waste Management Act, as well as the other regulations described in the Regulatory Setting section. Therefore, impacts associated compliance with statutes and regulations related to solid waste would be *less than significant* and no mitigation measures are required.

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<sup>37</sup> Percentage calculated using the proposed project's daily generation rate (0.905) divided by Ox Mountain Landfill capacity (1,692 TPD).



## CUMULATIVE IMPACTS

Implementation of the project in combination with the 37 related projects (see Table III-1, Related Projects) would further increase the generation of solid waste. Seven of the 37 related projects are located in unincorporated San Mateo County and would therefore be subject to the provisions of County Ordinance Code 04099, requiring creation and implementation of a Waste Management Plan as a condition for issuance of a building permit. As shown in Table IV.N-4 below, the proposed project and related projects would generate approximately 13,022 pounds of solid waste per day, or approximately 6.5 TPD.

**Table IV.N-4  
Estimated Average Daily Cumulative Solid Waste Generation  
for Proposed Project and Related Projects**

Related Project No.	Land Use	Size (units or square feet)	Average Daily Generation Rate	Total Average (pounds/day)
1	Commercial	3,450 sf	5 pounds/1,000 sf/day	17
2	Commercial	3,425 sf	5 pounds/1,000 sf/day	16
3	Industrial	3,155 sf	6 pounds/1,000 sf/day	19
4	Commercial	17,147 sf	5 pounds/1,000 sf/day	86
5	Mixed-use	1,622 sf	N/A	N/A
6	Mixed-use	2,374 sf	N/A	N/A
7	Commercial/ Industrial	1,982 sf	6 pounds/1,000 sf/day	12
8	Mixed-use	5 units <sup>1</sup> 8,609 sf	10 pounds/unit/day N/A	50 N/A
9	Mixed-use	23 units <sup>1</sup> 40+ acres 10,000 sf	10 pounds/unit/day N/A N/A	230 N/A N/A
10	Commercial	33,594 sf	5 pounds/1,000 sf/day	168
11	Commercial	13,870 sf	5 pounds/1,000 sf/day	69
12	Mixed-use	63 condos 22,670 sf	4 pounds/unit/day N/A	252 N/A
13	Mixed-use	2 retail 3 residential <sup>1</sup> 6,000 sf	N/A 10 pounds/unit/day N/A	N/A 30 N/A
14	Residential	43 units <sup>1</sup> 4.2 acres	10 pounds/unit/day N/A	430 N/A
15	Residential	5 single family homes	10 pounds/unit/day	50
16	Residential	11 single family homes 10,061-22,760 sf	10 pounds/unit/day N/A	110 N/A
17	Residential	8 town homes 1 acre	4 pounds/unit/day N/A	32 N/A
18	Residential	7 lots <sup>1</sup> 12,806-36,677 sf	10 pounds/unit/day N/A	70 N/A
19	Residential	9 units 30,698 sf	10 pounds/unit/day N/A	90 N/A
20	Residential	95 units 10.45 acres	10 pounds/unit/day N/A	950 N/A
21	Residential	7 units 53,418 sf	10 pounds/unit/day N/A	70 N/A
22	Residential	29 units 11 acres	10 pounds/unit/day N/A	290 N/A

**Table IV.N-4  
Estimated Average Daily Cumulative Solid Waste Generation  
for Proposed Project and Related Projects**

<b>Related Project No.</b>	<b>Land Use</b>	<b>Size (units or square feet)</b>	<b>Average Daily Generation Rate</b>	<b>Total Average (pounds/day)</b>
23	Residential	13 lots <sup>1</sup> 65+ acres	10 pounds/unit/day N/A	130 N/A
24	Residential	8 lots <sup>1</sup> 13.9 acres	10 pounds/unit/day N/A	80 N/A
25	Residential	510 apartment units	4 pounds/unit/day	2,040
26	Mixed-use	24 single family homes 3 acres	10 pounds/unit/day N/A	240 N/A
27	Residential	16 town homes	4 pounds/unit/day	64
28	Residential	350 residential units	10 pounds/unit/day	3,500
29	Residential	70 single family homes	10 pounds/unit/day	700
30	Mixed-use	48 condominium units 14,650 sf retail	4 pounds/unit/day 5 pounds/1,000 sf/day	192 73
31	Commercial	12,250 sf retail building	5 pounds/1,000 sf/day	61
32	Residential	14 single family homes	10 pounds/unit/day	140
33	Residential	63 single family homes	10 pounds/unit/day	630
34	Park Use	24 acres	N/A	N/A
35	Residential	32 single family homes 7.95 acres	10 pounds/unit/day N/A	320 N/A
36	Residential	50 acres	N/A	N/A
37	Residential	20 acres	N/A	N/A
<b>Related Projects Total</b>				<b>11,211</b>
<b>Net Project Total</b>				<b>1,811</b>
<b>Cumulative Net Total (Related Projects Total + Net Project Total)</b>				<b>13,022</b>
<i>Notes: sf: square feet N/A: not available (1) Calculation assumes single-family residential.</i>				
<i>Source (generation rates): City of Los Angeles Bureau of Sanitation Solid Waste Generation Rates (1981). Source (table): Christopher A. Joseph &amp; Associates, June 2009.</i>				

As noted above, a remaining capacity of 1,692 TPD can be taken in by the Ox Mountain Landfill. The proposed project and related projects are anticipated to generate approximately 6.5 TPD of solid waste, which would represent approximately 0.38 percent<sup>38</sup> of the remaining capacity that can be taken in daily by the Ox Mountain Landfill.

Future development projects within the County would be subject to the provisions of County Ordinance Code 04099. County-wide recycling and diversion efforts would also be expected to partially offset the incremental cumulative solid waste generation as much as is feasible. Cumulative increases in solid waste would be within the excess capacity currently available and projected to be available at Ox Mountain Landfill. Therefore, cumulative impacts associated with solid waste would be *less than significant*.

<sup>38</sup> Percentage calculated using the cumulative net total's daily generation rate (6.5 TPD) divided by Ox Mountain Landfill capacity (1,692 TPD).

## LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts to solid waste services created by the proposed project would be *less than significant*.

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**IV. ENVIRONMENTAL IMPACT ANALYSIS**  
**N. UTILITIES & SERVICE SYSTEMS**  
**4. ENERGY**

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**METHODOLOGY**

The environmental impacts of the proposed project with respect to natural gas and electricity are determined based on the proposed increase in demand and the capacity of existing and proposed distribution infrastructure. The existing natural gas and electricity demand is compared to the proposed project's demand and infrastructure capacity, including improvements and energy efficiency standards associated with the proposed project. Natural gas and electricity consumption is estimated based on consumption rates provided by the South Coast Air Quality Management District (SCAQMD) CEQA Air Quality Handbook, Tables A9-12-A and A9-11-A, 1993, respectively. Potential project impacts related to energy were evaluated based on the adequacy of existing and planned energy production facilities that would serve the proposed project.

**ENVIRONMENTAL SETTING**

The Pacific Gas and Electric Company (PG&E) provides natural gas and electricity to unincorporated San Mateo County through existing infrastructure. Natural gas is provided in accordance with PG&E's policies and extension rules on file with the California Public Utilities Commission (CPUC) at the time contractual agreements are made. In 2007, the State of California produced approximately 12.9 percent of the natural gas it uses. The remaining natural gas is obtained from sources outside the State, including the Southwest, Canada, and the Rocky Mountain area. The largest user of natural gas is electricity generation, using about half of all natural gas in the State. The predicted availability of natural gas is based upon present conditions of gas supply and regulatory policies. As a public utility, PG&E is under the jurisdiction of the CPUC, but can also be affected by actions of federal regulatory agencies. Should these agencies take any action that affects gas supply or the conditions under which the service is available, gas service would be provided in accordance with those revised conditions. Additionally, PG&E obtains electricity from various generating sources that utilize coal, nuclear, natural gas, hydroelectric, and renewable resources to generate power. In 2007, the State of California produced approximately 69.5 percent of the electricity it uses. The remaining electricity is obtained from sources outside the State, including the Southwest and the Pacific Northwest.

PG&E currently provides natural gas and electricity to the project area. The proposed project would have access to existing infrastructure; electrical power is fed through a 12 kilovolt (kV) line that passes through the project site, and natural gas lines run along Airport Street. The project site is currently undeveloped; energy consumption associated with the site's existing agricultural use is minimal.

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## REGULATORY SETTING

### Federal

#### *Federal Energy Regulatory Commission*

The Federal Energy Regulatory Commission (FERC)<sup>39</sup> is an independent agency that regulates the interstate transmission of natural gas, oil, and electricity. FERC also reviews proposals to build liquefied natural gas (LNG) terminals and interstate natural gas pipelines. Additionally, FERC is responsible for licensing hydropower projects. In regards to natural gas and electricity, FERC:

- regulates the transmission and sale of natural gas for resale in interstate commerce.
- regulates the transmission and wholesale sales of electricity in interstate commerce.
- licenses and inspects private, municipal, and state hydroelectric projects.
- approves the siting and abandonment of interstate natural gas pipelines and storage facilities, and ensures the safe operation and reliability of proposed and operating LNG terminals.
- ensures the reliability of high voltage interstate transmission system.
- monitors and investigates energy markets.
- uses civil penalties and other means against energy organizations and individuals who violate FERC rules in the energy markets.
- oversees environmental matters related to natural gas and major electricity policy initiatives.
- administers accounting and financial reporting regulations and conduct of regulated companies.

Areas outside of FERC's responsibility are dealt with by California Public Utilities Commission (CPUC). In regards to natural gas and electricity, FERC is not responsible for:

- regulation of retail electricity and natural gas sales to consumers.
- approval for the physical construction of electric generation, transmission, or distribution facilities; except for hydropower and certain electric transmission facilities located in National interest electric transmission corridors.
- regulation of activities of the municipal power systems, federal power marketing agencies, and most rural electric cooperatives.

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<sup>39</sup> *Federal Energy Regulatory Commission, About FERC - What FERC Does [web application]. Available: <http://www.ferc.gov/about/ferc-does.asp>. Accessed by CAJA Staff on June 16, 2009.*

- regulation of nuclear power plants by the Nuclear Regulatory Commission.
- regulation of local distribution pipelines of natural gas.
- development and operation of natural gas vehicles.

Additionally, FERC is required by the Government Performance and Results Act (GPRA) of 1993 to develop and maintain strategic goals, to link work and resources to performance, and to monitor and report on the results to Congress and the public at large. Congress passed GPRA to increase the effectiveness and accountability of government operations and administration and to improve Congressional decision-making.

## State

### *California Public Utilities Commission*

The California Public Utilities Commission (CPUC) regulates privately owned telecommunications, electric, natural gas, water, railroad, rail transit, and passenger transportation companies, in addition to authorizing video franchises. CPUCs staff ensure that consumers have safe, reliable utility service at reasonable rates; protect against fraud; and promote the health of California's economy. The CPUC plays a key role in making California a national and international leader on a number of clean energy related initiatives and policies designed to benefit consumers, the environment, and the economy.<sup>40</sup>

The CPUC regulates natural gas utility service for approximately 10.7 million customers that receive natural gas from Pacific Gas and Electric (PG&E), Southern California Gas (SoCal Gas), San Diego Gas & Electric (SDG&E), Southwest Gas, and several smaller liquefied natural gas (LNG) utilities. The CPUC regulates the California utilities' LNG rates and LNG services, including in-State transportation over the utilities' transmission and distribution pipeline systems, storage, procurement, metering and billing. The CPUC has regulatory jurisdiction over 100,000 miles of utility-owned natural gas pipelines, which transported 78 percent of the total amount of natural gas delivered to California's gas consumers in 2005. LNG from out-of-state production basins is delivered into California via the interstate natural gas pipeline system. The five major interstate pipelines that deliver out-of-state natural gas to California consumers are the Gas Transmission Northwest Pipeline, Kern River Pipeline, Transwestern Pipeline, El Paso Pipeline, and Mojave Pipeline. While the FERC regulates the transportation of LNG on the interstate pipelines, the CPUC often participates in FERC regulatory proceedings to represent the interests of California natural gas consumers.<sup>41</sup>

California Public Utilities Commission (CPUC) Decision 95-08-038 contains the rules for the planning and construction of new transmission facilities, distribution facilities, and substations. The decision

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<sup>40</sup> *California Public Utilities Commission, About Us. Available: <http://www.cpuc.ca.gov/PUC/> [web application]. Accessed by CAJA Staff on June 16, 2009.*

<sup>41</sup> *California Public Utilities Commission, Natural Gas and California [web application]. Available: <http://www.cpuc.ca.gov/PUC/energy/Gas/natgasandCA.htm>. Accessed by CAJA Staff on June 16, 2009.*

requires permits for the construction of certain power line facilities or substations if the voltages would exceed 50 kilovolts (kV) or if the substation would require the acquisition of land or an increase in voltage rating above 50 kV. Distribution lines and substations with voltages less than 50 kV do not need to comply with this decision; however, the utility must obtain any nondiscretionary local permits required for the construction and operation of these projects. CEQA compliance is required for construction of facilities constructed in accordance with the decision.

