

**COUNTY OF SAN MATEO  
PLANNING AND BUILDING DEPARTMENT**

**DATE:** October 27, 2010

**TO:** Planning Commission

**FROM:** Planning Staff

**SUBJECT:** Consideration of: (1) the certification of a Environmental Impact Report (EIR) consisting of a Draft EIR and a Final EIR, pursuant to the California Environmental Quality Act (CEQA), (2) a Use Permit, pursuant to Sections 6288.2 and 6500(d)3 of the County Zoning Regulations, for the modern sanitarium component of the Wellness Center and its accessory uses and proposed uses within the Airport Overlay (AO) Zoning District, respectively; (3) a Major Subdivision, pursuant to the County Subdivision Regulations, to subdivide the northern parcel into ten (10) lots as described in Alternative C of the EIR and a Minor Subdivision to subdivide the southern parcel into three lots; (4) a Coastal Development Permit, pursuant to Section 6328.4 of the County Zoning Regulations, for eight (8) Office Park buildings (4 two-story and 4 three-story buildings) containing 225,000 sq. ft. of mixed office uses and a 640-space parking lot as described in Alternative C of the EIR, two (2) Wellness Center buildings (1 single story and 1 three-story building) containing a maximum of 57 dwelling units to provide affordable housing for a maximum of 50 developmentally disabled adults and 20 staff persons and a 50-space parking lot, a 10,000 sq. ft. commercial public storage use, wetland habitat creation and other landscaping, associated fencing and grading, use of an existing agricultural well for domestic purposes, and establishment of a mutual water service company and a community wastewater treatment and recycling system; (5) a Design Review Permit, pursuant to Section 6565.3 of the County Zoning Regulations, for proposed structures and associated grading; (6) an Off-Street Parking Exception, pursuant to Section 6120 of the County Zoning Regulations to allow 640 parking spaces for the Office Park where 737 parking spaces are required for office uses; (7) a Grading Permit, pursuant to Section 8600 of the San Mateo County Ordinance Code, to perform 26,050 cubic yards of balanced cut and fill; and (8) a Development Agreement with the County of San Mateo, for the Big Wave Wellness Center and Office Park proposed on two undeveloped parcels (APN 047-311-060 and APN 047-312-040) located in the unincorporated Princeton-by-the-Sea area of San Mateo County.

County File Numbers: PLN 2005-00481 and PLN 2005-00482

## **PROPOSAL**

### *Basic Project Components*

The proposed Big Wave Wellness Center and Office Park project is intended to be an economically sustainable development that provides housing and employment opportunities for low-income developmentally disabled (DD) adults at the Wellness Center. All buildings and development would be designed to meet Platinum-level Leadership in Energy and Environmental Design (LEED) certified construction. The primary components of the proposed project include:

#### *Wellness Center*

- Housing for DD Adults and Their Aides: The Wellness Center includes 57 dwelling units for the developmentally disabled and their aides.
- Ancillary Uses: These uses include a fitness center, commercial kitchen, dog grooming and laundry facilities, and administrative offices, among other ancillary uses.
- Proposed Subdivision: The property would be subdivided into three separate lots (Lots 1-3). Lot 1 includes the 3-story, 10,000 sq. ft. commercial public storage building. Lot 2 includes the 94,762 sq. ft. Wellness Center, including 57 dwelling units and ancillary uses, as well as the common areas of the wetlands, wetland buffer areas, area proposed for wetland habitat creation, and fire access lane. Lot 3 includes the 50-space parking lot.
- Project-related business operations to generate income for Wellness Center residents: 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. Business operations would be managed by Big Wave Group, Inc., a nonprofit corporation, and include: Big Wave (BW) Catering/Food Services; BW Energy; BW Farming; BW Water; BW Transportation; BW Recycling; BW Communications (radio telecom link); and BW Maintenance.

#### *Office Park*

- Proposed Uses: The applicant proposed 40% General Office, 25% Research and Development, 20% Light Manufacturing, and 15% Storage uses within the Office Park buildings. The Office Park would be occupied by private firms with their own workers.
- Proposed Subdivision: The property on which the Office Park is proposed to be located would be subdivided into ten lots (Lots 1-10). Lot 1 includes the common areas of the wetlands, wetland buffer areas, area proposed for wetland habitat creation, and fire trail. Lot 2 includes the 640-space parking lot and walkway areas. Lots 3-10 would include a total of eight (8) two and three-story buildings (225,000 sq. ft. total) planned for mixed uses, as described above.



### *Proposed Outdoor Uses Over Project Sites*

Creation of wetland habitat; development of a Class 1 multiple purpose trail along Airport Road; use of sustainable organic/non-organic, on-site farming for supplemental food sources; a native plant nursery for re-vegetation/landscaping efforts; recycling and composting; and development of shuttle services.

### **RECOMMENDATION**

That the Planning Commission approve the project as described in Alternative C and as presented in the Final EIR (hereafter referred to as the “project”)<sup>1</sup>. Under this alternative, the total proposed square footage of the Office Park (225,000 sq. ft.) is distributed among eight Office Park buildings, rather than four. As discussed in detail in Section II.C.6 of this staff report, the recommendation for the approval of Modified Alternative C of the FEIR is based on staff’s review of project compliance with the Visual Resource Component of County’s Local Coastal Program (LCP). Staff also recommends approval of the alternate traffic circulation proposal, which would re-route project traffic away from residential streets (e.g., Cypress Avenue and Cabrillo Highway) and through the non-residential streets of Princeton, under Alternative C.

In addition, staff recommends that the Planning Commission:

1. Certify the Final Environmental Impact Report, and approve the following on the project sites:
2. A Use Permit for the modern sanitarium component of the Wellness Center and its accessory uses, as well as proposed uses within the AO Zoning District, respectively;
3. A Major Subdivision to subdivide the northern parcel into ten (10) lots as described in Alternative C of the EIR and a Minor Subdivision to subdivide the southern parcel into three (3) lots;
4. A Coastal Development Permit for Office Park buildings as described in Alternative C of the EIR, Wellness Center buildings as described in the EIR, wetland habitat creation and other landscaping, associated fencing and grading, use of an existing agricultural well for domestic purposes, and establishment of a mutual water service company and a community wastewater treatment and recycling system;
5. A Design Review Permit for proposed project structures and associated grading;
6. An Off-Street Parking Exception to allow 640 parking spaces for the Office Park;
7. A Grading Permit to perform 26,050 cubic yards of balanced cut and fill; and

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<sup>1</sup> Alternative C in the Final EIR is a modified, fully developed version of the Alternative C presented in the Draft EIR.

8. That the Planning Commission recommend approval of a Development Agreement to the Board of Supervisors.

**BACKGROUND**

Report Prepared By: Camille Leung, Planner III, Telephone 650/363-1826

Owner/Applicant: Big Wave Group, LLC

Environmental Evaluation: A Draft Environmental Impact Report (DEIR) was issued with a 64-day public review period from October 22, 2009 to December 24, 2009. The Final EIR was issued with a 12-day public review period from October 15, 2010 to October 26, 2010.

Chronology:

<u>Date</u>	<u>Action</u>
July 6, 2000	- Recordation of three (3) Certificates of Compliance, including the project parcels (PLN 1999-00442).
October 18, 2005	- Application is submitted and is deemed incomplete. Planning staff sends out project referrals to collect comments from other County departments.
June 5, 2006	- Pre-application Meeting at the El Granada Elementary School.
December 5, 2006	- County enters into an Agreement with Christopher A. Joseph and Associates (CAJA) to perform environmental consulting services, including preparation of a Draft Environmental Impact Report for the project.
2007 to 2008	- After various site inspections by wetland scientists, it was determined that the previous delineation of federal and state wetlands would need to be revised. The new wetland delineation would require the project footprint to be revised.
September 18, 2008	- Applicant submits revised project plans for both sites, along with a Facilities Plan (Draft #1) for the project, prepared by Big Wave LLC, which provides a detailed project description and environmental analysis.
November 18, 2008	- EIR Scoping Meeting conducted at the El Granada Elementary School. CAJA continues preparation of the Draft EIR based on the revised project description.
January 1, 2009	- Applicant submits revised Facilities Plan (Draft #2), including a revised project description.

- October 22, 2009 - Public release date of Draft EIR.
- November 4, 2009 - Community Development Director extends the 45- day public review period to 60 days, with public review period ending on December 24, 2009.
- November 18, 2009 - Planning Commission Informational Public Hearing of the Draft EIR.
- December 24, 2009 - End of Draft EIR 64-day Public Review Period.
- October 15, 2010 - Public release date of the FEIR, which includes revisions to the Draft EIR, proposed project minor modifications, all comments on the Re-Circulated DEIR received during the public review period and response to comments.
- October 27, 2010 - Planning Commission public hearing of the DEIR, FEIR, and proposed project.

Location: The project site is located on the west side of Airport Road, north of Stanford Avenue and across the street from the Half Moon Bay Airport, in the unincorporated Princeton area of the COUNTY. 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. A natural drainage swale separates the two parcels and leads to the Pillar Point Marsh, a salt marsh habitat. A total of 0.74 acres (32,180 sq. ft.) of wetlands on the project site is under the protection of the California Coastal Commission by their definition of wetlands. A portion of this total, 0.45 acres, is under Federal jurisdictional waters/wetlands on the project site, under the permit authority of the US Army Corps of Engineers (USACOE).

Parcel Sizes: The project site is 19.4 acres. 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 in size.

Existing Zoning:

*Northern Parcel (Proposed Office Park site):*

- 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)
- Resource Management-Coastal Zone/Design Review/Coastal Development District (RM-CZ/DR/CD)

*Southern Parcel (Proposed Wellness Center site):*

- Waterfront/Design Review/Coastal Development District (W/DR/CD)
- Waterfront/Airport Overlay/Design Review/Coastal Development District (W/AO/DR/CD)
- Resource Management-Coastal Zone/Design Review/Coastal Development District (RM-CZ/DR/CD)

General Plan Designation: General Industrial and General Open Space

Setting: The project site is surrounded by the Half Moon Bay Airport (east), the El Granada Mobile Home Park also called “Pillar Ridge” Manufactured Home Community (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.

Water Supply: A well on the northern parcel, currently utilized for agricultural irrigation, would continue to operate under the proposed project to provide water for domestic use under a new private water distribution system. Domestic well water would be treated with membrane micro filtration followed by UV light disinfection. Fire suppression water supply options to include: (1) fire system hookup, (2) using the on-site fire suppression water supply through the Wellness Center swimming pool and/or below ground 180,000 gallon tank, or (3) a combination of municipal hookup and on-site water storage. As a secondary option, CCWD would provide domestic water in lieu of a private system. The project site is within the sphere of influence of CCWD, contiguous to CCWD boundaries and eligible for annexation. Annexation would require Local Agency Formation Commission (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.

Sewage Disposal: Wastewater systems options are: (1) use of an on-site wastewater treatment plant with disposal through a combination of connection to the Granada Sanitary District (GSD) system for 8 EDUs and on-site recycled water usage, and/or (2) connection to GSD system for all wastewater generated.

Flood Zone: Significant portions of the project site, as shown on the 1984 FEMA flood mapping, are shown in a Zone A flood area (a 100-year flood hazard area). However, in a 2005 Letter of Map Amendment (LOMA), FEMA removed the project parcels from the floodplain.

Site Constraints: The 14.25-acre northern parcel (Office Park Site) contains a 125-foot wide Airport Overlay (AO) setback area along the eastern (front) property line, a 100-foot wetland buffer zone along the south and west (rear and left) property lines, and an Alquist-Priolo Earthquake Fault Zone over a western portion of the property. The 5.28-acre southern parcel (Wellness Center) contains a 125-foot wide Airport Overlay (AO) setback area along the eastern (front) property line and a 100-foot wetland buffer zone along the north and west (right and rear) property lines. The southern parcel is not within an Earthquake Fault Zone.

## **DISCUSSION**

### **I. ENVIRONMENTAL REVIEW**

#### **A. Preparation of the FEIR**

The 64-day Draft EIR public review period began on October 22, 2009 and ended on December 24, 2009. The purpose of the review period is to provide interested public agencies, groups and individuals the opportunity to comment on the adequacy of the DEIR and to submit testimony on the possible environmental effects of the proposed project. During this period, the County received 245 comment letters.

Pursuant to Section 15132 of the *California Environmental Quality Act (CEQA) Guidelines*, this FEIR consists of: (a) Corrections and Additions to the Draft EIR, (b) a list of persons and organizations that commented on the Draft EIR, (c) comments received on the Draft EIR, (d) the County's responses to significant environmental points raised in the review and consultation process, and (e) any other information added by the County. Between the close of the DEIR public review period on December 24, 2009 and the release date of the FEIR on October 15, 2010, the County prepared the FEIR. Initially, Planning staff worked on the FEIR, along with its environmental consultant for this project, Christopher A. Joseph and Associates (CAJA), and with information provided by the applicant, until the County's contract with CAJA was terminated in March 2010. Subsequently, Planning staff completed the FEIR under the review of staff from other County departments, along with information provided by the applicant. The FEIR was reviewed by County staff from the Planning and Building Department's geotechnical consultant, the airport and road divisions of the Department of Public Works, the Environmental Health Division, Local Agency Formation Commission (LAFCo), and County Counsel.

As Lead Agency under CEQA, the County of San Mateo must provide each public agency that commented on the Draft EIR with a copy of its responses to comments at least ten days before certifying the Final EIR. In addition, the Lead Agency may also provide an opportunity for members of the public to review the Final EIR before certification, although this is not a requirement of CEQA. The Final EIR, together with the DEIR, makes up the Final EIR as defined in the *State CEQA Guidelines* Section 15132. In compliance with the CEQA Guidelines, copies of the FEIR were made available on October 15, 2010 at the Planning Department website, at the Planning Department counter, and at the Half Moon Bay Library. Full hard copies of the FEIR were also provided to the Pillar Ridge manufactured home community and other community organizations on the same day. Also, on the same day, public agencies that commented on the DEIR were provided a response to comment.

B. Summary of Comments on the DEIR

The 245 comment letters to the Draft EIR presented complex questions covering an large number of topics. However, the County received a number of similar questions and comments about certain topics. A comprehensive response to these topics were provided in the “Topical Responses,” in Section II.D of Volume I, of the FEIR. Topical Responses were prepared for the following subject areas as summarized, among others:<sup>2</sup>

1. Story Poles/Visual Simulations of the Proposed Project: Generally, public comments regarding story poles include requests that the applicant be required to erect story poles at the site during the public comment period, raise questions about the County’s requirement for story poles, challenge the accuracy of computer-generated simulations contained in the DEIR, and assert that story poles are needed to provide an accurate depiction of the project’s visual impacts. Topical Response 7 of the FEIR outlines the methodology underlying the creation of the visual simulations and maintains that they are accurate.
2. Deferral of Mitigation Measures: Generally, public comments regarding the alleged deferral of mitigation include requests to revise or re-circulate the Draft EIR to provide additional technical details or the results of additional studies necessary to determine the extent of project impacts. Commenters assert that the DEIR defers important project details and studies into the future and that without such information it is difficult to assess impacts and develop appropriate mitigation. Topical Response 4 of the FEIR describes how each required mitigation measure in the DEIR complies with the CEQA Guidelines.
3. Alternatives to the Proposed Project: Generally, public comments regarding the alternatives to the proposed project request the County to consider a described alternative or an alternative project location. Topical Response 5 of the FEIR outlines the methodology underlying the County’s selection of Project Alternatives and adds clarification to the alternatives that were considered to be infeasible in the DEIR.
4. Traffic and Parking Impacts: Generally, public comments regarding traffic and parking impacts of the proposed project include statements that: (1) the capacity of the existing road network and levels of service cannot accommodate the amount of traffic that would result from the project at full occupancy (particularly traffic associated with the Office Park), (2) Mitigation Measure TRANS-1 of the DEIR should be revised to require the signal at Cypress Avenue and Highway 1 to be installed prior to occupancy of the Office Park, and (3) granting of a Parking Exception will impact parking along Airport Street. Topical Response 8 of the FEIR described modifications made to Mitigation Measure TRANS-1 in order to require a new traffic report to be submitted upon occupancy of every 60,000 sq. ft. of office space, until full project occupancy, and to require traffic reports to be submitted bi-annually after full project occupancy. Also, the revised mitigation measure requires traffic reports to study the following additional intersections to evaluate if they maintain a LOS level “C” or better: Airport Street and Stanford/Cornell (Study Intersection 3 of DEIR), Broadway and Prospect Way (Study Intersection 2), Prospect Way

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<sup>2</sup> Only some of the Topical Responses are listed here. Therefore, numbering of Topical Responses does not match the FEIR.

and Capistrano (Study Intersection 1), and State Route 1 and Capistrano (Study Intersection 8). The revised mitigation measure shortens the timeframe for the implementation of the recommendations of the traffic report, including signal installation, from 5 years to 1 year of the date of the report.

Regarding parking impacts, Topical Response 8 of the FEIR states that DEIR analysis represents a conservative interpretation of the County parking requirements for the mixed-use Office Park, applying the parking requirements for office use to the entire project and setting a parking requirement of 737 parking spaces. Based on County Parking Regulations that set different parking space requirements for “office use” (one space for every 200 sq. ft.) and “other uses permitted in the ‘M’ Zoning Districts” (one space for every 2,000 sq. ft.), 518 parking spaces would be required for the Office Park project. Therefore, the demand for parking at the site is likely to be in between 518 and 737 parking spaces, which averages at 628 parking spaces. Based on the foregoing and the proposed shuttle service that reduces the need for 50 parking spaces at the site, granting of a parking exception to allow 640 spaces, where 737 would otherwise be called for under the regulations, would not result in a significant impact to parking in the area.