### ***California Energy Commission***

#### *Title 24 of the California Administrative Code*

Title 24 of the California Administrative Code establishes the Energy Efficiency Standards for Residential and Nonresidential Buildings. These standards were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically by the California Energy Commission to allow consideration and possible incorporation of new energy efficiency technologies and methods. Revised Title 24 standards became effective October 1, 2005. The updated 2008 standards were adopted on April 23, 2008 and will be effective as of August 1, 2009 (dependent on when an application for a building permit is submitted).<sup>42</sup>

The energy efficiency standards regulate building energy consumption for heating, cooling, ventilation, water heating, and lighting. Title 24 may be met in one of two ways: by meeting performance criteria (measured in British thermal units (BTU) per square foot per year) or by installing a prescriptive list of energy conservation measures. Title 24 is enforced through the local building permit process.

#### *Existing Renewables Facilities Program<sup>43</sup>*

In order to help attain the California Renewable Portfolio Standard's (RPS) goal of 20 percent of retail electricity generated from renewables by 2010, the California Energy Commission has developed and currently administers renewable energy incentive programs. The goal of these programs is to establish a competitive, self-sustaining renewable energy supply for California while increasing the near-term quantity of renewable energy generated in-State. The Existing Renewable Facilities Program (ERFP) is one of several program elements within the Energy Commission's Renewable Energy Program.

The purpose of the ERFP is to allocate state funds to increase the competitiveness of existing (operational on or prior to September 26, 1996) in-state renewable generating facilities. For the purpose of the ERFP, self-sustainability refers to the ability of these facilities to continue operation without public funding by no later than December 31, 2011. The ERFP aims also to secure the environmental, economic and

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<sup>42</sup> *The California Energy Commission, California's Energy Efficiency Standards for Residential and Nonresidential Buildings, Title 24, Part 6, of the California Code of Regulations [web application]. Available: <http://www.energy.ca.gov/title24/>. Accessed by CAJA Staff on June 17, 2009.*

<sup>43</sup> *The California Energy Commission, Existing Renewables Facilities Program [web application]. Available: [http://www.energy.ca.gov/renewables/existing\\_renewables/index.html](http://www.energy.ca.gov/renewables/existing_renewables/index.html). Accessed by CAJA Staff on June 17, 2009.*



reliability benefits these facilities provide. ERFPP eligible technologies include solid-fuel biomass, solar thermal electric, and wind power.

### ***The Electric Utility Industry Restructuring Act***

The Electric Utility Industry Restructuring Act (also known as AB 1890) requires California utilities to fund Public Benefit Programs through 2011. Under the program, publicly-owned utilities are required to spend 2.85 percent of utility revenues on Public Benefit Programs. While there is wide flexibility regarding the planning and implementation of such programs, expenditures must fall under one or more of four categories: (1) cost-effective demand-side management services to promote energy-efficiency and energy conservation; (2) new investments in renewable energy technology; (3) research, development and demonstration; and (4) services provided for low-income electricity customers. The amount publicly-owned utilities must collect is tied to the lowest percentage of expenditures of the State's three investor-owned utilities. The expenditure of those funds is entirely the discretion of locally-elected governing bodies so long as the expenditures fit within one or more of the four categories

## **Regional and Local**

### ***Local Coastal Program 1998 Update***

The Local Coastal Program contains the following policy related to energy that is applicable to the project vicinity:

#### *Energy Component (Chapter 4)*

##### *Performance Standards for Protecting Adjacent Land Uses*

##### *Alternative Energy*

#### 4.42 Alternative Energy Sources

Encourage the development of non-polluting alternative energy resources including but not limited to co-generation, biomass, wind, and solar.

### ***County of San Mateo 1986 General Plan***

The General Plan does not contain any objectives, policies, or programs pertinent to the provision of natural gas and electricity service within the County.

### ***County of San Mateo Green Building Ordinance***

On February 26th 2008, the San Mateo County Board of Supervisors approved a Green Building Ordinance that will apply to building projects within the unincorporated areas of San Mateo County. On October 7, 2008 the Board of Supervisors adopted an ordinance amending the regulations clarifying standards and requirements to improve the effectiveness of the Green Building Program. The purpose of

the Green Building Program is to enhance public health and welfare by encouraging green building measures in the design, building and maintenance of buildings. Green Building Practices are intended to achieve the following goals:

- To encourage the conservation of natural resources;
- To reduce waste in landfills generated by construction projects;
- To increase energy efficiency and lower energy usage;
- To reduce operating and maintenance costs for buildings; and
- To promote a healthier indoor environment.

## **ENVIRONMENTAL IMPACTS**

### **Thresholds of Significance**

#### ***Appendix F of the State CEQA Guidelines***

In accordance with Appendix F of the CEQA Guidelines, CEQA “requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy.” For the purposes of analysis in this DEIR, the proposed project would the proposed project could have a significant environmental impact if it would:

- (a) Create wasteful, inefficient and unnecessary consumption of energy.

### **Proposed Project**

As described in detail in Section III (Project Description), the proposed project would supply a majority of energy for heating, cooling and electrical demand with renewable energy, through a combination of offsite and onsite power generation. The potential onsite power systems include solar heat, photovoltaic panels, wind generation, back up and cogeneration with a natural gas generator for peak shaving<sup>44</sup> and geothermal cooling. Passive heating and cooling would also focus on the proposed development architectural design. Buildings would be heated by either natural gas or solar power. Additionally, the electrical equipment cooling process would be a source of building heating. Natural gas fuel cells would be utilized for the backup of communications power. All buildings and development would be designed to meet Platinum-level Leadership in Energy and Environmental Design (LEED) certified construction.

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<sup>44</sup> *The practice of peak shaving is defined as follows: Power (natural gas or electricity) is purchased from a utility, and when consumption goes over a particular threshold (commonly peak-hour or peak-season demand), the peak price of service is highest. Prior to the reaching the high cost threshold, a generator is turned on and runs at full power for best performance. When the load is less than the peak price threshold (or peak demand), the generator turns off and use of the utility’s power is resumed.*

The proposed project would include up to 600 kilowatts (kW) of solar voltaic, one to three million British thermal units (BTU) per hour of solar heating, one million BTU per hour of geothermal/evaporative cooling, and up to 100 kW of wind power. The project would also own and operate up to a 600 kW natural gas engine generator designed for peak shaving and 5 kW of natural gas fuel cells for backup communications.

### **Project Impacts and Mitigation Measures**

#### ***Impact UTIL-13 The project would not create wasteful, inefficient and unnecessary consumption of energy***

As shown in Table IV.N-5, the proposed project would consume approximately 969,637 cubic feet of natural gas per month (cfm). Also, the proposed project would be anticipated to consume approximately 12,701.1 kWh of electricity per day, as shown in Table IV.N-6. This would result in an increase of onsite energy consumption over the project site's existing minimal use associated with agriculture. These calculations do not account for many of the energy conservation measures that would be included in the project and thus represent a conservative analysis (worse case scenario). As described in detail in Section III (Project Description), the proposed project would exceed Title 24 Building Code requirements. Additional project design features that would be incorporated into the project to minimize energy use include:

- Obtain Platinum LEED certification;
- Create permeable pavement with high reflectivity and porous, open grid design;
- Install solar panels on all roofs. Solar panels absorb heat energy and convert it to electricity and building heat, reducing the building and roof temperatures;
- Install wind power system;
- Install minimal outdoor lighting and paths laminated with three-foot-tall bollards;
- Provide tenant guidelines for energy efficiency and environmental protection;
- Reduce water consumption by 30 percent with recycled water used for toilets. Certify energy systems through LEED. The project goals may be as high as producing all of the buildings' energy onsite;
- Cool building geothermally and without refrigerants;
- Recycle over 50 percent of the construction waste, ultimate goal is 75 percent;
- Air condition buildings with controlled outdoor air;
- Exceed ventilation standards by 30 percent;

- Design and incorporate thermal comfort by way of opening windows and individual thermostats;
- Incorporate a minimum of 2 percent glazing on windows and light buildings with 75 percent natural daylight;
- Employ LEED accredited professionals, focusing on a certified innovative design process.

**Table IV.N-5  
Proposed Project Estimated Natural Gas Demand**

<b>Land Use</b>	<b>Size</b>	<b>Generation Rate (cubic feet/unit or square feet/month)</b>	<b>Total (cubic feet/month)</b>
<b>Wellness Center</b>			
Residential Development	70 units <sup>1</sup>	4,012	280,840
Offices and Meeting Rooms	8,504.4 sf	2	17,008
Common Areas (dining room, theatre, and living room) <sup>2</sup>	9,548.8 sf	3	28,646
Community Center (pool, men and women's locker rooms, and fitness rooms) <sup>2</sup>	5,326.0 sf	3	15,978
Services (kitchen, dog grooming, laundry, maintenance/janitorial, and pool equipment room) <sup>2</sup>	4,467.2 sf	3	13,401
Common Areas (lobby, hallways, and elevators/stairs) <sup>3</sup>	9,257.0 sf	2	18,514
Storage Building <sup>3</sup>	20,000 sf	2	40,000
<b>Total Wellness Center Generation</b>			<b>414,387</b>
<b>Office Park</b>			
General Offices	90,000 sf	2	180,000
Research and Development <sup>2</sup>	56,250 sf	3	168,750
Storage <sup>3</sup>	33,750 sf	2	67,500
Light Manufacturing <sup>2</sup>	45,000 sf	3	135,000
Communications Building <sup>3</sup>	2,000 sf	2	4,000
<b>Total Office Park Generation</b>			<b>555,250</b>
<b>Proposed Project Total</b>			<b>969,637</b>
<p>Notes:</p> <p>sf: square feet</p> <p>N/A: not applicable</p> <p>(1) The residential unit configurations may vary; however for the DEIR impact analysis, a worst case scenario of a maximum of 70 residential units with 70 residents/staff is used. Calculation assumes multi-family residential rate.</p> <p>(2) Calculation assumes retail rate.</p> <p>(3) Calculation assumes office rate.</p> <p>Source (generation rates): SCAQMD, CEQA Air Quality Handbook, Table A9-12-A, 1993.</p> <p>Source (table): Christopher A. Joseph &amp; Associates, June 2009.</p>			

**Table IV.N-6  
Proposed Project Estimated Electricity Demand**

Land Use	Size	Generation Rate (kilowatt-hours/unit or square feet/year)	Total (kilowatt-hours/day)
<b>Wellness Center</b>			
Residential Development	70 units <sup>1</sup>	5626.50	1,079.1
Offices and Meeting Rooms	8,504.4 sf	12.95	301.7
Common Areas (dining room, theatre, and living room) <sup>2</sup>	9,548.8 sf	47.45	1,241.4
Community Center (pool, men and women's locker rooms, and fitness rooms) <sup>3</sup>	5,326.0 sf	13.55	197.7
Services (kitchen, dog grooming, laundry, maintenance/janitorial, and pool equipment room) <sup>3</sup>	4,467.2 sf	13.55	165.8
Common Areas (lobby, hallways, and elevators/stairs) <sup>4</sup>	9,257.0 sf	10.50	266.3
Storage Building <sup>4</sup>	20,000 sf	10.50	575.3
<b>Total Wellness Center Generation</b>			<b>3,827.3</b>
<b>Office Park</b>			
General Offices	90,000 sf	12.95	3,193.2
Research and Development <sup>5</sup>	56,250 sf	21.70	3,344.2
Storage <sup>4</sup>	33,750 sf	10.50	970.9
Light Manufacturing <sup>4</sup>	45,000 sf	10.50	1,294.5
Communications Building <sup>6</sup>	2,000 sf	12.95	71.0
<b>Total Office Park Generation</b>			<b>8,873.8</b>
<b>Proposed Project Total</b>			<b>12,701.1</b>
Notes:			
sf: square feet			
(1) The residential unit configurations may vary; however for the DEIR impact analysis, a worst case scenario of a maximum of 70 residential units with 70 residents/staff is used. Calculation assumes residential rate.			
(2) Calculation assumes restaurant rate.			
(3) Calculation assumes retail rate.			
(4) Calculation assumes miscellaneous rate.			
(5) Calculation assumes hospital rate.			
(6) Calculation assumes office rate.			
Source (generation rates): SCAQMD, CEQA Air Quality Handbook, Table A9-11-A, 1993.			
Source (table): Christopher A. Joseph & Associates, June 2009.			

Implementation of the proposed project would not require new (offsite) natural gas or electrical supply facilities and distribution infrastructure or capacity enhancing alterations to existing facilities. Therefore, the proposed project would not result in wasteful, inefficient use or unnecessary consumption of energy and impacts would be **less than significant** and no mitigation measures are required.

## CUMULATIVE IMPACTS

### Natural Gas

Implementation of the proposed project in combination with the 37 related projects and other future cumulative growth in unincorporated San Mateo County would increase the consumption of natural gas.

As shown in Table IV.N-7 the projected cumulative increase in natural gas consumption would be approximately 78,891,34 cubic feet per month (cfm), or 78.89 million cfm.