5. Tsunami Hazards: Generally, public comments regarding potential tsunami hazard at the project site include statements that the applicant should consider an alternative location for the Wellness Center, on the basis that it is inappropriate to provide housing for the developmentally disabled in a tsunami hazard area. Other comments offered informational resources regarding the design of structures within tsunami areas and evacuation methods. Topical Response 9 outline applicable County regulations and summarizes additional information provided by the applicant to address concerns including the design of proposed structures in the tsunami inundation zone and tsunami evacuation plans.
6. Sanitarium Use Permit: Several of the commenters stated that the Wellness Center is not a permitted use in the Waterfront (W) Zoning District and/or that the project does not meet the definition of a “sanitarium”, as that term is used in the County Zoning Regulations. Topical Response 11 of the FEIR outlines applicable County regulation and clarifies how the proposed use is consistent with a sanitarium use.
7. Construction Phasing for the Office Park: Generally, commenters stated that the 30- to 36-month time estimate provided in the DEIR for construction of the Office Park is unrealistic, due to the demand-based phasing of the Office Park buildings. Some commenters assert that construction is likely to take place over a longer timeframe and result in a longer exposure to noise for people residing or working in the area. Topical Response 12 of the FEIR illustrates three potential scenarios for the construction of the Office Park buildings (3-year, 7.4 years, and 20 years), each resulting in somewhat different noise impacts.<sup>3</sup> The three scenarios turn on variations in the demand for mixed office space and vary in the following factors: (1) number of buildings being constructed at any given time, (2) continuous or non-continuous construction (gaps or no gaps in time between buildings), and (3) the total duration for the completion of project construction.

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<sup>3</sup> County staff realizes that, in reality, there may be a range of potential scenarios, but in order to simplify the range of possible construction scenarios for noise impact analysis, three scenarios are described.

8. County Permit History: Generally, public comments regarding violations at the project site make assertions involving one or both of the following: (1) that the property owner destroyed wetlands on the southern project parcel through recent, illegal grading and filling, specifically referring to the disappearance of a “finger” of wetlands shown on a 1994 map prepared by the US Army Corps of Engineers; and/or (2) that the existing agricultural well on the Office Park site never received a Coastal Development Permit or Exemption and is not legal. Topical Response 13 of the FEIR outlines the permit history, including violations, at the project sites and concludes that, with regard to the past grading, there are no outstanding violations at the site. However, the topical response acknowledges that, while the County is unable to find documentation of the issuance of a Coastal Development Permit or Exemption for the agricultural well on the northern parcel, the County has confirmed that the well was approved by the San Mateo County Public Health Division, and is, therefore, a legal well. The review and approval of a Coastal Development Permit for the proposed domestic well use will also resolve the coastal permit status of the well.
9. Location of Project Near the Half Moon Bay Airport: Generally, public comments regarding Half Moon Bay Airport focus on the concerns of placing residential units in close proximity to the airport. Concerns expressed focus on potential impacts related to safety, noise, electromagnetic fields, and dust. Comments also focused on the County’s responsibility to maintain compatible land uses adjacent to the airport due to the County’s acceptance of grants from the Federal Aviation Administration (FAA). Topical Response 14 of the FEIR provides analysis of project compliance with the safety compatibility zones of the California Airport Land Use Planning Handbook (Handbook), provides clarification of noise analysis in the DEIR, and describes how the applicant intends to address concerns expressed by the FAA regarding the Wellness Center as an incompatible land use to the Half Moon Bay Airport.
10. Project Potable and Recycled Water Demand: Generally, public comments regarding the DEIR’s analysis of project water consumption assert the presence of inconsistencies and call for additional studies or information to adequately analyze the impacts of water consumption. Topical Response 15 of the FEIR provides estimates of project potable water demand, wastewater generation and disposal through a combination of treatment/recycling and connection to the Granada Sanitary District system, and recycled water demand. The proposal for sub-surface wastewater disposal (i.e., drainfields) described in the DEIR has been eliminated.

C. Project Updates in the Final EIR

As described in the FEIR, the applicant has made the following changes and clarifications since the publication of the Draft EIR:<sup>4</sup>

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<sup>4</sup> Main project updates are summarized here but described in detail in the Section III of the Final EIR.



## 1. *Wellness Center*

- Reduced Size of Wellness Center: The residential component of the Wellness Center has been reduced in size from 78,785 sq. ft. to 76,462 sq. ft., and the number of residential units has been reduced from 70 units to 57 units, in order to avoid disturbance of the archaeological site identified on the project site. The occupancy of the Wellness Center has not changed and remains at 50 developmentally disabled adults and 20 staff persons. The seven (7) Wellness Center buildings and outdoor recreation facilities shown in the DEIR have been condensed into 2 buildings. Building A includes 45 dwelling units, public storage uses, and other ancillary uses. The remaining 12 units (Breezeway Units) are located within Building B. The garage shown in the site plan has been eliminated.
- Reduced Size of Commercial Public Storage and Communications Uses: The commercial public storage building has been reduced in size from 20,000 sq. ft. to 10,000 sq. ft. and incorporated into the design of the Wellness Center. The communications building (originally on the Office Park parcel) has also been incorporated into the main Wellness Center building.
- Elimination of Community Center: The Community Center has been removed to reduce environmental impacts. The pool, fitness center, and locker facilities will now be restricted for use by Wellness Center residents, staff and their guests and Office Park employees only. Initially, these facilities were proposed to be available to the general public.

## 2. *Office Park*

- Office Park Shuttle: Prior to occupancy of any Office Park building, the applicant will implement an off-site parking agreement and/or shuttle services to the Office Park (to accommodate a minimum of 50 cars and their drivers) for the purpose of reducing project traffic.
- Modified Alternative C: Alternative C of the DEIR has been modified to further reduce impacts, based on public comments and Lead Agency input. With the following minor revisions, Modified Alternative C has been found to be the Environmentally Superior Alternative:
  - a. Design: In order to increase the compatibility of the buildings with the commercial/industrial Princeton area and improve project consistency with design review standards, the modified alternative retains the same square footage as the original alternative, but rather than the four 2-story buildings that were originally proposed, Alternative C includes eight smaller buildings (2-stories in the front row closest to Airport Street and 3 stories in the back row). Planning staff recommends the application of Design Overlays, as shown in Attachment H, over all Office Park buildings.

- b. Building Footprint: The original Alternative C would have resulted in a 41% increase in the project footprint. The modified alternative would result in a 15% increase in the project footprint compared to the original Office Park proposal, while retaining the same total building square footage.
- c. Traffic: Based on review of public comments concerning traffic impacts to Cypress Avenue and Cabrillo Highway, staff has worked with the applicant to propose an optional alternate traffic circulation under Modified Alternative C. The alternate traffic circulation directs all construction traffic and project operational traffic to the south through the commercial area of Princeton, avoiding the residential area of Moss Beach, as shown on the traffic circulation plan for Modified Alternative C.

### 3. *Utilities*

- Clarification of Water Source Options: Domestic water supply options, as described by the DEIR, include options for water systems such as: (1) domestic hookups and one fire system hookup, and (2) use of well water/treatment systems. The FEIR adds fire suppression water supply options to include: (1) fire system hookup, (2) using the on-site fire suppression water supply through the Wellness Center swimming pool and/or below ground 180,000 gallon tank, or (3) a combination of municipal hookup and on-site water storage.
- Clarification of Wastewater System Options: In the DEIR, the proposed options for wastewater systems were: (1) use of an on-site wastewater treatment plant with disposal through irrigation and infiltration through three drainfields, and/or (2) municipal hookups. The FEIR clarifies wastewater systems options as: (1) use of an on-site wastewater treatment plant with disposal through a combination of municipal hookup and on-site recycled water usage, and/or (2) municipal hookups.

This clarification eliminates the three sub-surface drain fields from the project. All wastewater will be treated to a level meeting Title 22 requirements. A majority of treated wastewater will be recycled through toilet flushing, below-ground drip irrigation of on-site landscaping, and surface and solar panel washing. Any excess recycled water will be directed into the Granada Sanitary District (GSD) system. The GSD connection will also provide emergency backup wastewater treatment.

### 4. *Stormwater Drainage*

The project, as described in the DEIR, directed roof drainage into “rain gardens” in the wetlands. Project drainage is revised to direct all of the roof runoff through a perforated pipe system to an infiltration system located in trenches below the parking lots. Likewise, all surface water in the parking lots would be absorbed into the permeable pavers and infiltrate into the same system. The parking lot infiltration system is sized for a 10-year storm and includes 6 inches of concrete, underlain by 12 inches of open graded baserock, which then sits on clayey sandy soils. Both the concrete and baserock have permeabilities of 3 inches per hour, with the underlying soil having a permeability of one-half inch to 1

inch per hour. Based on the elimination of surface water runoff from rooftops, the project will not increase or only minimally increase storm runoff and surface flows from existing conditions.

5. *Landscaping*

In addition to the 29,000 proposed trees and plants in the Planting Plan, 4,000 upland trees and about 6,000 upland shrubs will be installed around the perimeter of the property that will provide a visual and noise buffer. These plantings will be designed in accordance with the Palustrine Scrub Shrub I and II Palustrine Forest I of the “90% Basis of Design - Riparian and Water/Wetlands Ecosystem Restoration” added to Appendix E of the DEIR. Trees would be watered using recycled water via subsurface drip irrigation.

**II. COMPLIANCE WITH COUNTY REGULATIONS**

**A. COMPLIANCE WITH THE COUNTY’S GENERAL PLAN**

Discussion of General Plan (GP) policies is limited to policies fundamental to project review. It should be noted that policies that relate to topics discussed substantively relative to another County policy (e.g., Local Coastal Plan policy, grading regulation) elsewhere in this report, have not been discussed in this section, to minimize redundancy.

1. Soil Resources Policies

Policies 2.20 (*Regulate Location and Design of Development in Areas With Productive Soil Resources*) and 2.21 (*Protect Productive Soil Resources Against Soil Conversion*) call for land use and subdivision of productive soil resources to utilize appropriate management practices to protect against soil conversion, including, but not limited to, measures which require clustering of structures. Project sites contain prime soils and are currently farmed. However, the parcels are designated for urban land uses.

As described in the DEIR, conversion of these lands already designated for non-agricultural uses are not considered a significant impact. Also, the applicant proposes to continue to farm a portion of the Wellness Center site and portions of the Office Park site (that are not under construction). As described previously, the design of the Wellness Center been has modified to avoid an archaeological site. The modified design improves project compliance with this policy by clustering the Wellness Center buildings with existing buildings in Princeton adjoining the site to south and consolidating the public storage and communications uses (previously separate independent structures) within the Wellness Center buildings. The eight proposed Office Park buildings are located between 10 feet and 20 feet apart and are clustered together at the center of the site.

2. Visual Quality Policies

Policy 4.20 (*Utility Structures*) calls for minimization of the adverse visual quality of utility structures, including roads, roadway and building signs, overhead wires, utility poles, TV antennae, windmills and satellite dishes. Communication equipment for the project is

located underground or as an accessory use within the proposed buildings. In the revised proposal, the Communications Building has been eliminated and the functions of this building are located within the larger Wellness Center building. Condition 51 requires that the project utilize existing utility poles and prohibits new utility poles.

### 3. General Land Policies

The GP land uses designation for the project site is General Industrial and General Open Space (limited to portions in delineated wetland areas and wetland buffer zones). The General Industrial land use designation is described as “Manufacturing and processing uses including but not limited to fabricating, assembling, and storing products.” The Office Park complies with this designation and would include, as proposed, 40% General Office, 25% Research and Development, 20% Light Manufacturing, and 15% Storage uses. As discussed in Section II.D.1.a of this report, the Wellness Center is consistent with a “modern sanitarium use” and is allowed in any zoning district with a use permit.

The General Open Space land use designation is described as “Resource management and production uses including, but not limited to, agriculture, oil and gas exploration. Recreation uses including, but not limited to, stables and riding academies; and residential uses including, but not limited to, non-transient housing. Service uses including, but not limited to, hotels and motels.” The applicant proposes wetland landscaping to provide wetland habitat within wetland and wetland buffer zones. The proposal is consistent with the land use designation.

### 4. Urban Land Use Policies

Policy 8.1 (*Urban Land Use Planning*) calls for the County to 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 meets general social and economic needs. Proposed Office Park uses are consistent with the zoning and GP land use designation for the area. The Wellness Center would provide 57 affordable housing units and job opportunities for disabled adults in an area that contains existing commercial, industrial, and residential uses. Due the proximity of the proposed projects, the residents of the Wellness Center would provide support services to businesses at the Office Park without generating traffic and parking impacts. Therefore, the project, which provides additional housing and industrial and office uses, is consistent with the existing mix of uses in the area.

Policies 8.2 (*Land Use Objectives for Urban Communities*) and 8.5 (*Definition of Urban Community*) define Urban Communities as large, populated areas which contain a wide range of residential land use densities and a mix of land uses which provide services to surrounding areas and meet, in part, the internal shopping, employment and recreational needs of the community residents. Policy 8.8 (*Designation of Existing Urban Communities*) designates Montara-Moss Beach-El Granada as an existing Urban Community. The “Overview Background and Issues, Part 1” of the General Plan includes Princeton in the “Montara-Moss Beach-El Granada” community designation, specifically naming Pillar Point Harbor as a “cluster” of commercial use and the Half Moon Bay Airport as an

area dominated by industrial uses on the Midcoast. The proposed Wellness Center and Office Park uses are consistent with Princeton’s Urban Community designation, in that the Wellness Center proposal would add higher density, affordable, special needs housing and the project would add employment opportunities for Wellness Center residents and 825 jobs at the Office Park, to the area.

Policy 8.24 (*Buffers*) seeks to buffer industrial development when needed to protect adjacent land uses. The Office Park would be setback over 200 feet from the mobile home park located to the north of the project site, with only parking, landscaping and a trail to be located within this buffer area. The proposed Office Park would be buffered from the proposed Wellness Center by the existing drainage and a 100-foot wetland buffer zone on each side of the drainage. The project sites are buffered from the Fitzgerald Marine Reserve to the rear (west) by a 100-foot wetland buffer zone. The project sites are buffered from the Half Moon Bay Airport across the street to the east by a 153 feet front setback that, per Condition 52, contains only parking uses, trail uses and landscaping.

Policy 8.42 (*Buildings*) encourages the construction of energy efficient buildings that use renewable resources, to the maximum extent possible. As proposed and conditioned, all buildings will achieve a Platinum-rating from Leadership in Energy and Environmental Design (LEED). Condition 6 requires that the project is implemented as proposed and discussed in the Draft EIR and approved by the Planning Commission, including the project’s LEED rating.

## 5. Water Supply Policies

Policy 10.3 (*Water Conservation*) calls for the conservation and efficient use of water supplies. The applicant proposes to use an existing well located on the Office Park (northern) parcel as the domestic water supply to both the Wellness Center and the Office Park. The applicant proposes a municipal connection, on-site water storage (below ground tank or swimming pool) or a combination of both for fire suppression water supply. In order to minimize impacts to ground water supplies and conserve water usage, wastewater will be treated and then either recycled or used for irrigation on-site.

Policy 10.10 (*Water Suppliers in Urban Areas*) calls for water systems to be considered the preferred method of water supply in urban areas and specifically discourages the use of wells to serve urban uses. However, the policy allows for well use when all of the following criteria are demonstrated:

- a. Water quality meets County and State standards: As proposed and mitigated, the project will comply with the requirements of the County Environmental Health Division and the State Regional Water Quality Control Board.
- b. The water flow meets County and State standards and is sufficient to meet the needs of the requested use: Page IV.N-36 of the DEIR states that “the existing well capacity [approximately 24,000 gpd] would be sufficient to meet an anticipated higher net water demand” of the project (approximately 17,000 gpd).

- c. The well is a safe distance from potential sources of pollution and other existing wells: As discussed in Impact HAZ-2, domestic use of the existing well would not, as proposed and mitigated, result in a significant impact involving an accidental release of hazardous materials in groundwater or groundwater from hydraulically up-gradient properties. As discussed in Impact HYDRO-2 and HYDRO-6 of the DEIR, the proposed use of the well would not, as proposed and mitigated, substantially deplete groundwater supplies, substantially interfere with groundwater recharge or otherwise substantially degrade groundwater quality.

As discussed in Section II.A.5 of this report, the County has added Condition 9 to require the applicant to actively pursue a water connection to CCWD for the potable water and fire suppression needs of the entire project. As stated in the FEIR, connection to CCWD would require annexation to CCWD, which would require review and approval by LAFCo and approval of amendments to the Coastal Development Permits for the El Granada Pipeline replacement project (A-1-HMB-99-20 and A-2-SMC-99-63). Until a municipal water connection can be achieved, the proposed well use would be allowed as approved on an interim basis. If and when a connection is achieved, the existing well would be closed to the property owner, with physical closure or destruction of the well per the requirements of the Director of the Environmental Health Division and other applicable regulatory agencies.

Policy 10.26 (*Wastewater Reuse*) directs the County to encourage the reuse and recycling of water whenever feasible and encourage the use of treated wastewater that meets applicable County and State health agency criteria. The project includes a water treatment and recycling plant that, as proposed, mitigated, and conditioned, will comply with Regional Water Quality Control Board requirements. All project wastewater is intended to be recycled or used for sub-surface landscape irrigation. In the event that there is excess unused wastewater, the excess amount will be disposed of into the Granada Sanitary District (GSD) system.

## 6. Wastewater Policies

Policy 11.5 (*Wastewater Management in Urban Areas*) calls for sewerage systems to be considered as the appropriate method of wastewater management in urban areas. As discussed in detail in Section III.E of this report, with regard to the Subdivision Regulations, the applicant proposes a combination of on-site wastewater treatment and recycling and wastewater disposal to the GSD sewer system for eight (8) equivalent dwelling units (EDUs)<sup>5</sup>, where eight EDU's is equivalent to 1,768 gallons per day. The 8 EDUs will be used to discharge the unused Title 22 treated water, as needed. The project is consistent with GP Policy 10.26, which encourages wastewater treatment and reuse.

## 7. Transportation Policies

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<sup>5</sup> EDUs are used to calculate the connection fee charged by the Granada Sanitary District. Taxes for eight (8) EDUs have been assessed by GSD to the property. One (1) EDU is equivalent to 221 gallons per day.

Policy 12.15 (*Local Circulation Policies*) calls for the County to plan for providing the following:

- a. Maximum freedom of movement and adequate access to various land uses: Per Mitigation Measure TRANS-1 of the FEIR, the applicant is required to submit traffic reports for every 60,000 sq. ft. of built mixed office space, evaluating the levels of service at intersections that would be used to access the site, including Cypress Avenue/Highway 1 and intersections in Princeton. The traffic report shall state whether or not the level of service at Cypress Avenue and SR 1 warrants a signal and shall evaluate study intersections in Princeton to verify that they maintain a LOS level of “C”<sup>6</sup> or better. The applicant shall implement report recommendations, as required by the Department of Public Works and the Planning and Building Department, as appropriate and on timelines mandated by the Department of Public Works and Planning and Building in order to maintain an LOS of “C” or better. As discussed in the EIR, project traffic impacts would not be significant and, as mitigated, all study intersections would operate at LOS C or better.
- b. Improved streets, sidewalks, and bikeways in developed areas: The applicant proposes to install a Class 1, 10-foot wide multi-purpose paved trail fronting the project sites along Airport Street, to accommodate pedestrians, persons in wheelchairs, and bicyclists.
- c. Minimal through traffic in residential areas: Should the Planning Commission desire to approve the version of the Office Park presented in Alternative C, the applicant would be required by Condition 67 to prohibit project and construction traffic along Cypress Street, a largely residential street, thereby limiting traffic to non-residential streets in Princeton.
- d. Routes for truck traffic which avoid residential areas and are structurally designed to accommodate trucks: See “c” above.
- e. Access for emergency vehicles: As stated in Impact HAZ-4 of Section IV.G (Hazards and Hazardous Materials) of the DEIR, 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. Project traffic impacts would not be significant and, as mitigated, all study intersections would operate at LOS C or better. Therefore, impacts associated with an emergency response or evacuation plan would be less than significant.
- f. Bicycle and pedestrian travel: See “b” above. Also, see discussion of General Plan Policies 12.38 and 12.39.

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<sup>6</sup> For unsignalized intersections, a Level of Service (LOS) “C” represents operations with average delays resulting from fair progression and includes delays from 15.1 up to 25 seconds.

- g. Access by physically handicapped persons to public buildings, shopping areas, hospitals, offices, and schools: See “b” above.
- h. Routes and turnouts for public transit: As stated on page IV.M-40 of the DEIR, the proposed project would not generate a need for additional transit service.
- i. Parking areas for ridesharing: Condition 6 requires the applicant to implement a Transportation Demand Management program, including an off-site parking agreement and shuttle services to the Office Park (to accommodate a minimum of 50 cars and their drivers) for the purpose of reducing project traffic on Cypress Avenue, Prospect Way, Broadway to Cornell Avenue, Harvard Avenue, and Yale Avenue.
- j. Coordination of transportation improvement with adjacent jurisdictions: Should improvements become required per Mitigation Measure TRANS-1, the property will be required to coordinate with CalTrans and County of San Mateo.

Policy 12.38 (*Facilities for Bicyclists*) encourages large employers to provide shower and locker facilities for their employees who bike to work as part of a commute alternative program. Per Condition 38, the property owner of the Office Park shall construct shower and locker facilities for every 56,250 sq. ft. constructed, in addition to the implementation of other TDM measures in order to further mitigate parking and traffic impacts.

Policy 12.39 (*Pedestrian Paths*) calls for the provision of safe and adequate pedestrian paths in new development connecting to activity centers, schools, transit stops, and shopping centers. As proposed and conditioned, the applicant will provide a sidewalk meeting the requirements of a Class 1 multiple use trail along the frontage of both properties connecting to the POST Trailhead property north of the site. In order to separate pedestrians and bicyclists from traffic along this narrow section, per Condition 65, the applicant shall install k-rails within the Airport Street right-of-way (north-bound only) over the drainage channel.

## 8. Natural Hazards Policies

Policy 15.20 (*Review Criteria for Locating Development in Geotechnical Hazard Areas*) establishes the following review criteria:

- 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. As stated in Section IV.F (Geology and Soils) of the DEIR, 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, as stated in Impact GEO-1 of the DEIR, 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.

- b. Wherever possible, avoid construction in steeply sloping areas (generally above 30%). As stated in Section V-5.2 (Impacts Found to be Less Than Significant), 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 (slope is approximately 1%) and surrounding area.
- c. Avoid unnecessary construction of roads, trails, and other means of public access into or through geotechnical hazard areas. The project does not involve the creation of any new roads or trails into or through geotechnical hazard areas.
- 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. As described above, no structures are proposed within geotechnically hazardous and/or steeply sloping areas. However, Office Park buildings would be located adjacent to an Earthquake Fault Zone. All Office Park and Wellness Center structures would be required to comply with Mitigation Measures GEO-1 through GEO-8 of the DEIR, which require project buildings to incorporate structural design measures to ensure safety and reduce potentially hazardous conditions to an acceptable level.

## 9. Noise Policies

Policy 16.2 (*Reduce Noise Impacts Through Noise/Land Use Compatibility and Noise Mitigation*) calls for the reduction of noise impacts through measures that promote noise/land use compatibility and noise mitigation. As discussed in the Noise chapter of the DEIR, project construction may result in potentially significant noise and ground-borne vibration impacts to off-site sensitive receptors. However, per Condition X, the applicant would be required to implement noise muffling of construction equipment and install temporary sound barriers between the Pillar Ridge manufactured home community and the Office Park building construction area. Per Condition 5cc., the applicant shall use drilled piles, as proposed by the applicant, instead of impact pile drivers to minimize ground-borne vibration. In addition, staff has added Condition 43 to require the construction of the buildings on Lots 3 and 4 and 9 and 10, lots nearest the Pillar Ridge homes, so that the buildings would act as an additional permanent noise barrier through to the end of project construction. The applicant would also be required to comply with the County's Noise

Ordinance limiting construction hours to between 7:00 a.m. to 6:00 p.m. on weekdays and 9:00 a.m. to 5:00 p.m. on Saturdays, and prohibiting construction on Sundays, Thanksgiving and Christmas. Conditions of approval, as discussed above, would further reduce project noise and vibration impacts, which are less than significant level.

Policies 16.5 (*Noise Reduction Along the Path and at the Receiver*) and 16.15 (*Architectural Design Noise Control*) promote noise reduction along the path and at the receiver through techniques which can be incorporated into the design and construction of new development, including, but not limited to, site planning, noise barriers, architectural design, and construction techniques, including (1) grouping noise sensitive rooms together separated from noise sources, (2) placing windows, vents and other openings away from noise sources, and (3) avoidance of structural features which direct noise toward interior spaces). As discussed in the DEIR and in Topical Response 14 of the FEIR, the Wellness Center would be located in an area where noise levels are dominated by vehicular traffic on Airport Street and aircraft activity at Half Moon Bay Airport. The DEIR states that new residential projects generally provide an exterior-to-interior noise reduction of more than 30 dBA, thereby reducing estimated future exterior noise levels (approximately 58.8 dBA CNEL) to estimated interior noise levels that are lower than the County Interior Noise Standard (45 dBA CNEL). Therefore, the project would not expose Wellness Center residents to excessive noise levels. Also, as discussed in Section IV of this report and required by Condition 56, noise levels experienced by Wellness Center residents would be further reduced due to the following site design aspects:

- a. The applicant proposes to relocate the residential units so that they are as far as possible from the airport.
- b. The applicant proposes to construct the commercial storage uses and Wellness Center athletic facilities along the length of Building A of the Wellness Center, such that the non-residential areas are used to separate and buffer the residential units from the airport.
- c. The applicant proposes to construct the residential units such that all face to the west and away from the airport, whereby no residential windows will face the airport and the residents.

In addition, Condition 43 requires the applicant to incorporate the noise-reducing design techniques of the above policies into the design of the Wellness Center, to the extent feasible, prior to Planning approval of a building permit for the applicable project.

#### 10. Airport Safety Policies

Half Moon Bay Airport is a general aviation, single runway airport, owned and operated by the County of San Mateo. The airport is administered by the County Department of Public Works. Runways 12 and 30 are oriented northwest-southeast and is 5,000 sq. ft. long (physical length) and 150 feet wide, with a threshold of displacement at both runway ends of 763 feet. It should be noted that, while Airport Land Use Committee (ALUC) review of the project is not required as the project does not involve a General Plan Amendment or

Re-Zoning, the project has been presented at two ALUC meetings and, subsequently, the County has received comments from City/County Association of Governments of San Mateo County (C/CAG) on behalf of ALUC. These comments are included in the FEIR (Comment Letter 192). It should be noted that the Federal Aviation Administration (FAA) has commented on this project (Letter is included as Attachment Z). For a discussion of concerns expressed by the FAA regarding the proposed location of residential uses of the Wellness Center near Half Moon Bay airport, refer to Section IV of this report.

Policy 16.42 (*Limit Land Uses at Ends of Runways*) limits 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. According to the California Airport Land Use Planning Handbook (Handbook), 30% to 50% of near-airport aircraft accident sites lie within the Runway Protection Zone (RPZ or Zone 1) and Zone 2, as defined in the Handbook. As discussed in Topical Response 14 of the FEIR, the location of Zone 1 for Half Moon Bay Airport has been established. As shown in the *Half Moon Bay Airport: Airport Layout Drawing* (Attachment AA), the RPZ (Zone 1) for this airport is located entirely on airport property. For the purpose of approximating the location of Zone 2 for this EIR, the County used guidelines from the Handbook and the FAA-approved map of Zone 1. Zone 2 is estimated to be approximately 3,000' in length and 450' wide. With this understanding, it appears that Zone 2 would not extend over the project parcels. Staff believes that the above analysis with respect to the comment is adequate for the purpose of CEQA. It also acknowledges that any final determination of the dimensions of Zone 2 would involve assessment and consideration by the County Airport Land Use Commission.

The intent of the Airport Overlay (AO) Zoning 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. In compliance with the AO Zoning District regulations, no structures are proposed in areas of the AO Zoning District on the Office Park Property, only outdoor parking uses, trail uses and landscaping. On the Wellness Center Property, the applicant proposes to locate public storage uses and accessory communications uses to serve the entire property (refer to Attachment O). Per AO Zoning District requirements, uses located within the AO zone will require a Use Permit and capacity shall be restricted to no more than three (3) persons occupying the site at any one time. Further discussion of project compliance with the regulations of the AO Zoning District is provided in Sections II.D.1.c and II.D.2.b of this report.

a. Compliance with the San Mateo County Comprehensive Airport Land Use Plan

State law requires an airport land use commission to prepare and adopt a comprehensive airport/land use compatibility plan (CLUP) for each public-use airport in the County. CLUPs have two purposes: (1) to provide for the orderly growth of each public airport and the area surrounding the airport within the jurisdiction of the commission, and (2) to safeguard the general welfare of the inhabitants within the vicinity of the airport and the public in general. The CLUP for Half Moon Bay Airport covers the following primary concerns (each is followed by a discussion of project compliance with applicable policies):

(1) *Aircraft Noise Impact Reduction: Reduce the exposure of people to noise impacts from airport and aircraft operations*

Based on the CLUPs Half Moon Bay Airport Project 1995 Noise Contours map, a large portion of both project sites lie within the noise impact boundary, within the 55 to 60 CNEL noise contours, for the airport. Aircraft noise/land use compatibility criteria in Table III-2 of the CLUP list single and multiple-family residential uses and group quarters as compatible uses within this noise contour, requiring an acoustic study to identify aircraft noise impacts and recommended noise attenuation measures to achieve an interior noise level of 45 dB CNEL with all windows closed. Professional office, industrial, and manufacturing uses are also identified as compatible land uses within this noise contour.

A noise study was performed for the DEIR by CAJA's noise specialist (refer to the addition to Appendix I of the DEIR in the FEIR). According to the Noise section of the DEIR, which is based upon the noise study, the future average daily exterior noise level of the project sites is 58.8 dBA. Analysis contained in Impact NOISE-3 presents a future average daily interior noise level of <45 dBA (or 28.8 dBA) for the Wellness Center building located nearest to the airport (public storage building), which reflects an exterior-to-interior noise reduction of more than 30 dBA from the future average daily exterior noise level of 58.8 dBA. As stated in the DEIR, the exterior-to-interior reduction of newer homes in California is generally more than 30 dBA. As the noise standards allow for interior noise levels within the proposed residential uses of up to 45 dBA CNEL, interior noise levels at the Wellness Center site would be in compliance with these standards. As stated in the DEIR, this is a less than significant impact and no mitigation measures are required.

(2) *Safety of Persons on the Ground and in Aircraft in Flight: Minimize the number of people exposed to hazards related to aircraft operations and accidents*

The CLUP established the following safety zones are established at Half Moon Bay Airport: Runway Protection Zone (RPZ), Approach Protection Zone (APZ) and Traffic Overflight Zones (TOZ). As stated in the discussion of GP Policy 16.42, above, 30% to 50% of near-airport aircraft accident sites lie within the Runway Protection Zone (RPZ or Zone 1) and Zone 2. The CLUP sets compatible land use criteria for uses within the RPZ. The project sites are outside of the RPZ or Zone 1 for this airport. Based on analysis presented above, it appears that Zone 2 would not extend over the project parcels.

The CLUP also sets compatible land use criteria for uses within the APZ. As stated in Impact HAZ-3 of the DEIR, the closest office building is located outside of the Airport APZ, approximately 600 feet southwest of the southern end of Runway 30. However, the DEIR notes that the commercial public

storage building on the Wellness Center site would be located within the APZ.<sup>7</sup> Table III-3 of the CLUP identifies manufacturing as a compatible land use within the APZ, although it specifically states that storage of bulk petroleum products or chemicals is not permitted and that no uses shall result in a gathering of more than 10 persons per acre at any time. The project would not involve the gathering of more than 10 persons per acre as the project is subject to the requirements of the AO Zoning District, which prohibits uses that would result in more than 3 persons occupying the site at any time. Condition 53 has been added to prohibit the storage of bulk petroleum products or chemicals within all areas of the public storage facility.

(3) *Height Restrictions/Airspace Protection: Protect the navigable airspace around airports for the safe and efficient operation of aircraft in flight*

As stated in the CLUP, 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 is considered by the FAA to be an obstruction to air navigation. Imaginary surfaces are illustrated in Figure III-35 of the CLUP. Proposed structures comply with the imaginary surfaces defined in FAR Part 77 for the Half Moon Bay Airport. Additionally, Condition 54 has been added to require the project to comply with policies regarding hazards to aircraft in flight (e.g., use of flashing or steady lights, reflective surfaces, attraction of birds, etc.).

## 11. Hazardous Materials Policies

Policy 16.48 (*Strive to Ensure Responsible Hazardous Waste Management*) directs the County to strive to ensure that hazardous waste generated within San Mateo County is stored, treated, transported and disposed of in a legal and environmentally safe manner so as to prevent human health hazard and/or ecological disruption. The applicant proposes to provide up to 225,000 sq. ft. of mixed office space, which are proposed to be distributed as follows: 40% General Office, 25% Research and Development, 20% Light Manufacturing, and 15% Storage uses. Future businesses locating at the Office Park would be required by the County Environmental Health Division (Division) to complete and submit a Business Plan<sup>8</sup> within 30 days of handling or storing a hazardous material equal to or greater than the minimum reportable quantities. If a Business Plan is required, inspection of the business, which includes a review of emergency response procedures and employee training records, would be performed at least once every two years. Monitoring by Division staff will ensure that project-generated hazardous waste is stored, treated, transported and disposed of in a legal and environmentally safe manner so as to prevent human health hazard and/or ecological disruption. Condition 70 requires all Office Park businesses and the Wellness

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<sup>7</sup> It should be noted that the DEIR identified that the Communications Building associated with the Office Park would be located within the Airport APZ. This building has been eliminated, with communications integrated within the Wellness Center buildings.

<sup>8</sup> The Hazardous Materials Business Plan Program is also known as the Community Right to Know Program and any citizen has the right to review these plans upon request.

Center to comply with Division requirements for the handling and/or storing of hazardous materials.

Policy 16.53 (*Regulate Location of Hazardous Material Uses*) directs the County to regulate the location of uses involving the manufacture, storage, transportation, use, treatment, and disposal of hazardous materials to ensure community compatibility, as well as provide adequate siting, design, and operating standards. Office Park buildings would be located within an M-1 Zoning District, which allows for the storage of hazardous materials. Office Park buildings are separated from the Wellness Center buildings by the width of the drainage swale and two 100-foot wetland buffers on both sides of the swale. The Office Park buildings are setback over 200 feet from the Pillar Ridge manufactured home community.