**Table IV.N-7  
Estimated Average Monthly Cumulative Natural Gas Demand  
for Proposed Project and Related Projects**

<b>Related Project No.</b>	<b>Land Use</b>	<b>Size (units or square feet)</b>	<b>Average Monthly Generation Rate</b>	<b>Total Average (cubic feet/month)</b>
1	Commercial <sup>1</sup>	3,450 sf	3	10,350
2	Commercial	3,425 sf	3	10,275
3	Industrial <sup>2</sup>	3,155 sf	5	15,775
4	Commercial	17,147 sf	3	51,441
5	Mixed-use	1,622 sf	N/A	N/A
6	Mixed-use	2,374 sf	N/A	N/A
7	Commercial/Industrial	1,982 sf	N/A	N/A
8	Mixed-use	5 units <sup>3</sup>	4,012	20,060
		8,609 sf <sup>1</sup>	3	25,827
9	Mixed-use	23 units <sup>3</sup>	4,012	92,276
		40+ acres	N/A	N/A
		10,000 sf <sup>1</sup>	3	30,000
10	Commercial	33,594 sf	3	100,782
11	Commercial	13,870 sf	3	41,610
12	Mixed-use	63 condos <sup>3</sup>	4,012	252,756
		22,670 sf <sup>1</sup>	3	68,010
13	Mixed-use	2 retail	N/A	N/A
		3 residential	N/A	N/A
		6,000 sf	N/A	N/A
14	Residential	43 units <sup>3</sup>	4,012	172,516
		4.2 acres	N/A	N/A
15	Residential	5 single family homes <sup>4</sup>	6,665	33,325
16	Residential	11 single family homes <sup>4</sup>	6,665	73,315
		10,061-22,760 sf	N/A	N/A
17	Residential	8 town homes <sup>3</sup>	4,012	32,096
		1 acre	N/A	N/A
18	Residential	7 lots <sup>4</sup>	6,665	46,655
		12,806-36,677 sf	N/A	N/A
19	Residential	9 units <sup>3</sup>	4,012	36,108
		30,698 sf	N/A	N/A
20	Residential	95 units <sup>3</sup>	4,012	381,140
		10.45 acres	N/A	N/A
21	Residential	7 units <sup>3</sup>	4,012	28,084
		53,418 sf	N/A	N/A
22	Residential	29 units <sup>3</sup>	4,012	116,348
		11 acres	N/A	N/A
23	Residential	13 lots <sup>4</sup>	6,665	86,645
		65+ acres	N/A	N/A
24	Residential	8 lots <sup>4</sup>	6,665	53,320
		13.9 acres	N/A	N/A
25	Residential	510 apartment units <sup>3</sup>	4,012	2,046,120
26	Mixed-use	24 single family homes <sup>4</sup>	6,665	159,960
		3 acres	N/A	N/A
27	Residential	16 town homes <sup>3</sup>	4,012	64,192
28	Residential	350 residential units <sup>3</sup>	4,012	1,404,200

**Table IV.N-7  
Estimated Average Monthly Cumulative Natural Gas Demand  
for Proposed Project and Related Projects**

<b>Related Project No.</b>	<b>Land Use</b>	<b>Size (units or square feet)</b>	<b>Average Monthly Generation Rate</b>	<b>Total Average (cubic feet/month)</b>
29	Residential	70 single family homes <sup>4</sup>	6,665	466,550
30	Mixed-use	48 condominium units <sup>3</sup> 14,650 sf retail <sup>1</sup>	4,012 3	192,576 43,950
31	Commercial	12,250 sf retail building	3	36,750
32	Residential	14 single family homes <sup>4</sup>	6,665	93,310
33	Residential	63 single family homes <sup>4</sup>	6,665	419,895
34	Park Use	24 acres	N/A	N/A
35	Residential	32 single family homes <sup>4</sup> 7.95 acres	6,665 N/A	213,280 N/A
36	Residential	50 acres	N/A	N/A
37	Residential	20 acres	N/A	N/A
<b>Related Projects Total</b>				<b>6,919,497</b>
<b>Net Project Total</b>				<b>969,637</b>
<b>Cumulative Net Total (Related Projects Total + Net Project Total)</b>				<b>7,889,134</b>
<i>Notes: sf: square feet N/A: Not Available</i> (1) Calculation assumes retail rate. (2) Calculation assumes hotel rate. (3) Calculation assumes multi-family residential rate. (4) Calculation assumes single-family residential rate.  <i>Source: (generation rates): SCAQMD, CEQA Air Quality Handbook, Table A9-12-A, 1993.            Source (table): Christopher A. Joseph &amp; Associates, June 2009.</i>				

### Electricity

Implementation of the proposed project in combination with the 37 related projects and other future cumulative growth in unincorporated San Mateo County would increase the demand for electricity. This projected cumulative increase in electricity demand would be approximately 40,370.2 kWh per day, as shown in Table IV.N-8.

**Table IV.N-8  
Estimated Average Daily Cumulative Electricity Demand  
for Proposed Project and Related Projects**

<b>Related Project No.</b>	<b>Land Use</b>	<b>Size (units or square feet)</b>	<b>Average Yearly Generation Rate (kilowatt-hours/unit or square feet/year)</b>	<b>Total Daily Average (kilowatt-hours/day)</b>
1	Commercial <sup>1</sup>	3,450 sf	13.55	128.1
2	Commercial	3,425 sf	13.55	127.1
3	Industrial <sup>2</sup>	3,155 sf	9.95	86.0
4	Commercial	17,147 sf	13.55	636.6
5	Mixed-use	1,622 sf	N/A	N/A
6	Mixed-use	2,374 sf	N/A	N/A
7	Commercial/Industrial	1,982 sf	N/A	N/A
8	Mixed-use	5 units <sup>3</sup> 8,609 sf <sup>1</sup>	5,626.50 13.55	77.1 319.6
9	Mixed-use	23 units <sup>3</sup> 40+ acres 10,000 sf <sup>1</sup>	5,626.50 N/A 13.55	354.5 N/A 371.2
10	Commercial	33,594 sf	13.55	1,247.1
11	Commercial	13,870 sf	13.55	514.9
12	Mixed-use	63 condos <sup>3</sup> 22,670 sf <sup>1</sup>	5,626.50 13.55	971.1 841.6
13	Mixed-use	2 retail 3 residential 6,000 sf	N/A N/A N/A	N/A N/A N/A
14	Residential	43 units <sup>3</sup> 4.2 acres	5,626.50 N/A	662.8 N/A
15	Residential	5 single family homes	5,626.50	77.1
16	Residential	11 single family homes 10,061-22,760 sf	5,626.50 N/A	169.6 N/A
17	Residential	8 town homes <sup>3</sup> 1 acre	5,626.50 N/A	123.3 N/A
18	Residential	7 lots <sup>3</sup> 12,806-36,677 sf	5,626.50 N/A	107.9 N/A
19	Residential	9 units <sup>3</sup> 30,698 sf	5,626.50 N/A	138.7 N/A
20	Residential	95 units <sup>3</sup> 10.45 acres	5,626.50 N/A	1,464.4 N/A
21	Residential	7 units <sup>3</sup> 53,418 sf	5,626.50 N/A	107.9 N/A
22	Residential	29 units <sup>3</sup> 11 acres	5,626.50 N/A	447.0 N/A
23	Residential	13 lots <sup>3</sup> 65+ acres	5,626.50 N/A	200.4 N/A
24	Residential	8 lots <sup>3</sup> 13.9 acres	5,626.50 N/A	123.3 N/A
25	Residential	510 apartment units	5,626.50	7,861.7
26	Mixed-use	24 single family homes <sup>3</sup> 3 acres	5,626.50 N/A	370.0 N/A
27	Residential	16 town homes	5,626.50	246.6
28	Residential	350 residential units	5,626.50	5,395.3
29	Residential	70 single family homes	5,626.50	1,079.1
30	Mixed-use	48 condominium units <sup>3</sup>	5,626.50	739.9



**Table IV.N-8  
Estimated Average Daily Cumulative Electricity Demand  
for Proposed Project and Related Projects**

<b>Related Project No.</b>	<b>Land Use</b>	<b>Size (units or square feet)</b>	<b>Average Yearly Generation Rate (kilowatt-hours/unit or square feet/year)</b>	<b>Total Daily Average (kilowatt-hours/day)</b>
		14,650 sf retail <sup>1</sup>	13.55	543.9
31	Commercial <sup>1</sup>	12,250 sf retail building	13.55	454.8
32	Residential	14 single family homes	5,626.50	215.8
33	Residential	63 single family homes	5,626.50	971.1
34	Park Use	24 acres	N/A	N/A
35	Residential	32 single family homes <sup>3</sup> 7.95 acres	5,626.50 N/A	493.3 N/A
36	Residential	50 acres	N/A	N/A
37	Residential	20 acres	N/A	N/A
<b>Related Projects Total</b>				<b>27,669.1</b>
<b>Net Project Total</b>				<b>12,701.1</b>
<b>Cumulative Net Total (Related Projects Total + Net Project Total)</b>				<b>40,370.2</b>
<i>Notes: sf: square feet N/A: Not Available (1) Calculation assumes retail rate. (2) Calculation assumes hotel rate. (3) Calculation assumes residential rate.</i>				
<i>Source: Overland Traffic Consultants, Inc., May 2008; SCAQMD, CEQA Air Quality Handbook, Table A9-11-A, 1993. Source (table): Christopher A. Joseph &amp; Associates, June 2009.</i>				

Future development projects within the service area of PG&E would be subject to the locally mandated energy conservation programs. Additionally, related projects would be required to implement energy conservation measures meeting or exceeding Title 24 standards. Additionally, if any of the related projects are proposed for redevelopment, energy conservation standards have become stricter and it is likely that any increase in electricity demand would be counter-balanced by the conservation standards required of new construction. As such, the proposed project would not contribute to a cumulatively considerable effect on energy and cumulative impacts would be *less than significant*.

## **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

Energy impacts created by the proposed project would be *less than significant*.

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## V. GENERAL IMPACT CATEGORIES

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### A. SUMMARY OF SIGNIFICANT UNAVOIDABLE IMPACTS

Section 15126.2(b) of the CEQA Guidelines requires that an EIR describe any significant impacts which cannot be avoided. Specifically, Section 15126.2(b) states:

*Describe any significant impacts, including those which can be mitigated but not reduced to a level of insignificance. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reason why the project is being proposed, notwithstanding their effect, should be described.*

Based on the analysis contained in this DEIR, implementation of the proposed project would not result in any significant unavoidable environmental impacts.

### B. GROWTH INDUCING IMPACTS OF THE PROPOSED PROJECT

Section 15126.2(d) of the CEQA Guidelines requires a discussion of the ways in which a proposed action could be growth inducing. This includes ways in which the project would foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Section 15126.2(d) of the CEQA Guidelines reads as follows:

*Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.*

The proposed project includes a maximum of 70 apartment and single-story units and four, three-story buildings (225,000 square feet total) planned for mixed office use. As noted in Section IV.K (Population & Housing) of the DEIR, the proposed project would result in approximately 70 permanent residents and approximately 825 employees. The new onsite residential population and employees would likely patronize local businesses and services in the area, fostering economic growth.

It is reasonable to assume that many of the jobs at the project site would be filled by persons living in the area as opposed to people relocating to the area. Unemployment data indicates a need for local employment opportunities. Current unemployment in the area ranges from 6.7 percent in unincorporated

Half Moon Bay to 10.8 percent in nearby City of Half Moon Bay. Average unemployment for year 2008 was 3.5 percent for unincorporated Half Moon Bay, 5.8 percent for City of Half Moon Bay, and 5.5 percent for City of Pacifica.

Additionally, housing to be provided at the project site is in conformity with area plans and policies because of its emphasis on providing affordable housing for developmentally disabled persons. The Housing Element, Local Coastal Program, and Montara - Moss Beach - El Granada Community Plan include variously as part of their goals to provide affordable housing options for special needs groups including the disabled. A related goal is to provide affordable housing in areas that reduce travel time between work and home. Since the housing at the project site is fulfilling a specific need identified in the local plans, this suggests that the housing at the project site is not contributing to substantial population growth in the area.

Surrounding land uses include the Half Moon Bay Airport and County of San Mateo open space across Airport Street to the east, the El Granada Mobile Home Park adjacent to and north of the project site, the Pillar Point Marsh to the west, and the Princeton/Pillar Point Harbor industrial/commercial area adjacent to and south of the project site. The project site is served by existing roadways, utility infrastructure, and service systems. The proposed project would recycle all wastewater through onsite treatment/water recycling and for use in toilet flushing and landscaping and agricultural irrigation. All excess wastewater not recycled for irrigation or toilet flushing would be infiltrated through three drain fields and discharged into the onsite wastewater infiltration system. Proposed domestic water supply for the project would be obtained through the generation of treated water onsite via existing groundwater wells, as well as through the CCWD as an emergency back-up. Additionally, the proposed project would not require new or expanded water entitlements. Ox Mountain Landfill has sufficient capacity to meet the solid waste service demands of the proposed project. The project proposes to recycle a minimum of 50 percent of its solid waste, with a goal to recycle 95 percent of its solid waste. The proposed project would have sorting/recycling centers for plastic, paper, glass, cans and metal, which could be collected by Seacoast Disposal. The proposed project would not require the expansion of landfill capacity. Therefore, the proposed project would not foster population growth by removing an obstacle to growth.