**B. COMPLIANCE WITH THE COUNTY’S HOUSING ELEMENT OF THE GENERAL PLAN**

The County’s Housing Element (Amended in 2004) estimates that, Countywide, there are 107,440 persons with disabilities, approximately 15% of the County’s total population. The disabled population of the entire Bay Area is approximately 1.1 million persons, comprising approximately 16% of the total population. The 2000 Census identified six disability categories including sensory, physical, mental, self-care, go-outside-home and employment disabilities. Of all persons with disabilities, 57,120 or 53% report having one of the above disabilities, while 50,320 or 47% report having two or more disabilities. Of those persons with one disability, 10% have a mental disability.

The Housing Element sets the following goals and objectives, as stated in Policies and Programs 2003-2006: (1) maintain and improve quality and affordability of existing housing stock, (2) promote sufficient production of new housing, (3) provide housing near employment, transportation, and community services, and (4) ensure equal access to housing.

The following table lists and provides discussion of policies applicable to the project:

<b>Table 1 Policies and Programs 2003-2006 Housing Element (Amended in 2004)</b>			
<b><i>Policy Number and Title</i></b>		<b><i>Policy</i></b>	<b><i>Discussion of Project Compliance</i></b>
<b>PROGRAM: PROVIDE NEW HOUSING OPPORTUNITIES</b>			
<i>Encourage Availability of Land and Infrastructure for New Housing</i>			
14.19	Encourage New Housing Near Employment and Services	This policy encourages the provision of housing near employment centers and/or where adequate infrastructure and services exist or can be provided.	The project would provide 57 affordable housing units to house up to 50 disabled adults and 20 aides, onsite employment opportunities, and would utilize proposed and existing infrastructure to provide water and wastewater services.

**Table 1  
Policies and Programs 2003-2006  
Housing Element (Amended in 2004)**

<i>Policy Number and Title</i>		<i>Policy</i>	<i>Discussion of Project Compliance</i>
14.23	Direct Developers to Identified Housing Sites	Regularly identify appropriate sites for higher density housing development. Establish a program to actively recruit developers to develop or redevelop identified sites throughout the County.	As described in Alternatives Considered to be Infeasible in the DEIR, the designated 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. Also, use of one of these sites would not be financially viable, as it would require the non-profit to purchase land at market rates.
<i>Reduce Housing Construction and Energy Costs</i>			
14.31	Minimize Permit Processing Times	The policy suggests measures including standardizing and streamlining the permit review process through comprehensive revision of the Zoning Regulations and priority processing for affordable housing developments.	(Policy applies to County)
14.32	Institute Flexible Parking Standards	The policy calls to revise Zoning Regulations to enhance the feasibility of developing affordable housing, such as allowing for compact spaces or reducing the standard size of parking spaces, reducing the number of spaces required where it can be demonstrated that fewer are needed, and allowing joint use of parking areas.	(Policy applies to County)
14.33	Improve the Energy Efficiency of New Housing	Enforce State energy codes and encourage the use of on-site renewable energy sources.	The developer proposes the use of renewable energy sources such as solar cells for heating/energy, wind turbines and generators, and geothermal cooling systems.
14.34	Promote Sustainable Building Practices	Promote “green” building by continuing community outreach and education efforts to encourage local builders to adopt green practices	(Policy applies to County)

<b>Table 1 Policies and Programs 2003-2006 Housing Element (Amended in 2004)</b>			
<b><i>Policy Number and Title</i></b>		<b><i>Policy</i></b>	<b><i>Discussion of Project Compliance</i></b>
<i>Encourage the Development of Affordable Housing</i>			
14.46	Encourage Self-Help Housing Developments	Support non-profit developers and others to create self-help housing opportunities for very low and low-income households.	(Policy applies to County)
14.47	Encourage Private-Public Partnerships for Affordable Housing Development	Encourage the use of private-public partnerships to facilitate the development of affordable housing.	(Policy applies to County). The project is privately funded.
<b>PROGRAM: HOUSING INDIVIDUALS WITH SPECIAL NEEDS</b>			
14.48	Expand Housing Choices by Increasing the Diversity of Housing Types	Increase the variety in location, size, type and price of housing available to special needs groups, including the disabled.	(Policy applies to County).
14.49	Provide Affordable Housing Opportunities and Supportive Services for the Disabled	Programs include development of new shared housing and group homes and development of new supportive services.	(Policy applies to County).
14.50	Promote Housing for the Disabled in Appropriate Locations	Consider the following high priority locations: (1) lands within urban areas that are located close to public transportation and other essential services such as stores, banks, and medical facilities and (2) lands that do not have major topographic constraints.	The project site has been designated for urban land uses and is located near the cities of Half Moon Bay and Pacifica and near the commercial areas of Princeton and Moss Beach. On-site employment opportunities allow residents to work on-site. The project includes shuttle services to connect residents to off-site supportive services. The site is relatively flat.

**C. COMPLIANCE WITH THE COUNTY’S LOCAL COASTAL PROGRAM (LCP)**

**1. Locating and Planning New Development Component**

Policy 1.4 (*Designation of Urban Areas*) calls for the designation as “urban” those lands shown inside the urban/rural boundary on the Land Use Plan Maps. Such areas include



Montara, Moss Beach, El Granada, Princeton and Miramar. The project sites are designated for urban use.

Policy 1.18 (*Location of New Development*) directs the County to (1) direct new development to existing urban areas by requiring infill of existing residential subdivisions and commercial areas and (2) to 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. Policy 1.19 (*Definition of Infill*) defines infill as the development of vacant land in urban areas and rural service centers which is: (1) subdivided and zoned for development at densities greater than one dwelling unit per 5 acres, and/or (2) served by sewer and water utilities. These policies direct the County's planning processes for affordable housing and other projects toward infill sites, as defined by Policy 1.19. However, the policy is not intended to prohibit development that does not meet the definition of infill.

Policy 1.24 (*Protection of Archaeological/Paleontological Resources*) calls for the County, prior to approval of development proposed in sensitive areas, to 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. Analysis and recommendations for mitigation of potential project impacts was prepared for the Cultural Resources section of the DEIR by Tom Origer, a professional archaeologist. As shown in the FEIR, the revised Wellness Center site plan avoids site CA-SMA-151, as required by Mitigation Measure CULT-2a.

Policy 2.2 (*Definition of Public Works*) defines "public works" as: utilities owned or operated by any public agency or by any utility subject to the jurisdiction of the Public Utilities Commission except for energy facilities; all public transportation facilities and other related facilities; all publicly financed recreational facilities and any development by a special district; and all community college facilities. The project is a private improvement and is not Public Works facility. This policy is not applicable to the project. Therefore, compliance with the policy is not required.

Policy 2.32 (*Groundwater Proposal*) requires, if new or increased well production is proposed to increase supply, that:

- a. Water quality be adequate, using blending if required, to meet potable water standards. As described in the EIR, well water after treatment, via filtration and UV disinfection, will meet the standards of the Safe Water Drinking Act in Accordance with Title 22.
- b. Wells are installed under inspection according to the requirements of the State and County Department of Public Health (CDPH). As required by Condition 9, any onsite wells left in service must 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.

- c. The amount pumped be limited to a safe yield factor which will not impact water dependent sensitive habitats, riparian habitats and marshes. As stated in the Technical Memorandum #1 (TM #1), dated May 15, 2009, prepared by Schaaf and Wheeler (included in Appendix H of the DEIR), the hydrologic impacts of the proposed groundwater withdrawals to the Pillar Point Marsh from the on-site well based on conditions in the entire marsh watershed appear to be minor. As currently proposed, all rainwater from surfaces and roof gutters will be directed to underground storage systems below the pervious parking lots. As stated in the EIR, under worst-case conditions where the project would increase stormwater flows from the site, these flows would still only represent 6% of the total flows to the marsh. TM#1 adds that planned stormwater Best Management Practices should serve several hydrologic and water quality functions, including maximizing groundwater recharge, minimizing quantities of stormwater runoff, and reducing pollutant loadings in stormwater runoff. These recommendations have been added to Mitigation Measure HYDRO-5 or Condition 5w.
- d. Base the safe yield and pumping restriction on studies conducted by a person agreed upon by the County and the applicant which shall:
  - (1) Prior to the granting of the permit, examine the geologic and hydrologic conditions of the site to determine a preliminary safe yield which will not adversely affect a water dependent sensitive habitat: Refer to “c” above.
  - (2) During the first year, monitor the impact of the well on groundwater and surface water levels and quality and plant species and animals of water dependent sensitive habitats to determine if the preliminary safe yield adequately protects the sensitive habitats and what measures should be taken if and when adverse effects occur. This monitoring requirement has been added as Condition 73.

## 2. Housing Component

Policy 3.1 (*Sufficient Housing Opportunities*) calls on the County 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, through both public and private efforts. The proposed Big Wave Wellness Center and Office Park project is intended to be an economically sustainable development that provides 57 affordable housing units and employment opportunities for low-income developmentally disabled (DD) adults at the Wellness Center. According to the U.S. Department of Housing and Urban Development (HUD), the generally accepted definition of affordability is for a household to pay no more than 30% of its annual income on housing. The cost of Wellness Center operations are funded by the developer (Big Wave, LLC), revenue generated by the Office Park, other private party donations, and residential housing revenues. The revenue from the 225,000 square foot Office Park would allow a portion of the Wellness Center units to be affordable to disabled persons living below the poverty line. The applicant estimates that, in the instance where there is no demand for office space and none of the office buildings are built, the Wellness Center would continue to provide housing to disabled adults, but the units would not be affordable to disabled adults in the “extremely

low” income category or those living below the poverty line. However, the Wellness Center would still be affordable to the “low” or “very low” income populations. Condition 6.1. requires the property owner to keep the rates for all 57 units of the Wellness Center as affordable, such that residents shall be limited to those of Extremely Low Income, Very Low Income, Low Income, and Moderate Income (as defined by the County’s Housing Element, definitions included as Attachment CC). As stated in Condition 4, the approval will require regular review and monitoring of the project by the County, at the owner’s expense, to ensure that the project is operated in a manner that is consistent with the County’s approval.

Policy 3.2 (*Non-Discrimination*) calls for the County 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 factors. Policy 3.4 (*Diverse Housing Opportunities*) call the County to strive to improve the range of housing choices, by location, type, price, and tenure, available to persons of low and moderate income. Housing opportunities for the disabled are extremely limited in San Mateo County. Based on County Housing Authority data, only 356 units are currently available for the disabled in unincorporated San Mateo County of which only 194 units (or 54%) are affordable.<sup>9</sup> None of these units are located in the Coastal Zone. The Wellness Center would provide 57 housing units to house up to 50 disabled adults and 20 aides.

Policy 3.3 (*Balanced Developments*) calls the County to strive to provide such housing in balanced residential environments that combine access to employment, community facilities and adequate services. The Wellness Center is proposed on a site that is adjacent to an existing residential area (Pillar Ridge manufactured home community), and would offer on-site employment opportunities. Project compliance with LCP water supply and wastewater policies is discussed above. Project compliance with LCP policies that relate to energy is addressed below.

Policy 3.5 (*Regional Fair Share*) defines the regional fair share assisted housing allocation for the San Mateo County Coastal Zone as that which provides housing opportunities for low and moderate income households who reside, work or can be expected to work in the Coastal Zone. The Association of Bay Area Governments (ABAG) determines each municipality’s regional housing need for the nine-county Bay Area. ABAG’s allocation for unincorporated San Mateo County<sup>10</sup> is provided in the table, below<sup>11</sup>:

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<sup>9</sup> San Mateo County Affordable Rental Housing for Low and Moderate Income Households, San Mateo County Department of Housing, May 1, 2008.

<sup>10</sup> ABAG does not provide a RHNA allocation specific to the unincorporated Coastside area.

<sup>11</sup> The County of San Mateo General Plan Housing Element (Housing Element) contains Regional Housing Needs Allocation for a 7-year period from 1999 to 2006. These figures are superseded by the 2007-2014 allocation, which has been adopted by the Board of Supervisors. The County’s Housing Element is currently being updated.

<b>Table 2</b>				
<b>ABAG's Housing Needs Allocation, 2007-2014<sup>1</sup></b>				
<b>For Unincorporated San Mateo</b>				
	<i>Very Low Income</i>	<i>Low Income</i>	<i>Moderate Income</i>	<i>Total</i>
Income Limit (2009) <sup>2</sup>	\$39,600	\$63,350	\$81,300	N/A
Units	343	247	291	881
Total Affordable Housing Units Allocated				881
Existing affordable units (2008)				523
<b>Total Existing Need</b>				<b>358</b>
Total Proposed Units at the Wellness Center				57
<b>Total Need with the Wellness Center</b>				<b>301</b>
<sup>1</sup> This table does not include the 625 units allocated as "Above Moderate Income," as these units are not considered affordable. Source: San Francisco Bay Area Housing Needs Plan, 2007-2014, Association of Bay Area Governments. <sup>2</sup> Income limit is based on a single person family size. Median income is \$67,750. Source: San Mateo County Department of Housing 2009 San Mateo County Income Limits as defined by U.S. Housing and Urban Development and State of CA Housing and Community Development.				

The Wellness Center would provide 57 affordable housing units to house up to 50 disabled adults and 20 aides, helping the County of San Mateo to fulfill its affordable housing allocation. As stated previously, Condition 6.l. requires the property owner to keep the rates for all 57 units of the Wellness Center as affordable, such that residents and aides shall meet income qualifications for affordable housing. Per Condition 58, the Wellness Center would be required to prioritize disabled adults residing in the Coastal Zone over those who do not reside in the Coastal Zone in the consideration of residential applications.

Policy 3.13 (*Maintenance of Community Character*) requires 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. The policy calls for the County to limit the height to two stories to mitigate the impact of this development on the surrounding neighborhoods and to assess negative traffic impacts and mitigate as much as possible. As proposed, Building A of the Wellness Center is three stories in height. While buildings in the immediate vicinity are generally one and two stories in height, including the warehouse buildings in Princeton and the homes in the Pillar Ridge manufactured home community, several buildings in the project vicinity are three stories in height. While these buildings do not contain affordable housing, they contribute to the existing visual character of the neighborhood. As a three-story structure, the project could maximize affordable housing resources as directed by LCP Policies 3.1, 3.2, 3.3, and 3.5 and still maintain community character. Furthermore, Section IV.A (Aesthetics) of the DEIR indicates that the size of the buildings would not result in a significant impact on aesthetics.

Policy 3.14 (*Location of Affordable Housing*) states that, on the Midcoast, affordable housing intended for sites other than the designated affordable housing sites should be located within the urban boundary, or in the rural area as specified in Policies 3.22 and 3.23. The project complies with this policy as project sites are designated for urban use.

3. Energy Component

Policy 4.42 (*Alternative Energy Sources*) encourages the development of non-polluting alternative energy resources including but not limited to co-generation, biomass, wind and solar. As proposed, the project incorporates the on-site use of non-polluting alternative energy resources, including energy produced from solar voltaics, solar heating, geothermal/ evaporative cooling, and wind power.

4. Agriculture Component

Policy 5.2 (*Designation of Prime Agricultural Lands*) calls for the designation of 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. While the property contains soil mapping units that meet the criteria for Prime Farmland as outlined in the U.S. Department of Agriculture's Land Inventory and Monitoring (LIM) Project for the San Mateo Area and has been used for agriculture, the property is not designated for Agricultural Land Use. This LCP policy calls for the designation of all prime agricultural lands for agricultural land use, with various exceptions including parcels in urban areas. The property is designated for urban land use by the County's General Plan, specifically General Industrial and General Open Space land uses. Therefore, conversion of prime farmlands within an urban area not designated for agricultural use would not result in a significant impact to agricultural resources.

5. Sensitive Habitats Component

Policy 7.1 (*Definition of Sensitive Habitats*) defines sensitive habitats as any area in which plant or animal life or their habitats are either rare or especially valuable, including wetland areas supporting rare, endangered, and unique species. As discussed in the Biological Resources Chapter of the DEIR, the majority of the project site has been disturbed by agricultural activities 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. Based on the foregoing, on-site sensitive habitat is limited to the areas of the riparian corridor (along the drainage swale) and delineated wetlands.

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 on-site 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 wildlife species (such as western pond turtle, San Francisco garter snake, and California red-legged frog) and bird species, 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, project-related impacts would be potentially significant. Conditions 5.d. through 5.g require the applicant to schedule disturbance activities so as to minimize habitat disturbance and to work with a

qualified biologist to monitor the site prior to and during construction to minimize impact to these species.

Policy 7.3 (*Protection of Sensitive Habitats*) prohibits any land use or development which would have significant adverse impact on sensitive habitat areas and requires development in areas adjacent to sensitive habitats to 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. As stated in Biological Resources Section of the DEIR, the project, as mitigated by Conditions 5.d. through 5.h., would not result in significant impacts to special status species (Impact BIO-1), sensitive natural communities (Impact BIO-2), federally protected wetlands (Impact BIO-3), Wildlife Movement and Habitat Connectivity (Impact BIO-4), or result in cumulative impacts to biological resources.

Policy 7.4 (*Permitted Uses in Sensitive Habitats*) calls for the County 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, 7.2, 7.33, and 7.44, respectively, of the County Local Coastal Program on March 25, 1986. In compliance with these policies, within areas of the riparian corridor and delineated wetlands and their associated buffer zones, proposed uses would be limited to wetlands and upland landscaping that would provide visual screening of the project as well as functioning biological habitat. Refer to the “90% Basis of Design - Riparian and Water/Wetlands Ecosystem Restoration” included as Attachment R.
- b. In sensitive habitats, require that all permitted uses comply with U.S. Fish and Wildlife and State Department of Fish and Game regulations. U.S. Fish and Wildlife and State Department of Fish and Game regulations have been incorporated into Conditions 5.d. and 5.e. (Mitigation Measures BIO-1a and 1b).