The project site is located in an area with existing public services (i.e., police, fire protection, schools, parks and recreation and libraries). Public services to the project site and area are currently provided by the County of San Mateo Sheriff's Department, the Coastside Fire Protection District (District), the Cabrillo Unified School District (CUSD), the County of San Mateo Department of Parks and the California Department of Parks and Recreation, and the San Mateo County Library, respectively. As discussed in Section IV.L (Public Services), the residential population generated by the proposed project would result in an increased demand for the public services provided by the agencies listed above. The Sheriff's Department would not need to hire new officers to maintain the current deputy-to-population ratio and, therefore, the proposed project would not likely require any expansion, consolidation, or relocation of sheriff facilities. It is unlikely that implementation of the proposed project would require the District to construct new facilities or expand existing facilities to accommodate increased demand for fire protection service, but it is currently unknown whether existing staffing and equipment levels at the

District would be adequate to serve the proposed project. However, implementation of Mitigation Measure PS-2b would require the project applicant to submit building plans and plot plans to the County and Coastside Fire Protection District to provide appropriate fire hazard management recommendations for inclusion as project conditions of approval would mitigate this impact to a less-than-significant level. Based on Section 65996 of the California Government Code, the project applicant would be required to pay the established developer fees. The payment of such fees is deemed to fully mitigate the impacts of new development on school services. The provision of onsite open space, common areas and recreational amenities together with the payment of any required fees would be adequate to accommodate the project's demand for parks and recreational services. Therefore, the proposed project would not tax the existing community services facilities by requiring the construction of new public facilities that would cause significant environmental effects. For these reasons, the proposed project would not result in significant growth inducing impacts.

### **C. SIGNIFICANT IRREVERSIBLE CHANGES TO THE ENVIRONMENT**

Section 15126.2(c) of the State CEQA Guidelines states that significant irreversible environmental changes associated with a proposed project shall be discussed, including the following:

- (a) Uses of nonrenewable resources during the initial and continued phases of the project that may be irreversible because a large commitment of such resources makes removal or nonuse thereafter unlikely;
- (b) Primary impacts and, particularly, secondary impacts (such as highway improvement that provides access to a previously inaccessible area), which generally commit future generations to similar uses; and
- (c) Irreversible damage that could result from environmental accidents associated with the project.

Development of the proposed project would represent a long-term commitment to a more intensive land use of the project site. As described in detail in Section III (Project Description), the proposed project would supply a majority of energy for heating, cooling and electrical demand with renewable energy, through a combination of offsite and onsite power generation. The project also proposes to design an environmentally sustainable community; all buildings and development would be designed with numerous components that meet Platinum-level Leadership in Energy and Environmental Design (LEED) certified construction. The LEED Green Building Rating System is a third party certification program and the nationally accepted (approved by the United States Green Building Council) benchmark for the design, construction and operation of high performance green buildings. Sustainable building reduces the impact on natural resources, conserves energy and water, offers better indoor environments, improves air quality, and decreases waste disposal. As part of LEED certification, the project proposes to recycle over 50 percent of the construction waste, with an ultimate goal of 75 percent. In addition, the project proposes to use recycled materials to construct buildings (i.e., use at least 1 percent with a goal of 20 percent, and use approximately 20 percent of crushed recycled concrete for base rock). However, the

project would still involve an irreversible commitment to the use of non-renewable resources during the construction and operation phases.

Operation of the proposed wastewater treatment plant would involve the regular handling, use, and disposal of both hazardous materials and wastes during the course of normal operations. In addition, given that the operation of a wastewater treatment plant, even one as small as that proposed for the project, would involve the handling of raw and treated sewage and operation of tanks and storage vessels containing hazardous materials, there is a potential for these materials to be released to the environment through mishandling or an emergency situation. However, such operational issues are addressed through the established and defined federal, state, and local regulatory structure. It is expected that this structure, which includes required permits, notices of intent to operate, discharge requirements, and other related stipulations (e.g., cleaning protocols) would adequately reduce the potential for hazard exposure to future site residents, employees, the general public, and the environment to a less-than-significant level. Operation of the project could involve the use of common cleaning solvents, paints, landscape fertilizers, and pesticides typically used in a residential and commercial settings; however, this would involve the routine use, transport, or disposal of hazardous materials. Also, during project construction the project applicant would follow all applicable requirements to ensure safe use, storage and disposal of any hazardous materials or wastes that could be used. Section IV.G (Hazards and Hazardous Materials) of the DEIR also includes mitigation to ensure that the project would not result in any significant hazards to the public or the environment through the routine transport, use or disposal of hazardous materials, or through upset or accident conditions.

#### **D. IMPACTS FOUND TO BE LESS THAN SIGNIFICANT**

This subsection addresses potential environmental resources for which the proposed project would not result in significant effects. California Public Resources Code (PRC) Section 21003(f) states, "...it is the policy of the State that all persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical, and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment." This policy is reflected in the CEQA Guidelines Section 15126.2(a), "an EIR shall focus on the significant environmental effects of the proposed project" and Section 15143, "the EIR shall focus on the significant effects on the environment." Section 15128 of the CEQA Guidelines states:

*An EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR.*

Based on the analysis done for the preparation of various DEIR sections, the Lead Agency has determined that implementation of the proposed project would not result in significant environmental impacts to the environmental impact topics listed below and therefore, are not discussed in detail in Section IV (Environmental Impact Analysis) of this DEIR. (Some potential impacts are discussed in the various

sections of Section IV and were determined to be less than significant; those issues are not discussed below.)

## 1. AGRICULTURE RESOURCES

*The proposed project would not conflict with existing zoning for agricultural use or a Williamson Act Contract. A significant impact may occur if a project were to result in the conversion of land zoned for agricultural use or under a Williamson Act Contract from agricultural use to another non-agricultural use. The project site is not zoned for agricultural use and is not currently under Williamson Act contract. An agricultural preserve under the Williamson Act must consist of a parcel or contiguous parcels of no less than 100 acres; therefore the project site, which is 19.4 acres, does not meet this basic requirement for inclusion in a Williamson Act contract. Although smaller preserves may be established by local boards or councils due to unique agricultural characteristics of a site, the project site is established as Urban and Built-up Land and does not represent status farmland. There are no Williamson Act contract lands in the area surrounding the project site. The nearest Williamson Act contract lands are approximately three miles away.<sup>1</sup> Therefore, impacts would be less than significant and no further discussion is required.*

## 2. GEOLOGY/SOILS

*The proposed project would not expose people or structures to potential, substantial adverse effects, including the risk of loss, injury, or death involving landslides. Per Section IV.F (Geology & Soils), the project site is relatively flat with surface elevations ranging from 9.0 to 27.7 feet National Geodetic Vertical Datum (NGVD), with gentle slopes to the south and west. Further, pursuant to the Natural Hazards Map of the County's General Plan,<sup>2</sup> the project site is not located within the boundaries of an "Area of High Landslide Susceptibility." Additionally, there are no portions of the mapped by the California Geological Survey (CGS) in accordance with the Seismic Hazard Mapping Act as a seismically-induced landslide hazard area.<sup>3</sup> As such, the probability of seismically-induced landslides and slope instabilities affecting the project site is considered to be remote, due to the relatively flat nature of the site and surrounding area. Therefore, impacts would be less than significant and no further discussion is required.*

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<sup>1</sup> *San Mateo County Williamson Act 2006 Map, California Department of Conservation, [ftp://ftp.consrv.ca.gov/pub/dlrp/wa/Map%20and%20PDF/San%20Mateo/san\\_mateo\\_2006.pdf](ftp://ftp.consrv.ca.gov/pub/dlrp/wa/Map%20and%20PDF/San%20Mateo/san_mateo_2006.pdf).*

<sup>2</sup> *County of San Mateo, Planning & Building Department, San Mateo County General Plan, General Plan Maps, Natural Hazards, accessed by CAJA Staff at [http://www.sforoundtable.org/P&B/gp/maps/gp%20natural%20hazards%20\(11x17\).pdf](http://www.sforoundtable.org/P&B/gp/maps/gp%20natural%20hazards%20(11x17).pdf) on June 19, 2009.*

<sup>3</sup> *State of California, Department of Conservation, California Geological Survey, Seismic Hazards Zonation Program, accessed by CAJA Staff at <http://www.conservation.ca.gov/cgs/shzp/Pages/Index.aspx> on June 19, 2009.*

### 3. HAZARDS AND HAZARDOUS MATERIALS

*The project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. The closest school to the project site is the Picasso Preschool, located approximately one mile southeast of the project site in the community of El Granada. Additionally, no new schools are proposed for development in the vicinity of the project site. Therefore, impacts would be less than significant and no further discussion is required.*

*The project site is not located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment. The Phase I Environmental Site Assessment for the site, conducted by Treadwell & Rollo on March 26, 2007, determined that the project is not located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 69562.5. Therefore, impacts would be less than significant and no further discussion is required.*

*The project site would not be within the vicinity of a private airstrip, exposing people residing or working in the project area to excessive noise levels. The project site is not located within the vicinity of a private airstrip. Therefore, the proposed project would not present a safety hazard associated with private airport operations to people or property on site or in the project area, or would not present a hazard to aircraft utilizing a private airport. Therefore, impacts would be less than significant and no further discussion is required.*

### 4. MINERAL RESOURCES

*The project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. The project would not result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. According to the 1986 San Mateo County General Plan, there are no known mineral or timber resources within or near the project site. The project does not propose to remove any natural resources for commercial purposes. Therefore, no impacts are anticipated and no further discussion is required.*

### 5. NOISE

*The proposed project would not be within the vicinity of a private airstrip, exposing people residing or working in the project area to excessive noise levels. As discussed in Section V.J (Noise), the project site is not located within the vicinity of a private airstrip; therefore, the proposed project would have no impact to exposing people residing or working in the project area to excessive noise levels and no further discussion is required.*



## 6. POPULATION AND HOUSING

*The project would not displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.* The portions of the project site to be developed are currently used as agricultural farmland and do not contain any residents or housing units; therefore, the proposed project would not displace existing housing. Impacts related to displacement of housing would be less than significant and no further discussion is required.

*The project would not displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.* The portions of the project site to be developed are currently used as agricultural farmland and do not contain any residents or housing units; therefore, the proposed project would not displace substantial numbers of people. Impacts related to displacement of people would be less than significant and no further discussion is required.

## 7. TRANSPORTATION AND TRAFFIC

*The project would not exceed, either individually or cumulatively, a level of service (LOS) standard established by the county congestion management agency for designated roads or highways.* The roadway segments and intersections in the immediate vicinity of the project site are not designated roadways with established LOS standards in the County's 2007 Congestion Management Program (CMP); therefore, no monitoring or analysis of these roadways and intersections under the CMP is required. Impacts related to established level or service standards by the CMP would be less than significant and no further discussion is required.

*The project would not 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.* The proposed project does not include any aviation-related uses and would not have the potential to result in a change to air traffic patterns at nearby Half Moon Bay Airport. Therefore, impacts related to air traffic pattern changes would be less than significant and no further discussion is required.

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## VI. ALTERNATIVES TO THE PROPOSED PROJECT

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### INTRODUCTION

The CEQA Guidelines require that EIRs include the identification and evaluation of a reasonable range of alternatives that are designed to reduce the significant environmental impacts of the project while still meeting the general project objectives. The CEQA Guidelines also set forth the intent and extent of alternatives analysis to be provided in an EIR. Those considerations are discussed below.

### ALTERNATIVES TO THE PROPOSED PROJECT

Section 15126.6(a) of the CEQA Guidelines states: “An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparable merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.”

#### Purpose

Section 15126.6(b) of the CEQA Guidelines states, “Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment, the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of project objectives, or would be more costly.”

#### Significant Project Impacts<sup>1</sup>

The project impacts that would be less than significant after mitigation include the following:

- Air Quality – Construction Emissions, Objectionable Odors
- Biological Resources – Special-Status Wildlife Species
- Cultural Resources – Archaeological Resources, Paleontological Resources, and Human Remains
- Geology & Soils – Seismic-Related Ground Failure, Total and Differential Settlement, Soil Erosion or Loss of Topsoil, Expansive Soil, and Pervious Pavements

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<sup>1</sup> Refer to Table VI-1 at the end of this section.

- Hazards and Hazardous Materials – Accidental Release of Hazardous Materials, Airport Operations
- Hydrology & Water Quality – Substantially Alter Drainage Patterns, Quality of Surface Water Runoff, Degrade Groundwater Quality, and Tsunami and Seiche
- Noise – Construction-Related Noise and Construction-Related Groundborne Vibration
- Public Services – Fire Protection (Operational Impacts)
- Transportation/Traffic – Intersection LOS and Capacity, and Cumulative LOS
- Utilities & Service Systems – Wastewater Collection Capacity, Wastewater Recycling and Disposal Requirements, Wastewater and Recycling Water Flow Estimates, and Creek Crossing by Sewage Pipeline.

### **Selection of a Reasonable Range of Alternatives**

Section 15126.6(c) of the CEQA Guidelines states: “The range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency’s determination. Additional information explaining the choice of alternatives may be included in the administrative record. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts.”