Policy 7.5 (*Permit Conditions*) call for the County to:

- a. As part of the development review process, require the applicant to demonstrate that there will be no significant impact on sensitive habitats. When it is determined that significant impacts may occur, require the applicant to provide a report prepared by a qualified professional which provides: (1) mitigation measures which protect resources and comply with the policies of the Shoreline Access, Recreation/Visitor-Serving Facilities and Sensitive Habitats Components, and (2) a program for monitoring and evaluating the effectiveness of mitigation measures. Develop an appropriate program to inspect the adequacy of the applicant’s mitigation measures. As stated in Biological Resources Section of the DEIR, the project, as mitigated by Conditions 5.d. through 5.h, would not result in significant impacts to special status species (Impact BIO-1), sensitive natural communities (Impact BIO-2), federally protected wetlands (Impact BIO-3), Wildlife Movement and Habitat Connectivity (Impact BIO-4), or result in cumulative impacts to biological resources. Refer to the

Mitigation Monitoring and Reporting Program for the project included as Attachment Y. As mitigation measures minimize the impacts of construction to special-status species, require coordination with regulatory agencies, and set performance standards to minimize the impacts of project operation to special-status species, mitigation measures comply with the policies of the Shoreline Access, Recreation/Visitor-Serving Facilities and Sensitive Habitats Components.

- b. When applicable, require as a condition of permit approval the restoration of damaged habitat(s) when in the judgment of the Planning Director restoration is partially or wholly feasible. Although the project, as mitigated, would not result in a significant impact to biological resources, the project proposes to provide for functioning wetlands and uplands habitat within delineated wetland areas, buffer zones, and upland areas of the site, as shown in Attachments J and Q. Condition 28 requires the applicant to revise planting plans to suit the approved site plans for the Wellness Center and Office Park, retaining the overall sq. ft. of proposed landscaping.

Policy 7.14 (*Definition of Wetland*) defines wetland as 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. Furthermore, Policy 7.15 (*Designation of Wetlands*) designates the Pillar Point Marsh as wetlands requiring protection. A total of 0.74 acres (32,180 sq. ft.) of wetlands on the project site is under the protection of the California Coastal Commission by their definition of wetlands. A portion of this total, 0.45 acres on the project site, is under Federal jurisdictional waters/wetlands under the permit authority of the US Army Corps of Engineers (USACOE). Wetland boundaries relative to the project site are shown on Attachment D.

Policy 7.16 (*Permitted Uses in Wetlands*) limits uses in wetland areas to nature education and research, fish and wildlife management, among other uses. In addition to the existing wetlands (1.19-acres), the applicant proposes to perform wetlands habitat creation on approximately 44% of the project sites, including 5.9 acres of wetlands on the Office Park property, and 2.8 acres of wetlands on the Wellness Center property. The only uses proposed within wetland areas are associated with wetland habitat creation and monitoring.

Policy 7.17 (*Performance Standards in Wetlands*) requires 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. Proposed wetland habitat creation is described in the “90% Basis of Design - Riparian and Water/Wetlands Ecosystem Restoration” report

included as Attachment R. Condition 32 requires habitat creation and monitoring activities to comply with this policy.

Policy 7.18 (*Establishment of Buffer Zones*) states that 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. The project incorporates 100-foot wetland buffer zones on each project parcel.

Policy 7.19 (*Permitted Uses in Buffer Zones*) limits uses within buffer zones to uses allowed within wetlands, as well as public trails, scenic overlooks, and agricultural uses that produce no impact on the adjacent wetlands. The proposed location of the native plant nursery within the 100-foot wetland buffer zone was considered in the analysis of the biological impact of this project, which was considered less than significant with the implementation of mitigation measures. No other uses are proposed in the buffer zones.

Policy 7.20 (*Management of Pillar Point Marsh*) calls for the following: (1) the County 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 (CUC and CCWD); (2) adjacent development, where feasible, to contribute to the biologic productivity and habitat and (3) the County to limit the number of building permits allowed in any calendar year based on the findings of the study. The County's Midcoast Groundwater Study prepared by Kleinfelder has been completed. While it was determined that safe yield and groundwater/habitat relationships could not be accurately assessed, the report concludes that the project groundwater subbasin, Airport Subbasin, had high yields and would be adequate for municipal or irrigation purposes. According to Schaaf and Wheeler memorandum dated September 17, 2007 (included as Appendix H of the DEIR), hydrologic impacts to the Pillar Point Marsh based on conditions in the entire marsh watershed appear to be minor. In addition, proposed wetland habitat creation is intended to benefit the biologic productivity and habitat of the marsh. LCP Policy 1.22 establishes a building permit quota the construction of residences in the Mid-Coast to 125 per year, but excludes the construction of affordable housing in this quota. Condition 6.1. requires all housing units in the Wellness Center to be kept at an affordable rate, such that residents and aides are required to meet income qualifications for affordable housing.

Policy 7.36 (*San Francisco Garter Snake*) calls to prevent any development where there is known to be a riparian or wetland location for the San Francisco garter snake and requires 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. As discussed in the Biological Resources section of the DEIR, development on the project site has the potential to indirectly impact special-status wildlife species, including the San Francisco garter snake (SFGS), 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. Condition 5.d. (Mitigation Measure BIO-1a) requires a qualified biologist capable of monitoring projects with potential habitat for SFGS to perform pre-disturbance surveys and monitoring during the installation of all construction fencing and during habitat creation and planting activities outside of the construction zone, perform weekly site visits during construction, and prepare a training document for construction workers.

## 6. Visual Resources Component

Policy 8.1 (*Definition of Landforms*) defines landforms as natural topographic and landscape features which include, but are not restricted to, ridgelines, hillsides, canyons, coastal terraces, headlands, mountains, rock outcroppings, hills, cliffs and bluffs, sand dunes, beaches, wetlands, estuaries, streams, and arroyos. As discussed in the Aesthetics Section of the DEIR, the project would not result in any significant impacts to public views or scenic vistas, scenic resources, or the existing character or quality of the site and its surroundings. However, as discussed in the DEIR, new lighting sources, such as outdoor street lighting, security lighting, indoor lighting, and light generated by vehicle headlights, may create new sources of substantial light or glare which may adversely affect day or nighttime views in the area. Implementation of Condition 5.a. (Mitigation Measure AES-4), which requires Planning Department review and approval of a detailed lighting plan, as well as glass and other potentially reflective exterior building materials, would reduce this impact to a less than significant level and bring the project into substantial conformance with this policy.

Policy 8.5 (*Location of Development*) calls for new development be located on a portion of a parcel where the development is:

- a. Least visible from State and County Scenic Roads: As shown in Figure IV.A-8 (View 5.A) of the DEIR, immediately following construction the views of Pillar Point, the forested hills, and the skyline would not be obstructed for motorist traveling north and southbound on Highway 1 (a County designated scenic corridor). However, existing views of sparse 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. Under Alternative C, the visibility of the Office Park buildings would be further reduced due to the use of smaller 2-story and 3-story buildings, where 3-story buildings are located further away from Highway 1.
- b. Least likely to significantly impact views from public viewpoints. Public viewpoints include, but are not limited to, coastal roads, roadside rests and vista points, recreation areas, trails, coastal accessways, and beaches. As discussed in Impact AES-1 of the DEIR, based on an analysis using visual simulations of the project as viewed from

five vantage points with both with immature (post-construction) and mature landscaping (15 years after project construction), project impacts to public views and scenic vista would be less than significant. Visual simulations are included as Attachment X.

- c. Consistent with all other LCP requirements, best preserves the visual and open space qualities of the parcel overall. As discussed in Impact AES-2 of the DEIR, although the existing character of the site would be altered by implementation of the project, the change would not be a substantial degradation. The project is required to comply with the County Community Design Manual and the Design Review (DR) Zoning District Regulations, as discussed below. Therefore, the DEIR concludes that the project would not result in a substantial degradation to the visual character of the project area and impacts would be less than significant. The project maintains a 100-foot buffer from Pillar Point Marsh and the drainage swale separating the parcels. 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 DEIR concludes that the impact to open space would be less than significant.

Policy 8.12 (*General Regulations*) requires the County to apply the Design Review (DR) Zoning District to urbanized areas of the Coastal Zone and employ the design criteria set forth in the Community Design Manual (CDM) for all new development in urban areas. A discussion of project compliance with the design criteria of the DR Zoning District is provided in Section II.D of this report. As proposed and conditioned, the project complies with the County's CDM (as discussed below<sup>12</sup>):

- a. Landscaping: The CDM calls for landscaping to have an informal character and provide a smooth transition between the development and adjacent open spaces, specifically recommending the planting of vegetation in an irregular fashion to give an informal character. The CDM also recommends the use of tree and plant materials native to the area to assure against non-native plant intrusion, to reduce irrigation and maintenance requirements, and to minimize visual impact. The proposed landscaping plan includes irregular pattern tree planting within the wetland habitat creation areas, but linear tree planting within the parking lot areas. Staff has added Condition 29 to require the applicant to revise parking lot landscaping for both sites such that tree planting occurs in an irregular, more natural fashion. The landscaping plan proposes plants and trees that are native and appropriate for the coastal environment.
- b. Open Space Preservation: The CDM calls for siting of structures to retain maximum open space and to reduce the visual impact in scenic open space areas. The revised design would increase the footprint by 15% from the original Office Park proposal but would result in a smaller footprint than Alternative B (the environmentally superior alternative identified in the DEIR). The revised design would also reduce visual impact of the project by breaking up the total square footage into 8 buildings

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<sup>12</sup> This section includes a discussion of policies unique to the Community Design Manual (or concepts not otherwise covered by policies of the Design Review Zoning District, General Plan and LCP).

(instead of 4) and would closely cluster the 8 buildings, distancing the buildings from the Pillar Ridge homes and Airport Street such that front and right side setbacks as originally proposed under the 4-building scenario are maintained.

- c. Paved Areas: The CDM states a preference for small separate paved parking lots to large single paved lots and recommends screening of parking areas from residential areas and scenic roadways. As discussed in the Aesthetics section of the DEIR, proposed landscaping would provide a visual screen of the development from the adjoining manufactured home community and from the Cabrillo Highway County Scenic Corridor. Staff has added Condition 30 to require the revised landscaping plan to utilize landscaping to further break up the large amount of parking.
- d. Signs: The CDM calls for on-premise signs to be integrated with the architectural design of the structure and for signs not to extend above the roofline of the structure or be brightly illuminated, colored, flashing or moving. The applicant does not intend to install any new signage. Any signage proposed by any future tenants of the Office Park will be subject to the applicable regulations at the time of permit application.
- e. Structural Shapes and Scale: The CDM calls for the use of simple structural shapes that unify building design and relate in size and scale to adjacent buildings and to the neighborhood. The CDM also recommends clustering and screening of stacks, vents, antennas and other equipment and located on the least noticeable side of the roof. As proposed, buildings incorporate mechanical equipment within the proposed buildings, such that only rooftop solar panels would be visible. The Wellness Center buildings vary between two and three stories, are well articulated and are compatible in size and scale with other buildings in Princeton. The revised design of the Office Park maintains the 225,000 sq. ft. total of the original proposal but breaks up the mass over eight (8) two and three-story buildings (instead of 4 three-story buildings). The varying heights of the buildings help to further minimize visual impacts from viewing locations along Airport Street, the North Trail, and Highway 1. Staff has added Condition 48 to require the applicant to implement the design “overlays” (includes as Attachment H), which further reduces the appearance of building mass and incorporates architectural details of the Wellness Center and Princeton into the design of Office Park structures.

Policy 8.13 (*Special Design Guidelines for Coastal Communities*) applies special design guidelines to supplement the design criteria in the Community Design Manual. For the Princeton-by-the-Sea area, the policy calls for commercial development to reflect the nautical character of the harbor setting, utilize wood or shingle siding, employ natural or sea colors, and use pitched roofs. For industrial development, the policy calls for buildings to utilize 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. Condition 48 requires the applicant to comply with the design “overlays” for the Office Park buildings (Attachment H), which includes architectural details as listed above, including wood siding and architectural detailing (such as the trellis feature) to add visual interest and reduce the appearance of building mass. The “overlay” incorporates the use of natural and sea colors for building exteriors. The use

of flat roofs is permitted in order to maximize flat surface area for solar panel installation, as encouraged by Policy 4.42 (Alternative Energy Sources).

## 7. Hazards Component

Policy 9.1 (*Definition of Hazard Areas*) defines hazardous areas as fault zones and land subject to dangers from liquefaction and other severe seismic impacts, unstable slopes, landslides, coastal cliff instability, flooding, tsunamis, fire, and steep slopes (over 30%). A western portion of the Office Park site is located within an Alquist-Priolo Earthquake Fault Zone. No structures are proposed within the earthquake fault zone. As the Wellness Center site does not contain an earthquake fault zone, no housing units would directly adjoin or be located within an earthquake fault zone. The Geology and Soils section of the DEIR identifies the following as the primary geotechnical concerns for this site: very strong to very violent shaking during an earthquake due to the close proximity of the site to the San Gregorio and the San Andreas faults; seismic hazards, including the potential for liquefaction, sand boils, and cyclic densification; and the presence of expansive near-surface soil. Implementation of the proposed mitigation measures and compliance with applicable regulations would reduce project impacts related to geology and soils to a less than significant level.

Policy 9.3 (*Regulation of Geologic Hazard Areas*) calls to apply the following regulations of the Resource Management (RM) Zoning Ordinance to designated hazard areas.

Section 6326.2 (*Tsunami Inundation Area Criteria*) sets the following criteria for all areas defined as Tsunami Inundation Hazard Areas:

It should be noted that, as discussed in the Hydrology Chapter of the DEIR, while the project site is located within a mapped tsunami inundation area. Per Condition 5.y. (or Mitigation Measure HYDRO-9), the applicant shall ensure that the project incorporates features designed to minimize damage from a tsunami or seiche, including, but not limited to, placing structures 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. As discussed in the FEIR, to comply with Mitigation Measure HYDRO-9, first floor elevations of Wellness Center Buildings have been raised from 18 feet to 20 feet NGVD, which is above the estimated maximum elevations of a 100-year flood event, sea level rise and the peak tsunami inundation.<sup>13</sup> This change has been accompanied by a reduction in the vertical size of the buildings, so that their height above natural grade remain the same as described in the DEIR.

- a. The following uses, structures, and development shall not be permitted: publicly owned buildings intended for human occupancy other than park and recreational

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<sup>13</sup> Project elevations are based on a Base Flood Elevation (BFE) of 8.5 feet NGVD (refer to pages IV.H-17 and 18 and Figure IV.H-6 of the DEIR), a maximum recorded wave run-up elevation of 14.35 feet NGVD in 273 years, and a highest projected sea level rise over the next century of 5 feet from the current mean high tide. (Currently, mean high tide is at 3.49 feet NGVD.) Project elevations are over 5 feet above the highest of these levels (tsunami at 14.35 feet NGVD).

facilities; schools, hospitals, nursing homes, or other buildings or development used primarily by children or physically or mentally infirm persons.

As determined by County Counsel, there may be legal limitations on the restrictions, as described in Section 6326.2(a), when applied to the disabled. Federal law requires that local regulation of land use include accommodations for the disabled. The applicant would be required to comply with subsection (b) through the submittal of a report to the Planning Commission, prior to the approval of this project.

b. Residential structures and resort developments designed for transient or other residential use may be permitted under the following circumstances:

- (1) The applicant submits a report prepared by a competent and recognized authority estimating the probable maximum wave height, wave force, run-up angle, and level of inundation in connection with the parcel or lot upon which the proposed development is to be located.

The applicant submitted the “Big Wave Tsunami Force and Run-Up Report in Accordance with Zoning Ordinance 6326.2,” dated August 23, 2010, on August 31, 2010 (Attachment T). The report was peer reviewed by David Skelly, MS, PE, a California licensed professional engineer specializing in coastal engineering, in a letter dated October 14, 2010 (Attachment U).

In his letter, Mr. Skelly states that Mr. Holmes is a California licensed professional engineer and has experience in coastal engineering. The qualifications of the undersigned are included in this review/report. Mr. Skelly states that “the maximum tsunami bore height at the site will be less than 1 foot,” as illustrated on Sheet S1 of the report. On page 6 of his letter, Mr. Skelly states that “the force will be minimal. Provided that the finished first floor is 1 foot or greater above adjacent grade there will be no inundation of the structure.” On page 7, he states that “The natural grade at the base of the Wellness Center structures is 14 feet NGVD 29.<sup>14</sup> The filled grade at the base of the structure is 16 feet NGVD 29. The first floor height is 20 feet NGVD 29. The Office Park is similar, but the natural grade at the base of the structures varies from 17 feet to 18 feet NGVD 29 with the elevation of the first floors varying from 21.5 feet to 23 feet NGVD 29. He explains that, as proposed, the structures would not be inundated with 2.5 feet of sea level rise over the next 75 years.

Mr. Skelly explains on page 7 of the letter that this is based upon the latest published and confirmed data from Scripps Institution of Oceanography scientists for the open coast of California. It should be noted that an increase of sea level as much as 4 feet over the next 75 years will not change the level of inundation at the site. The site is reasonably safe from tsunamis due to the breakwater, the approximately 1 mile set back from the breakwater, and elevation above the potential flood levels.

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<sup>14</sup> National Geodetic Vertical Datum of 1929.