### **Project Objectives**

The objectives of the proposed project are as follows:

- To create an independent, inclusive DD community of people and businesses through a privately-funded Wellness Center and Office Park. In addition to providing recurring funding for the Wellness Center, the adjacent Office Park would provide meaningful and reliable full-time and part-time employment to DD adults while providing living and employment opportunities for DD adults and benefiting the Coastside community;
- To build a profitable commercial development that is large enough to provide for the long-term sustainability of the proposed Wellness Center and Office Park by locating the Wellness Center within walking/wheelchair distance to the Office Park, and to give low-income DD residents the ability to provide services to the Office Park;
- To provide living, social, and employment services (including entrepreneurship/business-ownership) to DD adults through the development of residential, recreational, and commercial uses on donated land and via shared development costs;

- To adhere to existing zoning laws that allow for special needs residential and commercial use on the same site and allows for nearby employment opportunities and develop the project to be consistent with local General Plan goals;
- To provide for an enriched quality of life for DD residents via safe and secure homes, home ownership, healthy organic diets by building a commercial kitchen and dining room services, recreational and artistic opportunities within walking distance, continuing education, a strong sense of community pride and interaction, daily onsite assistance and commercial enterprises and job/career opportunities;
- To take advantage of existing public transportation routes to provide Wellness Center residents and non-residents access to and from the project site to reduce commute distances/times for Coastside residents by providing high-paying local jobs;
- To build aesthetically pleasing Class A office space to create local, high-paying jobs;
- To phase the construction of the four-buildings as demand and sound business practices dictate;
- To integrate environmental sustainability through a variety of specific environmental goals, including, but not limited to, a sophisticated, grid-connected solar renewable energy system to lower costs, wetlands restoration and enhanced-functioning biological habitats, alternative transportation, pollution reduction, and climate-friendly development to reduce adverse environmental impacts;
- To protect surface and ground water resources with water recycling and ground infiltration systems that minimize uncontrolled surface runoff;
- Reduce traffic congestion on SR 1 and SR 92 by offering local employment and reverse commute traffic flow;
- To provide office space and building energy-efficient solar-powered affordable housing at below market-rate and provide ownership opportunities to create local, clean, secure and monitored community-centric involvement;
- To provide leading-edge telecommunications systems for the residents of the Wellness Center and tenants of the Office Park, as well as the entire Coastside;
- To provide high-paying employment opportunities for other local Coastside residents who want to live and work in the community;
- To provide a source of financial upward mobility potential to all members of the DD community;

- To build a facility for meetings, educational/recreational opportunities working with numerous service providers and cultural longevity, emotional support, recreational opportunity and offices for housing professionals and support staff for the Coastside DD community;
- To provide space for gardens to grow organic food for consumption;
- To create covenants, deed restrictions and an independent Board of Directors to implement Big Wave's goals and objectives;
- To create a financially sustainable community that generates recurring, inflation-adjusted revenue to cover administration costs in perpetuity;
- To provide numerous meaningful job opportunities for the DD community that provide work for those that have limited skill potential, as well as those that have very high skill potential; and
- To build a community that provides meaningful volunteer activities to local high school students, college students and other interested groups.

### **Overview of Selected Alternatives**

The alternatives to be analyzed in comparison to the proposed project include:

- Alternative A: No Project Alternative
- Alternative B: Reduced Density/Height for Office Park and Reduced Size for Wellness Center
- Alternative C: Modified Office Park Site Plan Alternative 1
- Alternative D: Modified Office Park Site Plan Alternative 2

### **Alternatives Rejected as Being Infeasible**

As described above, Section 15126.6(c) of the CEQA Guidelines requires EIRs to identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process, and briefly explain the reasons underlying the lead agency's determination.

Alternatives involving different land uses such as retail, heavy industrial or institutional uses were not analyzed in the DEIR because these land uses are not principally permitted on the project site based on the County's land use designations for the two parcels that comprise the project site. Such alternative land uses would not necessarily reduce the project's significant impacts and would not meet the project objectives. An alternative involving a park or open space only at the site was not analyzed because this type of alternative would not meet the basic objectives of the project.

An alternative involving development of only one of the two sites (i.e., Wellness Center only or Office Park only on one of the two sites) was rejected as being infeasible because the economic viability of the Wellness Center relies on funding from the Office Park, including the purchase of power, water and

communications from the Wellness Center. An Office Park alternative would not meet the project objective of providing housing for the DD community.

A reduced development alternative of the Wellness Center and Office Park on the northern parcel (Office Park site) only was also rejected as being infeasible because it would not be economically viable. Specifically, Big Wave, LLC is donating the Wellness Center site to the Big Wave non-profit organization, which allows for the non-profit organization to keep housing costs low. The Wellness Center has a solid ownership commitment for the Wellness Center site. If the Big Wave non-profit organization cannot build on the Wellness Center site, they would have to purchase one-half of the developable portion of the Office Park site that would ultimately result in the units at the Wellness Center being unaffordable for lower income residents.

An alternative involving development of the Office Park at the proposed Office Park site but the Wellness Center at an offsite location on the Coastside that permits affordable housing was also considered but rejected as being infeasible. The applicant does not own any other sites on the Coastside that permit affordable housing and such an alternative also would not be financially viable, as it would require the non-profit to purchase land at market rates. Potential affordable housing sites on the Coastside include: 1) Moss Beach Highlands Site (located on Etheldore Street; APN 037-320-270); 2) Etheldore Site (located between Highway 1 and Etheldore Street; APN 037-291-010); 3) Hospital Site No. 1 (South) (located on Etheldore Street; APN 037-160-110); 4) Hospital Site No. 2 (North) (located on Etheldore Street; APN 037-160-100); 5) Farallon Vista Site (located 400 feet east of Highway 1 with access from Carlos Street); and 6) North El Granada Site (located on Sevilla Avenue). These potential affordable housing sites have various environmental constraints and thus development of the Wellness Center at such sites would not reduce all of the significant impacts associated with the project and would create new significant impacts. Specifically, the Hospital Site No. 1 and Hospital Site No. 2 are too small to accommodate the proposed Wellness Center. The Etheldore Site contains prime agricultural land over the majority of the parcel. The Etheldore Site also contains sensitive habitat and the Moss Beach Highlands Site contains wetlands and habitat for the Red-Legged Frog. The Moss Beach Highlands Site also contains slopes at or in excess of 30 percent such that development would require substantial alteration of the natural landscape as well as potential traffic and noise impacts associated with significant grading. In terms of visual constraints, some of the affordable housing sites are located along or are highly visible from Highway 1, including the Etheldore Site and the Moss Beach Highlands Site. Lastly, potable water connections are not available at both Hospital Sites. This type of alternative also would not meet some of the project objectives, particularly the objective to locate the Wellness Center within walking/wheelchair distance to the Office Park.

An alternative involving development of the entire project at an offsite location on the Coastside was rejected as being infeasible because it would not be economically viable. As discussed above, Big Wave, LLC is donating the Wellness Center site to the Big Wave non-profit organization, which allows for the non-profit organization to keep housing costs low. If the Big Wave non-profit organization cannot build on the Wellness Center site, they would have to purchase an offsite parcel, which would ultimately result in the units at the Wellness Center being unaffordable for lower income residents. An alternative site

over the hill to the east was also rejected as being infeasible because the project applicant does not own a site with similar requirements (i.e., size, zoning) to develop the proposed project and such an alternative would not be economically viable.

### **Assumptions and Methodology**

The anticipated means for implementation of the alternatives can influence the assessment and/or probability of impacts for those alternatives. For example, a project may have the potential to generate significant impacts, but considerations in project design may also afford the opportunity to avoid or reduce such impacts. The alternatives analysis is presented as a comparative analysis to the proposed project and assumes that all applicable mitigation measures proposed for the project would apply to each alternative. The following alternatives analysis compares the potential significant environmental impacts of four alternatives with those of the proposed project for each of the environmental topics analyzed in detail in Section IV (Environmental Impact Analysis) of this DEIR.

#### **A. ALTERNATIVE A (NO PROJECT ALTERNATIVE)**

As required by CEQA, this subsection analyzes a “No Project” Alternative (Alternative A). Under Alternative A, the proposed project would not be constructed, and the project site would remain in its current undeveloped condition and would continue to be used for agricultural purposes. The analysis of Alternative A assumes the continuation of existing conditions, as well as development of the related projects described in Section III.B. (Related Projects). The potential environmental impacts associated with Alternative A are described below and are compared to the significant environmental impacts associated with the proposed project.

#### ***AESTHETICS***

Under Alternative A, no grading or development would occur on the project site and the existing aesthetic characteristics would remain unchanged. There would be no impacts to scenic views, scenic resources, visual character and no new sources of light and glare on the site. Therefore, this alternative would result in no impacts related to aesthetics, compared to the project’s less-than-significant impacts related to aesthetics.

#### ***AGRICULTURE RESOURCES***

No grading or development would occur on the project site under Alternative A and existing agricultural operations would continue on the project site. Therefore, this alternative would result in no impacts related to agricultural resources, compared to the project’s less-than-significant impacts related to agricultural resources.

#### ***AIR QUALITY***

Under Alternative A, no grading or construction would occur at the site. Thus, this alternative would not generate any fugitive dust or other pollutant emissions associated with construction activities at the site.



Implementation of Alternative A would result in no air quality impacts resulting from construction activities, compared to the project's short-term, significant but mitigatable air quality impacts resulting from construction activities. Additionally, this EIR concluded that the long-term operation of the proposed project would result in less-than-significant impacts to air quality. Under Alternative A, development would not occur on the site; therefore, no new traffic trips would be generated. As such, Alternative A would not generate any pollutant emissions associated with long-term operation of a Wellness Center and Office Park and would result in no air quality impacts associated with long-term operation of a Wellness Center and Office Park, compared to the project's less-than-significant air quality impacts associated with long-term operation of the project.

### ***BIOLOGICAL RESOURCES***

Section IV.D (Biological Resources) of the DEIR identifies that the proposed project would result in less-than-significant impacts related to most of the issues areas associated with biological resources, including but not limited to: special-status plant species, sensitive natural communities, wildlife movement and habitat connectivity, and conformance with policies and ordinances related to the protection of biological resources. Given that no new development would occur on the project site under Alternative A, this alternative would result in no impacts related to each of these issue areas listed above, compared to the project's less-than-significant impacts related to each of these issue areas listed above. Alternative A would also result in no impacts related to special-status wildlife species, compared to the project's less-than-significant but mitigatable impacts related to special-status wildlife species. However, unlike the proposed project, Alternative A would not involve any restoration of the onsite wetlands.

### ***CULTURAL RESOURCES***

Under Alternative A, no ground-disturbing activities would occur beyond the current farming at the site. Since no ground-disturbing activities would occur beyond the current farming at the site under Alternative A, Alternative A would result in no impacts to historical resources, archaeological resources, paleontological resources, and human remains, compared to the project's less-than-significant impacts related to historical resources and less than significant impacts with mitigation related to archaeological resources, paleontological resources, and human remains.

### ***GEOLOGY & SOILS***

Under Alternative A, no development would occur on the site. Therefore, this alternative would result in no impacts related to fault rupture, seismic ground shaking, and other soil/geologic instabilities (i.e., seismic-related ground failure, total and differential settlement, soil erosion, expansive soil, and pervious pavements), compared to the project's less-than-significant impacts related to each of these issue areas listed above.

***HAZARDS & HAZARDOUS MATERIALS***

Because no new land uses would be built on the site and no new residents or employees would be at the site under Alternative A, this alternative would result in no impacts related to the routine use, transport and disposal of hazardous materials, compared to the project's less-than-significant impacts related to this issue area. Alternative A would also result in no impacts related to interference with emergency plans and wildfires, compared to the project's less-than-significant impacts related to interference with emergency plans, and the project's less-than-significant impacts related to wildfires. Additionally, Alternative A would result in no impacts related to the accidental release of hazardous materials, compared to the project's less-than-significant impacts with mitigation.

***HYDROLOGY & WATER QUALITY***

Under Alternative A, no development would occur on the site. Therefore, this alternative would result in no impacts related to violation of water quality standards, depletion of groundwater supply and recharge, surface water runoff quality, and flood hazards, compared to the project's less-than-significant impacts related to each of these issue areas listed above. Alternative A would also result in no impacts related to the alteration of drainage patterns, surface water runoff quality, and tsunami and seiche, compared to the project's significant but mitigatable impacts related to each of these issue areas listed above.

***LAND USE & PLANNING***

Because Alternative A would not involve any development, it would result in no impacts related to the division of an established community and conflict with plans and policies, compared to the project's less-than-significant impacts related to each of these issue areas listed above.

***NOISE***

Because Alternative A would not involve any grading or development on the project site or new vehicle trips, this alternative would result in no impacts related to construction noise, construction-related groundborne vibration, and operational traffic noise, compared to the project's less-than-significant operational noise impacts and significant but mitigatable noise impacts related to construction noise and construction-related groundborne vibration.

***POPULATION & HOUSING***

Because the project site would not be developed under Alternative A, no additional population or housing would be added to the site. Therefore, this alternative would result in no impacts related to substantial population growth and displacement of substantial population, compared to the project's less-than-significant impacts related to each of these issue areas listed above. However, a No Project scenario would not provide the project benefits of low-income housing for up to 50 DD members of the regional community.

**PUBLIC SERVICES**

**Police**

Under Alternative A, there would be no development on the project site and thus this alternative would not create additional demand for police protection services. Therefore, implementation of this alternative would result in no impacts related to police protection services, compared to the project's less-than-significant impacts related to police protection services.

**Fire Protection**

Under Alternative A, there would be no development on the project site and thus this alternative would not create additional demand for fire protection services. Therefore, implementation of this alternative would result in no impacts related to fire protection services, compared to the project's significant but mitigatable impacts related to fire protection services.

**Schools**

Under Alternative A, there would be no development of residential land uses and no additional residents and school-aged children on the project site, and thus, this alternative would not create additional demand for school services. Therefore, implementation of this alternative would result in no impacts related to school services, compared to the project's less-than-significant impacts related to school services.

**Parks & Recreation**

Under Alternative A, there would be no development of residential land uses and no additional families on the project site, and thus, this alternative would not create additional demand for parks and recreation services. Therefore, implementation of this alternative would result in no impacts related to parks and recreation, compared to the project's less-than-significant impacts related to parks and recreation.