- (2) No structure covered by this section shall be allowed within that portion of the lot or parcel where the projected wave height and force is fifty (50) percent or more of the projected maximum, unless: (a) the highest projected wave height above ground level at the location of the structure is less than six (6) feet, (b) no residential floor level is less than two (2) feet above that wave height, and (c) the structural support is sufficient to withstand the projected wave force.

On page 7 of this letter, Mr. Skelly states that “no portion of the site will be subject to bore height or forces that are greater than about 15% of the design tsunami height (6.5 feet) and resulting force. The wave force is proportional to the square of the velocity. Therefore, a 6-foot tsunami will have 36 times the force of a 1-foot tsunami bore.

- (3) No structure covered by this section shall be allowed within that portion of the lot or parcel where the projected wave height and force is less than fifty (50) percent of the projected maximum unless the requirements of subsection b, (2), (a), and (c) are satisfied and the residential flood level is at least one (1) foot above the highest projected level of inundation.

Mr. Skelly states that this section is not applicable to this project, as the project does not propose structures within that portion of the lot or parcel where the projected wave height and force is less than fifty (50) percent of the projected maximum.

- (4) Permission under this subsection shall not be granted if the Planning Commission determines that sufficient data, upon which the report required by subsection 1 must be based, is unavailable and cannot feasibly be developed by the applicant.

Mr. Skelly page 8 of his letter that “It is GSI[’s] opinion that the tsunami Report by Scott Holmes meets the standard of practice for coastal engineering and accurately describes the potential tsunami hazard at the site.”

Both the applicant’s report and Mr. Skelly’s review letter have been reviewed by the County Engineer, who based on his review of these reports, has approved domestic water pumping facilities, sewage treatment and recycling facilities per Section 6324.6 of the Zoning Regulations, stating that direct damage or indirect threat to public health and safety would be unlikely in the event of occurrence of the designated hazard(s) (as described below). Based on the foregoing, the project complies with LCP Policy 9.3, with respect to project compliance with Section 6326.2 of the Zoning Regulations.

Section 6324.6 (*Hazards to Public Safety Criteria*) prohibits the manufacturing or storage of flammable or hazardous materials within mapped areas susceptible to flooding, tsunami inundation, seismic fault/fracture and landslide. This section also prohibits domestic water pumping facilities, sewage treatment, pumping, or disposal

facilities to be located in these areas unless the County Engineer certifies that direct damage or indirect threat to public health and safety would be unlikely in the event of occurrence of the designated hazard(s). In a letter to the Community Development Director, dated October 15, 2010, Jim Porter, the County Engineer, states that, in his review of the tsunami report prepared by the applicant and reviewed by Mr. Skelly, direct damage or indirect threat to public health and safety would be unlikely in the event of occurrence of the designated hazard(s).

Policy 9.9 (*Regulation of Development in Floodplains*) requires that development located within flood hazard areas shall employ the standards, limitations and controls contained in Chapter 35.5 of the San Mateo County Ordinance Code, Sections 8131, 8132 and 8133 of Chapter 2 and Section 8309 of Chapter 4, Division VII (Building Regulations), and applicable Subdivision Regulations. FEMA has authorized the removal of the project parcels from the floodplain in a 2005 Letter of Map Amendment (LOMA). TAs discussed previously, to comply with Mitigation Measure HYDRO-9, first floor elevations of Wellness Center Buildings have been raised from 18 feet to 20 feet NGVD, which is above the estimated maximum elevations of a 100-year flood event, sea level rise and the peak tsunami inundation.<sup>15</sup> The project will be required to comply with all current building code requirements at the time of building permit application. As discussed in Section III, the project complies with the Subdivision Regulations.

## 8. Shoreline Access Component

Policy 10.1 (*Permit Conditions for Shoreline Access*) requires some provision for shoreline access as a condition of granting development permits for any public or private development permits (except as exempted by Policy 10.2) between the sea and the nearest road. The Office Park Development would be located between the sea and the nearest road. The applicant proposes a Class 1, 10-foot wide multiple use trail (accommodates pedestrians and bicycles) within the front of the property that will run along the right-of-way to the southern edge of the Pillar Ridge Mobile Home Park, and provide a trail connection to the trailhead at the Peninsula Open Space Trust (POST) property located to the north of the project site. The Wellness Center is not located between the sea and the nearest road (West Point Avenue).

Policy 10.10 (*Fragile Resources-Sensitive Habitats*) requires the establishment of public access to sensitive habitats or their buffer zones, through grants or dedications of easements or other means, at the time a Coastal Development Permit is processed. Condition 34 requires the property owner of the Office Park property to record an access easement allowing public access on the trail along Airport Road that is included in Final Map for the proposed subdivision.

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<sup>15</sup> Project elevations are based on a Base Flood Elevation (BFE) of 8.5 feet NGVD (refer to pages IV.H-17 and 18 and Figure IV.H-6 of the DEIR), a maximum recorded wave run-up elevation of 14.35 feet NGVD in 273 years, and a highest projected sea level rise over the next century of 5 feet from the current mean high tide. (Currently, mean high tide is at 3.49 feet NGVD.) Project elevations are over 5 feet above the highest of these levels (tsunami at 14.35 feet NGVD).

Policies 10.19 (*Maintenance*) calls to eliminate debris, provide trash cans and keep trails safe for public use in new or improved public areas and Policy 10.20 (*Posting*) calls to clearly post new or improved public access areas. Condition 35 requires the property owner of the Office Park to maintain the public trail in a clean and safe manner and to clearly identify the trail with signage visible along Airport Road in perpetuity. These requirements are to be included, along with all conditions of approval, in the project's Development Agreement.

Policy 10.22 (*Parking*) requires new commercial or industrial parking facilities of ten or more spaces within 1/4 mile radius of an established shoreline access area shall designate and post 20% of the total spaces for beach user parking between 10:00 a.m. and 4:00 p.m. While the Wellness Center development would be located within 1/4-mile radius of the shoreline, the Office Park development would be outside of this radius. The Wellness Center's 50-space parking lot includes 10 parking spaces reserved for beach user parking only. These spaces are in addition to the 40 spaces required for proposed uses within the Wellness Center, as discussed in detail in Section II.D.d of this report.

Policy 10.25 (*Access Trails in Fragile Resource Areas*) requires the applicant to conduct studies by a qualified person agreed upon by the County and the applicant, during the planning and design phase for access projects, to determine the least disruptive method of constructing access trails and associated improvements and to consider in the study and implement appropriate levels of development and management practices to protect resources. The policy also requires the design of trails to encourage the public to stay on them or in designated rest areas and prohibits the use of off-road vehicles on access trails. A Class 1, 10-foot wide multiple use trail which connects to the POST property to the north of the project site would run across the front of both properties. The trail would shift into the Airport Street public right-of-way in the area of the drainage and narrow to 5 feet in width. For the most part, the trail would not be adjoining any areas of sensitive habitat, except the drainage and the adjoining 100-foot wetland buffer zone. Condition 36 requires the property owner to utilize methods to minimize off-trail access within the 100-foot wetland buffer zone and drainage, subject to the review and approval of the Director of the County Department of Parks and Recreation (County Parks). The applicant shall install trail signage, including signage listing prohibited uses, to the satisfaction of County Parks. The property owner shall demonstrate compliance with shoreline access requirements prior to the issuance of the certificate of occupancy for any Office Park building.

9. Chapter 3 of the Coastal Act of 1976

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). The project site is located between the nearest public road and the sea, or the shoreline of Pescadero Marsh. The project will enhance public opportunities for coastal recreation and shoreline access. The purpose of this chapter is to ensure that development does not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand



and rocky coastal beaches to the first line of terrestrial vegetation. The following is a list of the applicable sections of this Chapter, as they apply to this project:

*Section 30212* requires that: (a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) adequate access exists nearby, or (3) agriculture would be adversely affected. Dedicated accessway shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway. The applicant proposes a public, multi-purpose Class 1 trail along Airport Street fronting both of the project sites. The applicant also proposes a public trail on Office Park parcel, which is located at the back of the Office Park buildings outside of wetland and wetland buffer areas. As discussed above, Condition 32 requires the property owner to utilize methods to minimize off-trail access within the 100-foot wetland buffer zone and drainage and install trail signage, including signage listing access hours and prohibited uses and activities, as required by County Parks.

*Section 30214* states that: (a) The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case including, but not limited to, the following:

- a. Topographic and geologic site characteristics.
- b. The capacity of the site to sustain use and at what level of intensity.
- c. The appropriateness of limiting public access to the right to pass and re-pass depending on such factors as the fragility of the natural resources in the area and the proximity of the access area to adjacent residential uses.
- d. The need to provide for the management of access areas so as to protect the privacy of adjacent property owners and to protect the aesthetic values of the area by providing for the collection of litter.

As discussed above, Condition 32 requires the property owner to utilize methods to minimize off-trail access within the 100-foot wetland buffer zone and drainage and install trail signage, including signage listing access hours and prohibited uses and activities, as required by County Parks.

*Section 30222* states that: The use of private lands suitable for visitor-serving commercial recreational facilities designed to enhance public opportunities for coastal recreation shall have priority over private residential, general industrial, or general commercial development, but not over agriculture or coastal-dependent industry. The portions of the properties designated for open space land uses will remain as open space and provide public access opportunities, including reserved beach user parking at the Wellness Center and public access trails on both properties. Proposed development on portions of the properties designated for industrial uses complies with applicable LCP policies as described above.

As no visitor-serving commercial recreational facilities have been proposed at the site, priority over such uses is not applicable in this instance.

As discussed above, the project, as proposed and conditioned, is in conformity with the public access and public recreation policies of Chapter 3 of the Coastal Act of 1976.

## **D. COMPLIANCE WITH ZONING REGULATIONS**

### **1. WELLNESS CENTER SITE**

The Wellness Center includes 37 housing units for the developmentally disabled and 20 units for their aides, a commercial kitchen, dog grooming and laundry facilities, and administrative offices, among other ancillary uses. While the original proposal in the DEIR included a pool, locker rooms, and fitness center that would be open to the Coastsides public, described as a Community Center, the public component of this facility has been removed. These facilities, like the rest of the Wellness Center, would only be open to staff, Wellness Center residents and their guests. The property also includes a 10,000 sq. ft. public storage building (Building 4) including 20 business storage units at approximately 500 square feet each.

#### **a. Project Compliance with Use Permit Requirements for Sanitarium (Wellness Center)**

##### **(1) *Sanitarium***

The southern parcel of the project site is located within the Waterfront (W) Zoning District. The primary use of the Wellness Center is proposed to be housing for disabled adults, as allowed per Chapter 24 (Use Permits) of the Zoning Regulations. This chapter lists “sanitarium,” along with similar uses such as rest homes and hospitals, as a permitted use with issuance of a Use Permit in any district within the urban areas of the Coastal Zone.

The term “sanitarium” (or sanitorium) is a term of varying definition that is not defined in the Zoning Regulations. Some existing definitions and their sources are the following:

- An institution for the promotion of health (Dorland’s Medical Dictionary for Health Consumers, 2007).
- A facility for the treatment of patients suffering from chronic mental or physical diseases, or the recuperation of convalescent patients (Mosby’s Medical Dictionary, 8th edition, 2009).

While the Wellness Center would not provide medical treatment on-site for its intellectually or developmentally disabled (DD) adult residents, it is intended to promote their long-term health in a holistic manner. The Wellness Center will offer DD adults social and employment opportunities, an opportunity for semi-

independent living apart from their parents, and connections to support and medical services.

In light of the fact that the term is not specifically defined in the Zoning Regulations, and that it is defined in other sources in a manner that reasonably encompasses the Wellness Center concept, the County may conclude that the Wellness Center proposal falls within the meaning of “sanitarium,” as defined in Section 6500.d of the Zoning Regulations.

In order to approve the Use Permit for the sanitarium use, the decision making body must make a finding that the use is “found to be necessary for the public health, safety, convenience or welfare.” There exists a basis to allow such a finding. As discussed above with regard to LCP Policy 3.5 (Regional Fair Share), the project helps to meet the need within the unincorporated areas of the County for affordable housing, as allocated by the Association of Bay Area Governments (ABAG). For 2007 to 2014, ABAG allocates a need for 881 affordable housing units in the area, where 523 units exist. Affordable housing for the disabled in San Mateo County is even more limited. Based on a review of County Housing Department data, only 356 units are available for the disabled of which only 194 units (or 54%) are affordable.

As proposed and conditioned, the project would provide 57 units of affordable housing, thereby helping to bridge the gap between the need for affordable housing and the supply of affordable housing in the County unincorporated area.

Based on the foregoing, Staff recommends the issuance of a Use Permit for the Wellness Center, subject to the conditions of approval in Attachment A. It should be noted that Condition 4 requires Administrative Reviews to ensure compliance with the conditions of approval every year for the first 2 years. If the facility is determined to be in compliance for the first 2 years, then subsequent Administrative Reviews will be required every 2 years, with permit renewal required after 10 years. If the facility is found to be out of compliance during any Administrative Review process, annual reviews will be required until permit expiration.

(2) *Fitness Center, Other Uses and On-site Businesses*

Regarding the fitness center (includes pool, fitness center and locker facilities), the applicant had originally proposed this facility to be open to the Coastside public making the facility a community center. The applicant has since proposed that the facility will not open to the public. The fitness center use, now available only to residents, guests, and staff, as well as Office Park Employees, is an accessory use to the sanitarium and mixed office uses. On-site businesses, such as catering and dog grooming, are not open to the public and would only be available to Office Park employees. The uses would utilize office spaces and

kitchen areas of the Wellness Center and would be considered accessory uses to the sanitarium.

b. Project Compliance with the Waterfront (W) Zoning District (Public Storage Facility)

The applicant proposes a 10,000 sq. ft. public storage facility with the Waterfront “W” Zoning District Regulations. Section 6287 (Uses Permitted) states that the “Indoor Storage of Goods, Excluding Extremely Hazardous Materials” is a permitted use in the inland area and does not require a use permit. The project, as proposed, complies with the W Zoning District Regulations.

c. Project Compliance with the AO Zoning District (Wellness Center)

A 125-foot wide portion along the front property line of the project site is within the Airport Overlay (AO) Zoning District. 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. All uses permitted by the underlying district (W Zoning District) shall be permitted with a Use Permit in the A-O District except residential or uses with more than three (3) persons occupying the site at any one time. No residential uses are proposed in this area, only public storage uses. Condition 55 requires recordation of a deed restriction to require project compliance with the requirements of the AO Zoning District.

In addition, Section 6288.5 (*Noise Insulation Requirements*) requires all new development in the AO Zoning District to submit an acoustical analysis, prepared by a qualified acoustical consultant, demonstrating that new construction has been designed such that (1) interior community noise equivalent levels (CNEL) with windows closed, attributable to exterior sources shall not exceed an annual CNEL of 55 dB and (2) requires the property owner to construct the building in accordance with recommendation of acoustical analysis. As discussed in regard to the CLUP, analysis contained in Impact NOISE-3 presents a future average daily interior noise level of <45 dBA (or 28.8 dBA) for the Wellness Center building located nearest to the airport (public storage building), which reflects an exterior-to-interior noise reduction of more than 30 dBA from the future average daily exterior noise level of 58.8 dBA. As stated in the DEIR, the exterior-to-interior reduction of newer homes in California is generally more than 30 dBA. Based on the foregoing, the project complies with the requirements of the AO Zoning District.

d. Project Compliance with Parking Regulations (Wellness Center)

For the Wellness Center, the applicant proposes a 73 space on-site parking lot, including 10 ADA-accessible parking spaces (where a minimum of 3 ADA-accessible spaces are required). According to the table below, a minimum of 73 spaces are required for the proposed uses. Due to the somewhat unique nature of the proposal, the parking requirements for the project are both based on a strict application of the Parking Regulations and common sense adjustment of the regulations to meet what is anticipated to be the actual parking demands of the project. For instance, as the DD

residents would not drive and, instead, would be driven by their aides, no parking is required for the DD residents.

<b>Revised Table 3 Wellness Center Proposed Parking Spaces</b>		
<b>Proposed Use</b>	<b>Type of Use</b>	<b>Parking Spaces</b>
Residential		
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
Services (laundry, dog grooming, maintenance/janitorial)	Pick-up/drop-off services	10
<u>Total of Parking Spaces Above</u>		<u>40</u>
<b>Parking Spaces Reserved for Beach User Access</b>		<u>10</u>
<b>Total Proposed Parking Spaces</b>		<u>50</u>

As shown in the table above, a total of 40 parking spaces are required for this development. In addition, LCP Policy 10.22 (*Parking*) requires the property owner to designate and post 20% of the total spaces for beach user parking between 10:00 a.m. and 4:00 p.m. This requirement assumes a shared parking arrangement between proposed uses and beach user parking. As all 40 spaces of required parking will be utilized during the day, the applicant proposes 10 additional spaces to meet this requirement, such that 20% of the total required spaces (10 spaces) are reserved for beach user parking at any time. Therefore, the total number of parking spaces on site will be 50 spaces.

Staff had added Condition 14 to ensure compliance with beach user parking requirements for the life of the project. Condition 42 has been added to minimize impervious surface through the use of compact spaces. As up to 25% of parking spaces may be compact (minimum dimensions: 8 feet by 16 feet), the condition requires 18 of the 73 spaces to be compact in size and labeled as such.

<b>Table X Parking Requirements for Wellness Center</b>	
<b>Proposed Parking Spaces</b>	<b>Proposed/Required</b>
ADA- Accessible	10 <sup>1</sup>
Compact (8' x 16')	12
Regular (9' x 19')	28
<b>Total Proposed Parking Spaces</b>	<b>50</b>
<sup>1</sup> The applicant proposes 10 spaces where a minimum of 3 is required.	

e. Project Compliance with Design Review Requirements (Wellness Center)

As shown in Attachment O and described in the EIR, the applicant proposes two Wellness Center Buildings, Buildings A and B. Building A is 88,648 sq. ft., 3 stories, and 35 ft. in height from natural grade. Building A contains 70,348 sq. ft. of residential use, including 45 dwelling units for DD adults. Building B is 6,114 sq. ft., 1-story, approximately 15 ft. in height, and contains 12 residential “Breezeway” units.

Story Poles have been required by the Community Development Director for this and the Office Park proposal, as permitted under Section 6565.6 (Design Review Application Requirements) of the County Zoning Regulations. The applicant has erected story poles at the Wellness Center site to represent the two Wellness Center buildings.

Per Section 6565.7 of Chapter 28.1 (*Design Review for Coastal Zone Only*) of the Zoning Regulations, the decision making body shall find that the proposal conforms with applicable standards for review, prior to issuance of a Design Review permit.<sup>16</sup> The following is a discussion of the standards of review as they apply to the Wellness Center proposal<sup>17</sup>:

- (1) Where grading is necessary for the construction of structures and paved areas, it blends with adjacent landforms 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. The applicant proposes to perform 26,050 cubic yards of balanced cut and fill, which includes all grading associated with the Wellness Center and Office Park proposals. The site is relatively flat and will remain relatively flat after grading operations. Proposed grading is necessary for the construction of stormwater systems below the pervious parking lots, the creation of building pads, underground water storage systems for fire suppression, and wetlands habitat construction, as shown in Table 8 of this report. Per Condition 15, the applicant is required to comply with the approved Erosion and Sediment Control Plan and the County’s Drainage Policy.
- (2) 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. The site adjoins the Fitzgerald Marine Reserve along the western property boundary and a drainage swale along the northern property line. The applicant proposes to preserve existing wetlands and perform additional wetlands habitat construction and landscaping along the west and north property lines.
- (3) Varying architectural styles are made compatible through the use of similar materials and colors which blend with the natural setting and surrounding

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<sup>16</sup> Also, refer to discussion of project compliance with the Community Design Manual (CDM) in relation to LCP Policy 8.12 (*General Regulations*).

<sup>17</sup> This section includes a discussion of policies unique to the Design Review standards for review (or concepts not otherwise covered by policies of the Community Design Manual, General Plan, and Local Coastal Program).

neighborhoods. As presented in the DEIR, the color and material schematic for the Wellness Center blends well with buildings in Princeton. Exterior materials for the Wellness Center include cedar siding, ipe wood, cement board, and standing seam roofing in earth-toned hues of green, brown (shown as orange), and gray. The community center is shown in the renderings to be predominantly white with gray accents. While the original renderings do not represent the revised proposal, Condition 49 requires the applicant to adapt the original design to the revised site plan for the Wellness Center presented in the FEIR, subject to the approval of the County's Design Review Officer. In addition, landscaping, as proposed and conditioned, along the entire perimeter of the property will soften and screen the development from public roads and other viewing locations.

- (4) 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 buildings in the community. The Wellness Center buildings present varied heights (Building A is 3-stories and Building B is 1-story) and are well articulated. The design of the main Wellness Center building utilizes wall, façade and roofline articulation as well as varying use of exterior textures and colors to break up the mass and bulk of the structure. Furthermore, awnings and balconies help to add additional articulation and a human scale. While adjoining buildings in Princeton are one and two-story structures, there are also several three-story structures within the Princeton area. As presented in the FEIR, Building A is clustered with existing warehouses in Princeton. However, Building A is much larger than Building B. The one-story Building B would appear out of scale as it would adjoin the much larger Building A to the south and the Office Park buildings to the north. Condition 50 has been added to require the applicant to visually and/or physically break up the mass of Building A, or better balance the sizes Buildings A and B, while retaining the maximum total square footage of the Wellness Center.
- (5) Overhead utility lines are placed underground where appropriate to reduce the visual impact in open and scenic areas. The project site is located in the Cabrillo Highway County Scenic Corridor. Condition 51 requires all new utility lines for this project to be installed from the nearest existing utility pole, such that no new poles will be installed for this project.

## 2. OFFICE PARK SITE

The Office Park proposes a mix of uses as follows: 40% General Office, 25% Research and Development, 20% Light Manufacturing, and 15% Storage uses. The original proposal of four Office Park buildings (as presented in the Draft EIR) has been replaced with a plan to build 8 buildings, in order to distribute the massing of the structures. The 225,000 sq. ft. total of the original proposal would be maintained. Under the revised proposal, the 8 buildings are closely-clustered, include pedestrian walkways in between structures, and loading bays along the perimeter of the building cluster. The heights of the Office Park buildings would vary between 2 or 3-stories (35.5 ft. and 45.5 ft. in height from grade), with a row of four 2-story structures located a distance of 20 feet from the AO Zone and

four 3-story buildings located behind the 2-story buildings (refer to Attachment G). As discussed in the FEIR, the revised Office Park design is considered a modified version of Alternative C, which distributes 200,000 sq. ft. over four, 2-story buildings.

a. Project Compliance with M-1 Zoning District Regulations (Office Park)

Section 6271.A.162 of Chapter 17 (*M-1 Light Industrial Districts*) of the County Zoning Regulations allows “Administrative, research and professional offices, excluding doctors and dentists” as a permitted use. The section also allows a wide range of manufacturing uses as well as storage uses. Therefore, the proposed uses are principally permitted uses in this zoning district.

b. Project Compliance with the AO Zoning District (Office Park)

The 125-foot wide portion of the project site located along Airport Street is zoned Light Industrial/Airport Overlay/Design Review/Coastal Development District (M-1/AO/DR/CD). No structures are proposed in areas of the AO Zoning District on the Office Park Property, only outdoor parking uses, trail uses and landscaping. Therefore, the Office Park proposal complies with the requirements of the AO Zoning District.

c. Project Compliance with Parking Regulations (Office Park)

The Office Park includes 40% General Office, 25% Research and Development, 20% Light Manufacturing, and 15% Storage uses. As discussed in the DEIR and shown in the table below, a total of 737 parking spaces would be required by the County based on 100% of the space being dedicated to general office use. The DEIR states that the provision of 640 spaces where 737 are required would not result in a significant impact to parking in the area. Based on this calculation, the applicant seeks a parking exception of 99 parking spaces. The County Parking Regulations does make a distinction between “office” uses and “other uses permitted in the ‘M’ Zoning Districts,” which only requires 1 parking space for every 2,000 sq. ft. Using this calculation, a minimum of 518 parking spaces would be required.



<b>Table 4 Parking Requirements for Office Park</b>				
<b>Proposed Use</b>	<b>Sq. Ft.</b>	<b>County Parking Regulations</b>		<b>Parking Spaces Required (using Total sq ft. of “equivalent Office Space” from DEIR)<sup>2</sup></b>
		<b>Parking Space Ratio</b>	<b>Parking Spaces Required under M-1 District</b>	
General Office (40%)	90,000	1 sp/200 sq. ft.	450	450
Research and Development (25%)	56,250	1 sp/2,000 sq. ft. <sup>1</sup>	28.26	208
Light Manufacturing (20%)	45,000	1 sp/2,000 sq. ft.	22.50	79
Storage uses (15%)	33,750	1 sp/2,000 sq. ft.	16.88	0
	225,000		517.64	737
Lower Limit of Required Parking Spaces (County):				<b>518</b>
Higher Limit of Required Parking Spaces (DEIR)				<b>737</b>
Average of Above:				<b>628.5</b>
Total Proposed Parking Spaces				<b>640</b>
<sup>1</sup> The Parking Regulations require “1 space for each 2 employees on largest shift; in no case less than 1 space for each 2,000 sq. ft. of floor area” for all uses which are permitted in “M” Districts, but not specifically enumerated in the regulations.				

Staff has concluded that the demand for parking at the site is likely to lie between 518 and 737 parking spaces, with the midpoint being 628 parking spaces. As the applicant proposes 640 spaces, the on-site parking is not anticipated to impact street parking or public access. Based on the foregoing, including the proposed shuttle service that reduces the need for parking spaces, granting of a parking exception to allow 640 spaces where 737 would otherwise be called for under the regulations, the granting of a parking exception would not result in a significant impact to parking in the area.

Per Section 6120 (*Exceptions*) of the County Zoning Regulations, the Planning Commission must make the following finding in order to grant a Parking Exception:

*That establishment, maintenance and/or conducting of the off-street parking facilities as proposed are as nearly in compliance with the requirements set forth in Section 6119 hereof as are reasonably possible.*

Having met the requirements of the Parking Regulations which require only 518 parking spaces for the proposed office use and “other uses permitted in the ‘M’ Zoning Districts,” and due to site constraints including adjoining sensitive habitat areas and buffer zones, the proposed 640-space parking lot is as nearly in compliance with the requirements set forth in Section 6119 hereof as are reasonably possible.

It should be noted that Condition 42 has been added to minimize paved surfaces through the use of compact spaces. As up to 25% of parking spaces at the Office Park site may be compact (minimum dimensions: 8 feet by 16 feet), the condition requires 160 of the 640 spaces to be compact in size and labeled as such. As the site is located further than a ¼-mile from shoreline access areas, no beach user parking is required for this development.

<b>Table 5 Parking Requirements for Office Park</b>	
<b>Proposed Parking Spaces</b>	<b>Proposed/Required</b>
ADA- Accessible	13 <sup>1</sup>
Compact (8' x 16')	160
Regular (9' x 19')	467
<b>Total Proposed Parking Spaces</b>	<b>640</b>
<sup>1</sup> Based on a building code regulations, which require 2% of parking spaces be ADA accessible for parking lots with between 501 and 1,000 parking spaces.	

Condition 6.n. further reduces parking impacts to the project area by requiring the applicant to implement Traffic Demand Management measures in order to reduce on-site parking demand and overall parking in the area.

d. Project Compliance with Design Review Regulations (Office Park)

Story Poles have been required by the Community Development Director for this and the Wellness Center proposal, as permitted under Section 6565.6 (Design Review Application Requirements) of the County Zoning Regulations. The applicant erected story poles on October 16, 2010 at the Office Park site to represent all proposed buildings at the site.

Per Section 6565.7 of Chapter 28.1 (*Design Review for Coastal Zone Only*) of the Zoning Regulations, the decision making body shall find that the proposal conforms with applicable standards for review, prior to issuance of a Design Review permit.<sup>18</sup> The following is a discussion of the standards of review as they apply to the Office Park proposal<sup>19</sup>:

- (1) 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. The site adjoins the Fitzgerald Marine Reserve along the western property boundary and a drainage swale along the northern property line. The applicant proposes to preserve existing wetlands and perform additional wetlands habitat construction and landscaping along the west and north property lines.

<sup>18</sup> Also, refer to discussion of project compliance with the Community Design Manual (CDM) in relation to LCP Policy 8.12 (*General Regulations*).

<sup>19</sup> This section includes a discussion of policies unique to the Design Review standards for review (or concepts not otherwise covered by policies of the Community Design Manual, General Plan, and Local Coastal Program).

- (2) Proposed structures are designed and situated so as to retain and blend with the natural vegetation and landforms of the site and to insure adequate space for light and air to itself and adjacent properties. The site is relatively flat with a view of the Montara Mountains to the west. Under the revised Office Park proposal, the 8 are closely clustered, include pedestrian walkways in between structures, and access to loading bays along the perimeter of the building cluster (with the exception of buildings on Lots 4 and 5). The widths of the walkways are the minimum in order to promote clustering, but allow for light, air, and some landscaping in order to create a pleasant walking experience. The 2 and 3-story variation in the buildings helps to further minimize visual impacts from viewing locations along Airport Street, the North Trail, and Highway 1, and reduce project footprint and land disturbance by allowing a third-story for buildings at the rear.
- (3) Varying architectural styles are made compatible through the use of similar materials and colors which blend with the natural setting and surrounding neighborhoods. As shown in Attachment F, the design of the Office Park buildings presented in the DEIR, represent the proposed 4-building scenario. While building elevations and footprints show some amount of façade articulation, the design is feels unrelated to the Wellness Center, to existing buildings in Princeton, and to the site’s setting. The FEIR adds new Recommended Mitigation Measure LU-4 to require that the applicant comply with the recommendations of the County’s Coastside Design Review Officer to implement changes to the Office Park buildings that improve consistency with applicable policies of the LCP and the Community Design Manual, prior to the project approval by the Planning Commission.

In order to provide the Planning Commission with a visual representation of the recommendations of the Coastside Design Review Officer, Planning staff worked directly with the Coastside Design Review Officer to create a design “overlay” for both 2-story and 3-story building structures that do not change the overall structure of the proposed buildings, but simply provides an overlay to the proposed building elevations (Attachment H). The overlay includes recommendations for building color (to be presented at the hearing) and materials. The applicant has agreed to use of the design overlays as the basis for the design of the Office Park buildings. Condition 48 requires the applicant use the design overlays as the basis for the design of the Office Park buildings, subject to the approval of the Coastside Design Review Officer.

- (4) Where grading is necessary for the construction of structures and paved areas, it blends with adjacent landforms 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. The applicant proposes to perform 26,050 cubic yards of balanced cut and fill, for both the Big Wave Wellness Center and Office Park developments. The site is relatively flat and will remain relatively flat after grading operations. Proposed grading is necessary for the

construction of stormwater systems below the pervious parking lots, the creation of building pads, underground water storage systems for fire suppression, and wetlands habitat construction, as shown in Table 8 of this report. Per Condition 15, the applicant is required to comply with the approved Erosion and Sediment Control Plan and the County's Drainage Policy.

- (5) 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 buildings in the community. Under Alternative C and with the use of the design overlays, the Office Park buildings vary between two and three stories in height, are well articulated, and are compatible in size and scale with other buildings in Princeton. While adjoining buildings in Princeton are one and two-story structures, there are also several three-story structures within the Princeton area. The design of the buildings utilize wall, façade and roofline articulation as well as varying use of exterior textures and colors to break up the mass and bulk of the structures. Furthermore, awnings and trellis elements help to add additional articulation and a human scale.
- (6) Overhead utility lines are placed underground where appropriate to reduce the visual impact in open and scenic areas. The project site is located in the Cabrillo Highway County Scenic Corridor. Condition 51 requires all new utility lines for this project to be installed from the nearest existing utility pole, such that no new poles will be installed for this project.

### 3. BOTH PROJECT SITES

#### Project Compliance Resource Management/Coastal Zone (RM-CZ) Regulations<sup>20</sup>

As shown in Attachment C, portions of both properties are located within the RM-CZ/DR/CD Zoning District. These portions include areas within the buffer zones along the drainage swale separating the properties and wetland and wetland buffer zones. Within these areas, only wetland habitat construction and monitoring are proposed.

Section 6906.1 (Conservation Open Space Easement) requires, after any land divisions, that the applicant grant to the County (and the County to accept) a conservation easement containing a covenant, running with the land in perpetuity, which limits the use of the land covered by the easement to uses consistent with open space (as defined in the California Open Space Lands Act of 1972 on January 1, 1980). Condition 26 has been added to require that applicant record a conservation easement over areas of the properties within delineated wetlands and buffer zones.

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<sup>20</sup> This section includes a discussion of policies unique to the RM Regulations and development review Criteria (or concepts not otherwise covered by policies of the General Plan and Local Coastal Program).

**E. COMPLIANCE WITH SUBDIVISION REGULATIONS**

Wellness Center

The applicant proposes a Minor Subdivision of the southern parcel, in which the division of land would result in four or fewer parcels. The property would be subdivided into three separate lots (Lots 1-3). Lot 1 includes the 3-story 10,000 sq. ft. commercial public storage building. Lot 2 includes the 94,762 sq. ft. Wellness Center, including 57 dwelling units and ancillary uses, as well as the common areas of the wetlands, wetland buffer areas, area proposed for wetland habitat creation, and fire access lane. Lot 3 includes the 50-space parking lot.

Office Park

The applicant proposes a Major Subdivision of the northern parcel, in which the division of land would result in five or more parcels. The property would be subdivided into ten lots (Lots 1-10). Lot 1 includes the common areas of the wetlands, wetland buffer areas, area proposed for wetland habitat creation, and fire trail. Lot 2 includes the 640-space parking lot and walkway areas. Lots 3-10 would include eight (8) two and three-story buildings (225,000 sq. ft. total) planned for mixed office use.

The proposed subdivision has been reviewed by Planning staff with respect to the County Subdivision Regulations. The Coastside Fire Protection District and the County's Building Inspection Section, Environmental Health Division, Geotechnical Engineer, and Department of Public Works have reviewed the project. As conditioned, the project is in compliance with their standards and the requirements of the County Subdivision Regulations. Conditions of project approval have been included in Attachment A of this report.

1. Subdivision Design and Improvement Requirements

The proposal has been reviewed by the Environmental Health Division, the Community Development Director, and County Counsel and has been found to comply with the design and improvement requirements of the Subdivision Regulations. The following is a discussion of specific requirements relating to critical aspects of the project:

a. Subdivision Design and Layout

The project complies with Article 2 (*Subdivision Design and Layout*) of the Subdivision Regulations, where each proposed parcel meets the minimum lot size of 5,000 sq. ft., minimum lot width of 50 feet and minimum lot depth of 100 feet.

b. Water Supply

Article 4 (*Water Supply*) requires water to be supplied to each parcel of the subdivision by one of three methods, including connection to an existing utility system,

establishment of a mutual<sup>21</sup> or private water system subject to the approval of the Environmental Health Division (Division), or service from individual wells to each parcel. The applicant proposes a mutual water system to supply approximately 16,000 gallons per day (gpd), where 26,000 gpd is required for project operation. As described in the FEIR, the other water demands (approximately 10,000 gpd) will be supplied using recycled water that is treated to Title 22 standards for drinking water. The following table provides estimates regarding potable and recycled water demand.