**Libraries**

Under Alternative A, there would be no development on the project site and thus this alternative would not create additional demand for library services. Therefore, implementation of this alternative would result in no impacts related to library services, compared to the project's less-than-significant impacts related to library services.

**TRANSPORTATION/TRAFFIC**

Under Alternative A, no development on the project site would occur, and as such, no new vehicle trips would be generated. Therefore, this alternative would result in no impacts related to traffic hazards, access and onsite circulation, emergency access, parking, transit service, and pedestrian and bicycle facilities, compared to the project's less-than-significant impacts related to each of these issue areas listed above. Alternative A would also result in no impacts related to intersection LOS and capacity, and

cumulative LOS, compared to the project's significant but mitigatable impacts related to intersection LOS and capacity, and cumulative LOS.

### ***UTILITIES & SERVICE SYSTEMS***

#### ***Sewer***

Because Alternative A would not result in development on the project site this alternative would not result in generation of wastewater at the project site, and therefore no wastewater treatment plant or wastewater disposal would be needed. Thus, Alternative A would result in no impacts related to wastewater collection capacity, sanitary district regulations, wastewater recycling and disposal requirements, water flow estimates, and creek crossing by sewage pipeline, compared to the project's significant but mitigatable impacts related to the other issue areas listed above. Alternative A would also result in no impacts related to wastewater treatment and capacity, compared to the project's less-than-significant impacts related to wastewater treatment and capacity.

#### ***Water***

Because Alternative A would not result in development on the project site this alternative would not result in a demand for more water at the project site. Thus, Alternative A would result in no impacts related to new or expanded water facilities, potable water demands, adequacy of onsite water well, and water treatment system, compared to the project's less-than-significant impacts related to each of these issue areas listed above.

#### ***Solid Waste***

Because Alternative A would not result in development on the project site this alternative would not result in generation of solid waste at the project site. Thus, Alternative A would result in no impacts related to landfill capacity, compared to the project's less-than-significant impacts related to landfill capacity.

#### ***Energy***

Because Alternative A would not result in development on the project site this alternative would not require additional energy beyond what is required under existing conditions. Therefore, Alternative A would result in no impacts related to energy, compared to the project's less-than-significant impacts related to energy.

### ***RELATIONSHIP OF THE ALTERNATIVE TO THE PROJECT OBJECTIVES***

Alternative A does not meet the project objectives.

## **B. ALTERNATIVE B (REDUCED INTENSITY/HEIGHT FOR OFFICE PARK AND REDUCED DENSITY FOR WELLNESS CENTER)**

Alternative B reduces the size of the Office Park from 225,000 square feet to 186,000 square feet and reduces the height of the Office Park buildings from three stories to two stories. The 70 apartment style and single-story style units (“breezeway units”) for use by up to 50 DD residents and 20 staff members proposed for the Wellness Center would be reduced to 57 apartment style and single-story style units. The 57 units would be used and shared by up to 50 DD residents and 20 staff members. A reduced development alternative with less than 186,000 square feet for the Office Park and fewer than 57 units for the Wellness Center was rejected as being infeasible because it would not be economically viable, according to the applicant.

Except as described above, other project characteristics are assumed to be generally similar to those of the proposed project, for the purpose of analyzing Alternative B. These characteristics include but are not limited to the general location, design and building materials and colors; the specific land uses and tenant types; Platinum level LEED certification, utilities and onsite power generation; onsite farming; wetlands restoration; grading; and phasing.

The potential environmental impacts associated with this alternative are described below and are compared to the significant environmental impacts associated with the proposed project. All applicable mitigation measures recommended for the proposed project are incorporated into Alternative B.

### ***AESTHETICS***

Under Alternative B, a four-building Office Park with 39,000 fewer square feet than the project would be developed, and the height of the office buildings would be two stories instead of three. However, it should be noted that under this scenario the building footprint of each office building would increase by approximately 20 percent. Also, the number of units for the Wellness Center would be reduced from 70 to 57 as a part of Alternative B. Due to the lower height of buildings, buildings would be almost entirely screened by the proposed landscaping. Where the proposed project would have been visible from Airport Street/Stanford Avenue and Highway 1 with mature landscaping, under this scenario, the buildings would be less visible from these locations. Likewise, there would be fewer impacts to scenic resources and visual character than the project under Alternative B, all of which were found to be less than significant with implementation of the proposed project. Additionally, due to the lower height and fewer windows associated with Alternative B, there would be fewer light and glare impacts under Alternative B compared to the project, which were found to be less than significant with mitigation.

### ***AGRICULTURE RESOURCES***

The majority of the existing farming onsite would be replaced by the proposed Wellness Center and Office Park under both the project and Alternative B. However, less development would occur on the Wellness Center site under Alternative B and this alternative does include the proposed onsite farming. The project site is depicted as Urban and Built-up Land and Other Land on the Important Farmland Map

for San Mateo County. Therefore, the project site has not been designated as important farmland and development of the site would not involve conversion of important farmland. Thus, Alternative B would result in similar impacts to agriculture resources as the proposed project, which were found to be less than significant.

### ***AIR QUALITY***

Alternative B would result in less air emissions compared to the project because Alternative B involves less square footage for office and residential uses and fewer housing units, as well as a reduction in vehicle trips due to a reduction in office space. Similar to the project, Alternative B would result in significant but mitigatable impacts related to construction emissions and objectionable odors. Also similar to the proposed project, Alternative B would result in less-than-significant air quality impacts related to: consistency with Air Quality Plan, operational emissions, cumulative regional operational emissions, sensitive receptors, and greenhouse gas emissions.

### ***BIOLOGICAL RESOURCES***

Due to one fewer story for each of the four office buildings, the building footprints for these buildings would be approximately 20 percent larger than the project, resulting in less wetlands restoration compared to the project. As a result, biological resources impacts associated with Alternative B could be greater than those associated with the project. However, as less of the Wellness Center site would be developed, buffer areas between the development and the wetlands could increase. While less square footage for office and residential uses and fewer units would be built under Alternative B compared to the project, Alternative B would still result in substantial grading of the site. Specifically, like the project, Alternative B would result in less-than-significant impacts related to: special-status plant species, sensitive natural communities, wildlife movement and habitat connectivity, and conformance with policies and ordinances related to the protection of biological resources. Likewise, Alternative B would also result in significant but mitigatable impacts related to special-status wildlife species.

### ***CULTURAL RESOURCES***

Due to fewer housing units, development of the Wellness Center would avoid the cultural site on the western portion of the site, resulting in fewer impacts to cultural resources than the proposed project. However, Alternative B would still result in grading of most of the site which could, potentially, contain unrecorded archaeological deposits. As a result, cultural resources impacts associated with Alternative B may include less-than-significant historical resources impacts, and significant but mitigatable impacts related to archaeological resources, paleontological resources, and human remains.

### ***GEOLOGY & SOILS***

Geology and soils impacts associated with Alternative B would be similar to slightly less compared to the project because both Alternative B and the project would result in grading and development of most of the site. The slight difference in impacts is attributed to Alternative B involving one fewer building story

for each of the four buildings at the Office Park as well as fewer employees at the Office Park that would be subject to the geology and soils hazards associated with the project site. Overall and similar to the project however, Alternative B would result in less-than-significant impacts related to fault rupture and seismic ground shaking, and significant but mitigatable impacts related to other soil/geologic instabilities (i.e., seismic-related ground failure, total and differential settlement, soil erosion, expansive soil, and pervious pavements).

### ***HAZARDS & HAZARDOUS MATERIALS***

The reduction in building square footage, units, and building heights associated with Alternative B is not anticipated to substantially change the hazards and hazardous materials impacts associated with the project. Implementation of Alternative B would result in less-than-significant impacts related to the routine use, transport and disposal of hazardous materials, similar to the project. Alternative B would also result in less-than-significant impacts related to interference with emergency plans, and the project's less-than-significant impacts related to wildfires. Also, Alternative B would result in significant but mitigatable impacts related to accidental release of hazardous materials and airport operations, which is also similar to the impacts associated with the project.

### ***HYDROLOGY & WATER QUALITY***

This scenario would result in increased building footprints at the Office Park and decreased building footprints at the Wellness Center. Therefore, Alternative B would still result in roughly the same amount of impermeable surfaces on the site. As a result, hydrology and water quality impacts associated with Alternative B would be similar to those associated with the project. Both Alternative B and the project would result in less-than-significant impacts related to violation of water quality standards, depletion of groundwater supply and recharge, surface water runoff quantity, and flood hazards. Alternative B and the project would also result in significant but mitigatable impacts related to the alteration of drainage patterns, surface water runoff quality, and tsunami and seiche.

### ***LAND USE & PLANNING***

The reduction in building square footage, units and building heights associated with Alternative B would not change the land use impacts associated with the proposed project. Specifically, both Alternative B and the project would result in less-than-significant impacts related to the division of an established community and conflict with plans and policies.

### ***NOISE***

Although less construction would be associated with Alternative B compared to the project due to a reduction in office space and units, this alternative would still result in significant but mitigatable impacts related to construction noise and groundborne vibration, similar to the project. Like the project, Alternative B would also result in less-than-significant operational noise impacts.

***POPULATION & HOUSING***

Under Alternative B, the 70 apartment style and single-story style units (“breezeway units”) for use by up to 50 DD residents and 20 staff members proposed for the Wellness Center would be reduced to 57 apartment style and single-story style units. However, the 57 units would still be used and shared by up to 50 DD residents and 20 staff members. As such, there would be no population change for the Wellness Center under Alternative B. The reduction in office square footage associated with this alternative could result in slightly less permanent population in the area under the worst-case assumption that all employees relocated to the project area from outside of the unincorporated Half Moon Bay area. Regardless, Alternative B is anticipated to result in similar population and housing impacts as the proposed project. Specifically, Alternative B would also result in less-than-significant impacts related to inducing substantial population growth and related to the displacement of substantial amount of population.

***PUBLIC SERVICES******Police***

Because there would not be a substantial change in population as a result of Alternative B compared to the project, demands for police protection services under this alternative are anticipated to be similar to the proposed project, which were found to be less than significant.

***Fire Protection***

Because there would not be a substantial change in population as a result of Alternative B compared to the project, demands for fire protection services under this alternative are anticipated to be similar to the proposed project, which were found to be less than significant with mitigation.

***Schools***

Because there would not be a substantial change in population as a result of Alternative B compared to the project, demands for schools services under this alternative are anticipated to be similar to the proposed project, which were found to be less than significant.

***Parks & Recreation***

Because there would not be a substantial change in population as a result of Alternative B compared to the project, demands for parks and recreation services under this alternative are anticipated to be similar to the proposed project, which were found to be less than significant.

***Libraries***

Because there would not be a substantial change in population as a result of Alternative B compared to the project, demands for library services under this alternative are anticipated to be similar to the proposed project, which were found to be less than significant.



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**TRANSPORTATION/TRAFFIC**

Section IV.M (Transportation/Traffic) of the DEIR found that the proposed project would result in less-than-significant impacts related to traffic hazards, access and onsite circulation, emergency access, parking, transit service, and pedestrian and bicycle facilities. Section IV.M (Transportation/Traffic) of the DEIR also concluded that the proposed project would result in significant but mitigatable impacts related to intersection LOS and capacity, and cumulative LOS. Given Alternative B reduces the office building square footage associated with the project, this alternative would also result in less-than-significant impacts related to traffic hazards, access and onsite circulation, emergency access, parking, transit service, and pedestrian and bicycle facilities. Likewise, Alternative B would also result in significant but mitigatable impacts related to intersection LOS and capacity, and cumulative LOS.

**UTILITIES & SERVICE SYSTEMS*****Sewer***

By reducing the Office Park by 39,000 square feet, Alternative B would result in the generation of less sewage compared to the project, and hence less sewage to be treated by the onsite wastewater plant and less treated sewage to dispose or recycle. Similar to the project, Alternative B would result in less-than-significant impacts related to wastewater treatment and capacity and sanitary district regulations. Like the project, Alternative B would also result in significant but mitigatable impacts related to wastewater collection capacity, wastewater recycling and disposal, water flow estimates, and creek crossing by sewage pipeline.

***Water***

By reducing the Office Park by 39,000 square feet, Alternative B would result in the consumption of less water compared to the project. Similar to the project, Alternative B would result in less-than-significant impacts related to new or expanded water facilities, potable water demands, adequacy of onsite water well, and water treatment system.

***Solid Waste***

Alternative B would result in less generation of solid waste compared to the proposed project because it involves 39,000 fewer square feet of office space than the project. However, impacts related to solid waste would be less than significant under Alternative B, which is similar to the project.

***Energy***

Alternative B would require less energy compared to the proposed project because it involves 39,000 fewer square feet of office space than the project. However, impacts related to energy would be less than significant under Alternative B, which is similar to the project.

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**RELATIONSHIP OF THE ALTERNATIVE TO THE PROJECT OBJECTIVES**

Alternative B meets the project objectives.

**C. ALTERNATIVE C (MODIFIED OFFICE PARK SITE PLAN ALTERNATIVE 1)**

Alternative C reduces the building height of the Office Park from three stories to two stories but maintains the size of the proposed offices at 225,000 square feet. As a result, the building footprint for the Office Park would increase from 80,000 square feet to approximately 113,000 square feet. These changes to the project under Alternative C would also result in a reduction of the wetlands restoration from 226,038 square feet to approximately 192,000 square feet. However, the same amount of parking spaces as the project would be provided under Alternative C. No changes are proposed to the Wellness Center as a part of this alternative.

Except as described above, other project characteristics are assumed to be generally similar to those of the proposed project, for the purpose of analyzing Alternative C. These characteristics include but are not limited to the general location, design and building materials and colors; the specific land uses and tenant types; Platinum level LEED certification, utilities and onsite power generation; onsite farming; grading; and phasing.

The potential environmental impacts associated with this alternative are described below and are compared to the significant environmental impacts associated with the proposed project. All applicable mitigation measures recommended for the proposed project are incorporated into Alternative C.

**AESTHETICS**

While the lot coverage for the Office Park parcel would increase under Alternative C, the building heights for the four office buildings would be reduced from three stories to two stories. Due to the lower height of buildings, buildings would be almost entirely screened by the proposed landscaping. Where the proposed project would have been visible from Airport Street/Stanford Avenue and Highway 1 with mature landscaping, under this scenario, the buildings would be less visible from these locations. As a result, there would be fewer impacts to scenic views, scenic resources, and visual character than the project under Alternative C, all of which were found to be less than significant with implementation of the proposed project. Like the project, light and glare impacts associated with Alternative C would be less than significant after mitigation.

**AGRICULTURE RESOURCES**

Given that the same amount of square footage and units would be developed under both Alternative C and the project, the majority of the existing farming onsite would be replaced by this alternative and the project. The project site is depicted as Urban and Built-up Land and Other Land on the Important Farmland Map for San Mateo County. Therefore, the project site has not been designated as important farmland and development of the site would not involve conversion of important farmland. Thus,

Alternative C would result in similar impacts to agriculture resources as the proposed project, which were found to be less than significant.

### ***AIR QUALITY***

Alternative C would result in similar air emissions compared to the project because Alternative C involves the same square footage and units as well as vehicle trips. Similar to the project, Alternative C would result in significant but mitigatable impacts related to construction emissions and objectionable odors. Also similar to the proposed project, Alternative C would result in less-than-significant air quality impacts related to: consistency with Air Quality Plan, operational emissions, cumulative regional operational emissions, sensitive receptors, and greenhouse gas emissions.

### ***BIOLOGICAL RESOURCES***

Under Alternative C the building footprint for the Office Park would increase from 80,000 square feet to approximately 113,000 square feet, resulting in a reduction of the wetlands restoration from 226,038 square feet to approximately 192,000 square feet. Therefore, Alternative C would result in decreased benefits to wetlands than the proposed project. However, similar to the project, Alternative C would result in less-than-significant impacts related to: special-status plant species, sensitive natural communities, wildlife movement and habitat connectivity, and conformance with policies and ordinances related to the protection of biological resources. Likewise, Alternative C would also result in significant but mitigatable impacts related to special-status wildlife species.

### ***CULTURAL RESOURCES***

Approximately the same amount of grading would occur under Alternative C compared to the project. As a result, cultural resources impacts associated with Alternative C would be similar to those associated with the project. Such impacts include less-than-significant historical resources impacts, and significant but mitigatable impacts related to archaeological resources, paleontological resources, and human remains.

### ***GEOLOGY & SOILS***

Geology and soils impacts associated with Alternative C would be similar to slightly less compared to the project because both Alternative C and the project would result in grading and development of most of the site. The slight difference in impacts is attributed to Alternative C involving one fewer building story for each of the four buildings and, thereby, fewer occupants exposed to geology and soils hazards at the Office Park. Overall and similar to the project however, Alternative C would result in less-than-significant impacts related to exposure of Office Park and Wellness Center occupants to fault rupture and seismic ground shaking, and significant but mitigatable impacts related to other soil/geologic instabilities (i.e., seismic-related ground failure, total and differential settlement, soil erosion, expansive soil, and surface weakness associated with pervious pavements).

***HAZARDS & HAZARDOUS MATERIALS***

Implementation of Alternative C would result in less-than-significant impacts related to the routine use, transport and disposal of hazardous materials, similar to the project. Alternative C would also result in less-than-significant impacts related to interference with emergency plans, and the project's less-than-significant impacts related to wildfires. Also, Alternative C would result in significant but mitigatable impacts related to accidental release of hazardous materials and airport operations, which is also similar to the impacts associated with the project.

***HYDROLOGY & WATER QUALITY***

Increased building footprints and a loss of restored wetlands at the Office Park under Alternative C would result in a greater amount of impermeable surfaces on the site compared to the project. As a result, hydrology and water quality impacts associated with Alternative C would be greater than those associated with the project. However, both Alternative C and the project would result in less-than-significant impacts related to violation of water quality standards, depletion of groundwater supply and recharge, surface water runoff quantity, and flood hazards. Alternative C and the project would also result in significant but mitigatable impacts related to the alteration of drainage patterns, surface water runoff quality, and tsunami and seiche.

***LAND USE & PLANNING***

Land use and planning impacts associated with Alternative C would be similar to the proposed project because both scenarios involve the same amount of square footage and development as well as the same land uses and discretionary actions. Both Alternative C and the project would result in less-than-significant impacts related to the division of an established community and conflict with plans and policies.

***NOISE***

Alternative C would result in increased impacts related to construction noise and operational traffic noise to sensitive receptors at the Mobile Home Park to the north because it involves the location of buildings and therefore construction in closer proximity to adjacent residential uses, due to increased building footprints. This alternative would result in significant but mitigatable impacts related to construction noise and groundborne vibration, similar to the project. Like the project, Alternative C would also result in less-than-significant operational noise impacts.

***POPULATION & HOUSING***

Under Alternative C, the Wellness Center would include the same amount of DD residents and staff and the Office Park would include the same amount of employees. As such, Alternative C would result in similar population and housing impacts as the proposed project. Specifically, Alternative C would also

result in less-than-significant impacts related to inducing substantial population growth and related to the displacement of substantial amount of population.

***PUBLIC SERVICES***

***Police***

Because there would not be a change in population as a result of Alternative C compared to the project, demands for police protection services under this alternative would be similar to the proposed project, which were found to be less than significant.

***Fire Protection***

Because there would not be a change in population as a result of Alternative C compared to the project, demands for fire protection services under this alternative would be similar to the proposed project, which were found to be less than significant with mitigation.

***Schools***

Because there would not be a change in population as a result of Alternative C compared to the project, demands for schools services under this alternative would be similar to the proposed project, which were found to be less than significant.

***Parks & Recreation***

Because there would not be a change in population as a result of Alternative C compared to the project, demands for parks and recreation services under this alternative would be similar to the proposed project, which were found to be less than significant.

***Libraries***

Because there would not be a change in population as a result of Alternative C compared to the project, demands for library services under this alternative would be similar to the proposed project, which were found to be less than significant.

***TRANSPORTATION/TRAFFIC***

Section IV.M (Transportation/Traffic) of the DEIR found that the proposed project would result in less-than-significant impacts related to traffic hazards, access and onsite circulation, emergency access, parking, transit service, and pedestrian and bicycle facilities. Section IV.M (Transportation/Traffic) of the DEIR also concluded that the proposed project would result in significant but mitigatable impacts related to intersection LOS and capacity, and cumulative LOS. Given Alternative C includes the same building square footage and units associated with the project, this alternative would also result in less-than-significant impacts related to traffic hazards, access and onsite circulation, emergency access,

parking, transit service, and pedestrian and bicycle facilities. Likewise, Alternative C would also result in significant but mitigatable impacts related to intersection LOS and capacity, and cumulative LOS.

### ***UTILITIES & SERVICE SYSTEMS***

#### ***Sewer***

Alternative C would result in the generation of a similar amount of sewage compared to the project because it involves the same amount of square footage and units as the project. Similar to the project, Alternative C would result in less-than-significant impacts related to wastewater treatment and capacity and sanitary district regulations. Like the project, Alternative C would also result in significant but mitigatable impacts related to wastewater collection capacity, wastewater recycling and disposal, water flow estimates, and creek crossing by sewage pipeline.

#### ***Water***

Alternative C would result in the consumption of a similar amount of water compared to the project because it involves the same amount of square footage and units as the project. Similar to the project, Alternative C would result in less-than-significant impacts related to new or expanded water facilities, potable water demands, adequacy of onsite water well, and water treatment system.

#### ***Solid Waste***

Alternative C would result in the generation of a similar amount of solid waste compared to the proposed project because it involves the same amount of square footage and units as the project. Impacts related to solid waste would be less than significant under Alternative C, which is similar to the project.

#### ***Energy***

Alternative C would require a similar amount of energy compared to the proposed project because it involves the same amount of square footage and units as the project. Impacts related to energy would be less than significant under Alternative C, which is similar to the project.

### ***RELATIONSHIP OF THE ALTERNATIVE TO THE PROJECT OBJECTIVES***

Alternative C meets the project objectives.

#### **D. ALTERNATIVE D (MODIFIED OFFICE PARK SITE PLAN ALTERNATIVE 2)**

Alternative D reduces the size of the Office Park from 225,000 square feet to 200,000 square feet and also eliminates Building A from the Office Park parcel, resulting in three office buildings instead of four. As a result, the building footprint at the Office Park would decrease from 80,000 square feet to approximately 67,000 square feet. The three remaining office buildings (Buildings B, C and D) would be three stories in

height and would be built in the same location as proposed by the project (see Figure III-10). No changes are proposed to the Wellness Center as a part of this alternative.

Except as described above, other project characteristics are assumed to be generally similar to those of the proposed project, for the purpose of analyzing Alternative C. These characteristics include but are not limited to the general location, design and building materials and colors; the specific land uses and tenant types; Platinum level LEED certification, utilities and onsite power generation; onsite farming; wetlands restoration; grading; and phasing.

The potential environmental impacts associated with this alternative are described below and are compared to the significant environmental impacts associated with the proposed project. All applicable mitigation measures recommended for the proposed project are incorporated into Alternative C.

### ***AESTHETICS***

Under Alternative D, Building A would be eliminated from the Office Park parcel resulting in three office buildings instead of four. While building heights at the Office Park parcel would still be three stories, the elimination of Building A would provide more of a view of the bluffs to the southwest from Airport Street. Overall, Alternative D would result in less-than-significant impacts related to scenic views, scenic resources, and visual character, and less-than-significant impacts with mitigation related to light and glare, similar to the project.

### ***AGRICULTURE RESOURCES***

While less development would occur on the Office Park site under Alternative D and this alternative does include some onsite farming at the Wellness Center site, the majority of the existing farming onsite would be replaced by the proposed Wellness Center and Office Park under both the project and Alternative D. The project site is depicted as Urban and Built-up Land and Other Land on the Important Farmland Map for San Mateo County. Therefore, the project site has not been designated as important farmland and development of the site would not involve conversion of important farmland. Thus, Alternative D would result in similar impacts to agriculture resources as the proposed project, which were found to be less than significant.

### ***AIR QUALITY***

Alternative D would result in slightly less air emissions compared to the project because Alternative D involves less square footage as well as a reduction in vehicle trips. Similar to the project, Alternative D would result in significant but mitigatable impacts related to construction emissions and objectionable odors. Also similar to the proposed project, Alternative D would result in less-than-significant air quality impacts related to: consistency with Air Quality Plan, operational emissions, cumulative regional operational emissions, sensitive receptors, and greenhouse gas emissions.

***BIOLOGICAL RESOURCES***

Due to the construction of only three office buildings at the Office Park, Alternative D could provide more wetlands restoration compared to the project. While less square footage would be built under Alternative D compared to the project, Alternative D would still result in grading of most of the site. As a result, biological resources impacts associated with Alternative D would be similar to those associated with the project. Specifically, similar to the project, Alternative D would result in less-than-significant impacts related to: special-status plant species, sensitive natural communities, wildlife movement and habitat connectivity, and conformance with policies and ordinances related to the protection of biological resources. Likewise, Alternative D would also result in significant but mitigatable impacts related to special-status wildlife species.

***CULTURAL RESOURCES***

Although less square footage would be built under Alternative D compared to the project, Alternative D would still result in grading of most of the site. As a result, cultural resources impacts associated with Alternative D would be similar to those associated with the project. Such impacts include less-than-significant historical resources impacts, and significant but mitigatable impacts related to archaeological resources, paleontological resources, and human remains.

***GEOLOGY & SOILS***

Geology and soils impacts associated with Alternative D would be similar to slightly less compared to the project because both Alternative D and the project would result in grading and development of most of the site. The slight difference in impacts is attributed to Alternative D involving one fewer building as well as slightly fewer employees at the Office Park that would be subject to the geology and soils hazards associated with the project site. Overall and similar to the project however, Alternative D would result in less-than-significant impacts related to fault rupture and seismic ground shaking, and significant but mitigatable impacts related to other soil/geologic instabilities (i.e., seismic-related ground failure, total and differential settlement, soil erosion, expansive soil, and pervious pavements).

***HAZARDS & HAZARDOUS MATERIALS***

The reduction in building square footage associated with Alternative D is not anticipated to substantially change the hazards and hazardous materials impacts associated with the project. Implementation of Alternative D would result in less-than-significant impacts related to the routine use, transport and disposal of hazardous materials, similar to the project. Alternative D would also result in less-than-significant impacts related to interference with emergency plans, and the project's less-than-significant impacts related to wildfires. Also, Alternative D would result in significant but mitigatable impacts related to accidental release of hazardous materials and airport operations, which is also similar to the impacts associated with the project.



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## ***HYDROLOGY & WATER QUALITY***

Slightly less square footage would be built under Alternative D compared to the project, thus Alternative D could result in 13,000 square feet less impermeable surfaces on the site. However, hydrology and water quality impacts associated with Alternative D are anticipated to be similar to those associated with the project. Both Alternative D and the project would result in less-than-significant impacts related to violation of water quality standards, depletion of groundwater supply and recharge, surface water runoff quantity, and flood hazards. Alternative D and the project would also result in significant but mitigatable impacts related to the alteration of drainage patterns, surface water runoff quality, and tsunami and seiche.

## ***LAND USE & PLANNING***

The reduction in building square footage associated with Alternative D would not change the land use impacts associated with the proposed project. Specifically, both Alternative D and the project would result in less-than-significant impacts related to the division of an established community and conflict with plans and policies.

## ***NOISE***

Although less construction (including the elimination of Building A, which is the closest sensitive noise receptor to the project site) and fewer vehicle trips would be associated with Alternative D compared to the project, this alternative would still result in significant but mitigatable impacts related to construction noise and groundborne vibration, similar to the project. Like the project, Alternative D would also result in less-than-significant operational noise impacts.

## ***POPULATION & HOUSING***

Under Alternative D, the Wellness Center would include the same amount of DD residents and staff whereas the Office Park would include slightly fewer employees. As such, there would be no population change for the Wellness Center under Alternative D. The reduction in office square footage associated with this alternative could result in slightly less permanent population in the area under the worst-case assumption that all employees relocated to the project area from outside of the unincorporated Half Moon Bay area. Regardless, Alternative D is anticipated to result in similar population and housing impacts as the proposed project. Specifically, Alternative D would also result in less-than-significant impacts related to inducing substantial population growth and related to the displacement of substantial amount of population.

## ***PUBLIC SERVICES***

### ***Police***

Because there would not be a substantial change in population as a result of Alternative D compared to the project, demands for police protection services under this alternative are anticipated to be similar to the proposed project, which were found to be less than significant.

***Fire Protection***

Because there would not be a substantial change in population as a result of Alternative D compared to the project, demands for fire protection services under this alternative are anticipated to be similar to the proposed project, which were found to be less than significant with mitigation.

***Schools***

Because there would not be a substantial change in population as a result of Alternative D compared to the project, demands for schools services under this alternative are anticipated to be similar to the proposed project, which were found to be less than significant.

***Parks & Recreation***

Because there would not be a substantial change in population as a result of Alternative D compared to the project, demands for parks and recreation services under this alternative are anticipated to be similar to the proposed project, which were found to be less than significant.

***Libraries***

Because there would not be a substantial change in population as a result of Alternative D compared to the project, demands for library services under this alternative are anticipated to be similar to the proposed project, which were found to be less than significant.

***TRANSPORTATION/TRAFFIC***

Section IV.M (Transportation/Traffic) of the DEIR found that the proposed project would result in less-than-significant impacts related to traffic hazards, access and onsite circulation, emergency access, parking, transit service, and pedestrian and bicycle facilities. Section IV.M (Transportation/Traffic) of the DEIR also concluded that the proposed project would result in significant but mitigatable impacts related to intersection LOS and capacity, and cumulative LOS. Given Alternative D reduces the building square footage associated with the project, this alternative would still result in less-than-significant impacts related to traffic hazards, access and onsite circulation, emergency access, parking, transit service, and pedestrian and bicycle facilities. Likewise, Alternative D would also result in significant but mitigatable impacts related to intersection LOS and capacity, and cumulative LOS.

***UTILITIES & SERVICE SYSTEMS***

***Sewer***

By reducing the Office Park by 25,000 square feet, Alternative D would result in the generation of less sewage compared to the project, and hence less sewage to be treated by the onsite wastewater plant and less treated sewage to dispose or recycle. Similar to the project, Alternative D would result in less-than-significant impacts related to wastewater treatment and capacity and sanitary district regulations. Like the

project, Alternative D would also result in significant but mitigatable impacts related to wastewater collection capacity, wastewater recycling and disposal, water flow estimates, and creek crossing by sewage pipeline.

***Water***

By reducing the Office Park by 25,000 square feet, Alternative D would result in the consumption of less water compared to the project. Similar to the project, Alternative D would result in less-than-significant impacts related to new or expanded water facilities, potable water demands, adequacy of onsite water well, and water treatment system.

***Solid Waste***

Alternative D would result in less generation of solid waste compared to the proposed project because it involves 25,000 fewer square feet than the project. However, impacts related to solid waste would be less than significant under Alternative D, which is similar to the project.

***Energy***

Alternative D would require less energy compared to the proposed project because it involves 25,000 fewer square feet than the project. However, impacts related to energy would be less than significant under Alternative D, which is similar to the project.

***RELATIONSHIP OF THE ALTERNATIVE TO THE PROJECT OBJECTIVES***

Alternative D meets the project objectives.

**E. ENVIRONMENTALLY SUPERIOR ALTERNATIVE**

In addition to the discussion and comparison of impacts of the proposed project and the alternatives, Section 15126.6 of the CEQA Guidelines requires that an “environmentally superior” alternative be selected and the reasons for such a selection disclosed. In general, the environmentally superior alternative is the alternative that would be expected to generate the least amount of significant impacts. In this case, Alternative A (No Project) would result in the least amount of significant environmental impacts (see Table VI-1). However, Section 15126.6 of the CEQA Guidelines requires that an environmentally superior alternative be selected other than the “No Project Alternative”. Based on the analysis above and Table VI-1 on the following pages, Alternative B (Reduced Density/Height for Office Park and Reduced Size for Wellness Center Alternative) has been selected as the environmentally superior alternative to the proposed project. Alternative B is superior to the proposed project and other alternatives primarily due to fewer impacts to visual resources (due to the 2-story building heights) and avoidance of the cultural site on the southern (Wellness Center) site.

**Table VI-1  
Alternatives Comparison**

IMPACT AREA	IMPACTS OF THE PROPOSED PROJECT	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<b>Aesthetics</b>					
Scenic Vistas	LTS	NI	LTS	LTS	LTS
Scenic Resources	LTS	NI	LTS	LTS	LTS
Visual Character	LTS	NI	LTS	LTS	LTS
Light and Glare	LTS/M	NI	LTS/M	LTS/M	LTS/M
Construction	LTS	NI	LTS	LTS	LTS
<b>Agriculture Resources</b>					
Conversion of Farmland	LTS	NI	LTS	LTS	LTS
<b>Air Quality</b>					
Consistency with Air Quality Plan	LTS	NI	LTS	LTS	LTS
Construction Emissions	LTS/M	NI	LTS/M	LTS/M	LTS/M
Operational Emissions	LTS	NI	LTS	LTS	LTS
Cumulative Regional Operational Emissions	LTS	NI	LTS	LTS	LTS
Sensitive Receptors	LTS	NI	LTS	LTS	LTS
Objectionable Odors	LTS/M	NI	LTS/M	LTS/M	LTS/M
Greenhouse Gas Emissions	LTS	NI	LTS	LTS	LTS
<b>Biological Resources</b>					
Special Status Plant Species	LTS	NI	LTS	LTS	LTS
Special Status Wildlife Species	LTS/M	NI	LTS/M	LTS/M	LTS/M
Sensitive Natural Communities	LTS	NI	LTS	LTS	LTS
Federally Protected Wetlands	LTS	NI	LTS	LTS	LTS
Wildlife Movement and Habitat Connectivity	LTS	NI	LTS	LTS	LTS
Conformance with Policies and Ordinances	LTS	NI	LTS	LTS	LTS
<b>Cultural Resources</b>					
Historical Resources	LTS	NI	LTS	LTS	LTS
Archaeological Resources	LTS/M	NI	LTS/M	LTS/M	LTS/M
Paleontological Resources	LTS/M	NI	LTS/M	LTS/M	LTS/M
Human Remains	LTS/M	NI	LTS/M	LTS/M	LTS/M
<b>Geology &amp; Soils</b>					
Fault Rupture	LTS	NI	LTS	LTS	LTS
Seismic Ground Shaking	LTS	NI	LTS	LTS	LTS
Seismic-Related Ground Failure	LTS/M	NI	LTS/M	LTS/M	LTS/M

**Table VI-1  
Alternatives Comparison**

IMPACT AREA	IMPACTS OF THE PROPOSED PROJECT	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
Total and Differential Settlement	LTS/M	NI	LTS/M	LTS/M	LTS/M
Soil Erosion or Loss of Topsoil	LTS/M	NI	LTS/M	LTS/M	LTS/M
Expansive Soil	LTS/M	NI	LTS/M	LTS/M	LTS/M
Pervious Pavements	LTS/M	NI	LTS/M	LTS/M	LTS/M
<b>Hazards &amp; Hazards Materials</b>					
Routine Transport, Use, or Disposal	LTS	NI	LTS	LTS	LTS
Accidental Release of Hazardous Materials	LTS/M	NI	LTS/M	LTS/M	LTS/M
Airport Operations	LTS/M	NI	LTS/M	LTS/M	LTS/M
Interfere with Emergency Plans	LTS	NI	LTS	LTS	LTS
Wildfires	LTS	NI	LTS	LTS	LTS
<b>Hydrology &amp; Water Quality</b>					
Violate Water Quality Standards	LTS	NI	LTS	LTS	LTS
Substantially Deplete Ground Water Supply and Recharge	LTS	NI	LTS	LTS	LTS
Substantially Alter Drainage Patterns	LTS/M	NI	LTS/M	LTS/M	LTS/M
Quantity of Surface Water Runoff	LTS	NI	LTS	LTS	LTS
Quality of Surface Water Runoff	LTS/M	NI	LTS/M	LTS/M	LTS/M
Degrade Groundwater Quality	LTS/M	NI	LTS/M	LTS/M	LTS/M
100-Year Flood Hazard	LTS	NI	LTS	LTS	LTS
Flooding from Failure of Dam or Levee	LTS	NI	LTS	LTS	LTS
Tsunami and Seiche	LTS/M	NI	LTS/M	LTS/M	LTS/M
<b>Land Use &amp; Planning</b>					
Division of a Community	LTS	NI	LTS	LTS	LTS
Conflict with Plans and Policies	LTS	NI	LTS	LTS	LTS
<b>Noise</b>					
Construction Noise	LTS/M	NI	LTS/M	LTS/M	LTS/M
Construction-Related Groundborne Vibration	LTS/M	NI	LTS/M	LTS/M	LTS/M
Operational Noise Levels at Site	LTS	NI	LTS	LTS	LTS
Operational Roadway Noise Levels	LTS	NI	LTS	LTS	LTS
<b>Population &amp; Housing</b>					
Induce Substantial Population Growth	LTS	NI	LTS	LTS	LTS
Displace Substantial Population	LTS	NI	LTS	LTS	LTS
<b>Public Services</b>					
Police Protection	LTS	NI	LTS	LTS	LTS

**Table VI-1  
Alternatives Comparison**

IMPACT AREA	IMPACTS OF THE PROPOSED PROJECT	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
Fire Protection – Construction	LTS	NI	LTS	LTS	LTS
Fire Protection – Operation	LTS/M	NI	LTS/M	LTS/M	LTS/M
Schools	LTS	NI	LTS	LTS	LTS
Parks and Recreation	LTS	NI	LTS	LTS	LTS
Libraries	LTS	NI	LTS	LTS	LTS
<b>Transportation/Traffic</b>					
Intersection LOS and Capacity	LTS/M	NI	LTS/M	LTS/M	LTS/M
Hazards	LTS	NI	LTS	LTS	LTS
Access and Onsite Circulation	LTS	NI	LTS	LTS	LTS
Emergency Access	LTS	NI	LTS	LTS	LTS
Parking	LTS	NI	LTS	LTS	LTS
Transit Service	LTS	NI	LTS	LTS	LTS
Pedestrian and Bicycle Facilities	LTS	NI	LTS	LTS	LTS
Construction	LTS	NI	LTS	LTS	LTS
Cumulative LOS	LTS/M	NI	LTS/M	LTS/M	LTS/M
Cumulative Signal Warrant Analysis	LTS	NI	LTS	LTS	LTS
<b>Utilities &amp; Service Systems</b>					
Wastewater Treatment and Capacity	LTS	NI	LTS	LTS	LTS
Wastewater Collection Capacity	LTS/M	NI	LTS/M	LTS/M	LTS/M
Sanitary District Regulations	LTS	NI	LTS	LTS	LTS
Wastewater Recycling & Disposal	LTS/M	NI	LTS/M	LTS/M	LTS/M
Water Flow Estimates	LTS/M	NI	LTS/M	LTS/M	LTS/M
Creek Crossing by Sewage Pipeline	LTS/M	NI	LTS/M	LTS/M	LTS/M
New or Expanded Water Facilities	LTS	NI	LTS	LTS	LTS
Potable Water Demands	LTS	NI	LTS	LTS	LTS
Adequacy of Onsite Water Well	LTS	NI	LTS	LTS	LTS
Water Treatment System	LTS	NI	LTS	LTS	LTS
Solid Waste	LTS	NI	LTS	LTS	LTS
Energy	LTS	NI	LTS	LTS	LTS
<p><b>Key:</b>                  SU = Significant Unavoidable Impact                  LTS = Less-than-Significant Impact                  LTS/M = Less-than-Significant Impact with Mitigation                  NI = No Impact</p>					

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