<b>Table 6</b>				
<b>Estimated Water Demand (Includes Potable and Recycled), based on DEIR Analysis</b>				
<i>Water Source</i>	<i>Wellness Center Demand (gpd)</i>	<i>Office Park Demand (gpd)</i>	<i>Total Demand (gpd)</i>	<i>Total Supply (gpd)</i>
Potable (Well) Water	4,000 – 6,000 <sup>2</sup>	6,000 – 11,000 <sup>2</sup>	10,000 – 17,000 <sup>2</sup>	24,000 to 47,500 <sup>1</sup>
Recycled Water	0 – 2,000 <sup>2</sup>	9,000 <sup>2</sup> – 14,000 <sup>2</sup>	9,000 - 16,000 <sup>2</sup>	26,000
<b>Total</b>	<b>6,000</b>	<b>20,000</b>	<b>26,000<sup>3</sup></b>	<b>N/A</b>

Notes: GPD = Gallons Per Day

<sup>1</sup>Per the DEIR and the technical data contained in it, the well is capable of delivering approx. 24,000 gpd in a 12-hour period and 47,500 gpd over a 24-hour period.

<sup>2</sup>Range from Table II-8 (see notes in Table II-8).

<sup>3</sup>Based on average year conditions. For drought years, applicant states that maximum potable water demand for the project will decrease from 26,000 gpd to approx. 21,000 gpd during periods of drought, including 5,000 gpd of potable water and 16,000 gpd of recycled water.

Approval of the proposed system is subject to the requirements of Section 7024.2.b, including but not limited to use of a vertical well or spring<sup>22</sup>, compliance with the permitting requirements and operation and maintenance standards of the Environmental Health Division. The 20-foot seal of the existing well will be maintained, with surface water treatment, as required by the Division. The well water will be disinfected and treated to remove iron, manganese, nutrients, and VOCs. The proposed system has been reviewed by the Division and Local Agency Formation Commission (LAFCo) and, as proposed and conditioned, meets their requirements.

Furthermore, Section 7024.3.a.2 allows for use of mutual water company as a water source in an urban area if the Community Development Director determines connection to an existing water supply system to be infeasible. The County has added Condition 9 to require the applicant to actively pursue a water connection to CCWD for the potable water and fire suppression needs of the entire project. As stated in the FEIR, connection to CCWD would require the annexation of the project sites to CCWD, which would require review and approval by LAFCo and approval of amendments to the Coastal Development Permits for the El Granada Pipeline replace-

<sup>21</sup> A mutual exists with the purpose of raising funds from its membership or customers, which can then be used to provide common services to all members of the organization or society. A mutual is therefore owned by, and run for the benefit of, its members (Source: www.wikipedia.com).

<sup>22</sup> This is groundwater that emerges at the surface from deep underground. Immense pressure combined with the structure of the local geology forces the water to the surface.

ment project (CDPs A-1-HMB-99-20 and A-2-SMC-99-63). Until a municipal water connection can be achieved, the proposed well use would be allowed as approved on an interim basis. Once a connection is achieved, the existing well shall be closed to the property owner per the requirements of the Director of the Environmental Health Division and other applicable regulatory agencies. In the instance that LAFCo denies the annexation of the project sites to the service area boundaries of CCWD and/or the Coastal Commission denies the Coastal Development Permits for the El Granada Pipeline necessary for connection of the project to CCWD, the proposed well may be used to serve the project on a permanent basis.

c. Storm Drainage

Article 6 (Storm Drainage) requires each parcel created by a subdivision to be adequately drained of all storm water run-off by a storm drain system that meets County standards, and no tentative map or tentative parcel map shall be approved unless the Advisory Agency is assured that adequate drainage will be provided. Standards provided in this article require all storm or surface waters reaching the subdivision to be collected by a storm drain system designed to prevent standing or flooding waters and conveyed to an existing storm drain system or natural watercourse as approved by the Director of Public Works. Minimum design criteria for storm drain capacity shall be that of a one-in 10-year storm. Easements for storm drain purposes shall be a minimum of ten (10) feet in width. The storm drain system shall provide for the protection of adjacent properties that would be adversely affected by any increase in runoff attributed to the subdivision. All roof runoff would be directed to a piped storage system below the parking lot that is sized for a 10-year storm. Likewise, all surface water in the parking lot would be absorbed into the permeable pavers and directed into the same system. Stormwater would not cross property lines. The proposed system has been reviewed by the Department of Public Works and would comply with this article and the County's Drainage Policy.

d. Sewage Disposal

Article 7 (*Sewage Disposal*) requires subdivisions in urban areas to connect to an existing sanitary sewer system or obtain an exception from the Planning Commission. According to the EIR, the estimated wastewater flows from the project are approximately 26,000 gallons per day.<sup>23</sup> The applicant proposes to treat all 26,000 gpd through an on-site membrane bioreactor (MBR) wastewater treatment facility designed to meet Title 22 requirements. As described in the FEIR, three separate MBR plants would be located in separate below-ground areas of the project sites to allow for project phasing. The applicant plans to recycle 16,000 gpd through toilet flushing, sub-surface landscape irrigation, and surface and solar panel washdown uses.<sup>24</sup> Table 7 shows the proposed uses of recycled water at the project site.

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<sup>23</sup> Project water demand calculation is provided in Table IV.N-2 on Page IV.N-33 of the DEIR.

<sup>24</sup> The applicant estimates reuse of 10,000 gpd through irrigation for non-drought years. The applicant estimates reuse of 5,000 gpd through irrigation for drought years, where estimated wastewater generation will drop from 26,000 gpd to 21,000 gpd.

<b>Table 7</b>				
<b>Approximate<sup>1</sup> Plant Recycled Water Demand (Dry and Wet Season)</b>				
<b>Landscaping</b>	<b>Total No.</b>	<b>Approximate Recycled Water Needs per Plant (gpd)</b>	<b>Approximate Total Recycled Water Demand (Dry Season) (gpd)</b>	<b>Approximate Total Recycled Water Demand (Wet Season) (gpd)</b>
<b>Wetlands</b>				
Trees	5,500	0.5	2,750	--
Shrubs	13,500	0.2	2,700	--
			5,450	
<b>Uplands</b>				
Trees (wetlands)	4,000	1.0 - 2.0	4,000	8,000
Shrubs (wetlands)	6,000	0.25 - 0.5	1,500	3,000
			5,500	11,000
<b>Organic Garden/Native Plant Nursery</b>				
Plants	10,000	0.5	5,000	5,000
<b>Total Wetlands Trees</b>	<b>9,500</b>			
<b>TOTAL</b>	<b>39,000</b>	<b>--</b>	<b>16,000</b>	<b>16,000</b>

<sup>1</sup>The table represents approximate recycled water demand. Actual use of recycled water may be higher or lower, varying with the amount of recycled water used for toilet flushing. No potable water would be used for plant watering.  
GPD = Gallons per day.  
Source: Appendix K of the DEIR, as revised in the FEIR.

Any unused excess recycled water would be disposed of through the Granada Sanitary District (GSD) system. As shown in the table above, under normal conditions, no wastewater will be directed to the GSD system. However, the applicant proposes to connect to the GSD sewer system for 8 equivalent dwelling units (EDUs), where 8 EDU's is equivalent to 1,768 gallons per day, for the discharge of unused Title 22 treated water as needed.<sup>25</sup> The applicant also proposes an emergency connection to provide for a backup wastewater management system in the instance that the on-site wastewater treatment systems fails or is over capacity.

The permitting authority for the on-site wastewater treatment system is the State Regional Water Quality Control Board. The permitting authority for the use of recycled water is the California Department of Public Health. Condition 5.ii. requires compliance with requirements of these agencies as they apply to the project. It

<sup>25</sup> EDUs are used to calculate the connection fee charged by the Granada Sanitary District. Taxes for eight (8) EDUs have been assessed by GSD to the property. One (1) EDU is equivalent to 221 gallons per day.



should be noted that it is typical for the state to delegate authority for both wastewater treatment plants and the use of recycled water to the County Environmental Health Department.

e. Park Dedication Requirement

Section 7055.3 of the County Subdivision Regulations requires that, as a condition of approval of the tentative map, the subdivider must dedicate land or pay an in-lieu fee. The in-lieu park fee is based on the number of new parcels being created by the subdivision that will generate park usage. While the applicant proposes to divide the Wellness Center property into a total of 3 parcels, resulting in two new parcels, one of those parcels will contain commercial public storage uses that will not generate any park use. Therefore, the fee is based on the creation of only one new parcel. Condition 75 of Attachment B requires that, prior to the recordation of the Final Map, the property owner shall pay an in-lieu fee of \$963.30. Said fee is for the purpose of acquiring, developing or rehabilitating County park and recreation facilities and/or assisting other providers of park and recreation facilities in acquiring, developing or rehabilitating facilities that would serve the proposed subdivision. A worksheet showing the prescribed calculation has been included as Attachment DD. The mixed office use Office Park is exempt for park dedication requirements, as it does not contain residential uses.

2. Compliance with Findings Required for Subdivision Approval

a. **Find that, in accordance with Section 7013.3.b of the County Subdivision Regulations, this tentative map, together with the provisions for its design and improvement, is consistent with the San Mateo County General Plan.**

Planning staff has reviewed the tentative map and found it, as proposed and conditioned, to be consistent with the County General Plan as discussed in Section II.A of this report, above.

b. **Find that the site is physically suitable for the type and proposed density of development.**

As discussed in the DEIR, the project, as proposed and mitigated, would not result in any significant impacts to the environment. As described in Sections II.A and II.D of this report, the project complies with both the General Plan land use density designation and applicable Zoning Regulations. As described in Section II.F of this report, the project intends to minimize grading and comply with mitigation measures of the EIR to minimize geotechnical, tsunami hazards and other hazards to the project site and immediate vicinity.

c. **Find that the design of the subdivision and the proposed improvements are not likely to cause serious public health problems, substantial environmental damage, or substantially and avoidably injure fish or wildlife or their habitat.**

Implementation of mitigation measures of the EIR, which have been included as conditions of approval in Attachment A, would reduce project environmental impacts, including those related to Hydrology and Water Quality and Biological Resources, as discussed in their respective sections of the EIR, to less than significant levels.

- d. Find that the design of the subdivision and the proposed improvements will not conflict with easements acquired by the public at large for access through or use of property within the proposed subdivision.**

An existing easement, a 20-foot wide access and utility easement along the north side of the northern parcel, is shown on the Vesting Tentative Map (Attachment G). The project would not change the boundaries of or impede access to this existing easement.

- e. Find that the design of the subdivision provides, to the extent feasible, for future passive or natural heating or cooling opportunities.**

Future development on the parcels could make use of passive heating and cooling to the extent practicable because parcels have unobstructed solar access to the northwest, thereby allowing solar energy to passively or actively (using rooftop solar panels) heat the proposed buildings.

- f. Find that the discharge of waste from the proposed subdivision into an existing community sewer system would not result in violation of existing requirements prescribed by a State Regional Water Quality Control Board pursuant to Division 7 (commencing with Section 13000) of the State Water Code.**

The applicant proposes to treat all project wastewater flow through an on-site membrane bioreactor (MBR) wastewater treatment facility designed to meet Title 22 requirements. The applicant plans to recycle 16,000 gpd through toilet flushing, sub-surface landscape irrigation, and surface and solar panel washdown uses.<sup>26</sup> Any unused excess recycled water would be disposed of through the Granada Sanitary District (GSD) system. The applicant also proposes an emergency connection to provide for a backup wastewater management system in the instance that the on-site wastewater treatment systems fails or is over capacity. Condition 5.ii. requires compliance with requirements of the State Regional Water Quality Control Board and the California Department of Public Health as they apply to the project.

- g. Find that the land is not subject to a contract entered into pursuant to the California Land Conservation Act of 1965 (“the Williamson Act”) and that the resulting parcels following a subdivision of that land would not be too small to sustain their agricultural use.**

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<sup>26</sup> The applicant estimates reuse of 10,000 gpd through irrigation for non-drought years. The applicant estimates reuse of 5,000 gpd through irrigation for drought years, where estimated wastewater generation will drop from 26,000 gpd to 21,000 gpd.

The property is not subject to a Williamson Act contract.

- h. Find that, per Section 7005 of the San Mateo County Subdivision Regulations, the proposed subdivision would not result in a significant negative effect on the housing needs of the region.**

As discussed in the Population and Housing Section of the EIR, the proposed project would assist the area in achieving a jobs/housing balance by providing approximately 825 net new jobs and 57 new housing units, or approximately 14 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. Therefore, the project would not result in a negative effect on regional housing needs.

**F. COMPLIANCE WITH GRADING REGULATIONS**

The project would involve approximately 26,050 cubic yards of balanced cut and fill in order to construct stormwater systems below the pervious parking lots, create building pads for all proposed structures, underground water storage systems for fire suppression, and wetlands habitat construction, as shown in Table 8 of this report. Grading would include approximately 22,445 cubic yards of excavation and approximately 26,050 cubic yards of fill (including 3,605 c.y. of imported gravel). Off-haul of excess earth would not be necessary. The project does not meet the criteria for an exemption under Section 8603 of the San Mateo County Ordinance Code and requires a grading permit.

<b>Table 8 Grading Estimates</b>			
<b>Purpose</b>	<b>Cut</b>	<b>Fill</b>	<b>Import</b>
<u>Office Park</u>			
Excavate Top Soil and Stockpile On-site	<u>18,700</u> <sup>1</sup> <del>19,500</del>		
Building Pads		7,740	
Parking Lot		<u>5,370</u> <sup>4</sup> <del>6,170</del>	<u>3,605</u> <sup>4</sup> <del>4,100</del> (imported gravel)
Swale and Retention Ponds <sup>2</sup>	2,375	1,870	
<b><i>Office Park Total</i></b>	<b><u>21,075</u></b>	<b><u>14,980</u></b> <sup>4</sup>	
<u>Wellness Center</u>			
Swale and Retention Ponds	870		
Building Pads, Fire Trail and Parking		11,070	6,095 cy from the Office Park property
<u>Fire Water Storage Tank</u>	<u>500</u> <sup>3</sup>		
<b><i>Wellness Center Total</i></b>	<b><u>1,370</u></b> <del>870</del>	<b><u>11,070</u></b>	
<b><i>TOTAL CUT AND FILL</i></b>	<b><u>22,445</u></b>	<b><u>26,050</u></b>	(3,605 cy gravel will be imported)
<p><sup>1</sup> Reduction of 800 cy of cut due to the County Environmental Health Division's requirement to retain the clay cap within a 100-foot radius around the well.</p> <p><sup>2</sup> The swales and retention ponds are for the purpose of providing natural roughness and topography and micro and macro depressions in the wetlands design.</p> <p><sup>3</sup> Additional excavation to install a below-ground water storage tank for fire protection, if swimming pool is not approved as fire supply by the Coastside County Fire Protection District.</p> <p><sup>4</sup> Revised and reduced fill amount based on reduction in cut amount (see note 1 of this table) to allow for balanced grading.</p>			

In order to approve this project, the Planning Commission must make the required findings contained in the Grading Regulations. The findings and supporting evidence are outlined below:

**1. That the project will not have a significant adverse effect on the environment.**

The Geology and Soils section of the DEIR identifies the following as the primary geotechnical concerns for this site: very strong to very violent shaking during an earthquake due to the close proximity of the site to the San Gregorio and the San Andreas faults; seismic hazards, including the potential for liquefaction, sand boils, and cyclic densification; and the presence of expansive near-surface soil. Implementation of the proposed mitigation measures, incorporated as Conditions 5.m. through 5.r. and compliance with applicable regulations would reduce project impacts related to geology and soils to a less than significant level.

**2. That the project conforms to the criteria of Chapter 8, Division VII, San Mateo County Ordinance Code (Grading Regulations), including the standards referenced in Section 8605.**

The project has been reviewed by the County's Department of Public Works and the Planning and Building Department's Geotechnical Engineer. Applicable requirements of these agencies have been incorporated as conditions of approval, including those regulating the timing of grading activity, erosion and sediment control, and dust control. Condition No. 16 prohibits grading within the wet season (October 15 through April 15), unless approved by the Community Development Director. Therefore, the project, as proposed and conditioned, conforms to the standards in the Grading Regulations.

**3. That the project is consistent with the General Plan.**

As proposed and conditioned, the project complies with applicable policies of the General Plan, as discussed in Section II.A of this report, above.

**III. COMMENTS FROM THE CALIFORNIA COASTAL COMMISSION (CCC)**

As described in the FEIR, in a comment letter dated December 24, 2009, the Coastal Commission states that the project appears to contain historic tidelands that CCC staff suggests may lie within the Coastal Commission's original permit jurisdiction. Per the Public Resources Code 30519(a) and (b), the local government has the development review authority for any new development proposed within the area to which the certified local coastal program has been locally approved and certified by the California Coastal Commission (CCC), with the exception of any development proposed or undertaken on any tidelands, submerged lands, or on public trust lands, whether filled or unfilled, lying within the coastal zone. The CCC has the development review authority for development on the above listed lands, in which development would be subject to the regulations of the Coastal Act.

The County of San Mateo is working with the CCC and the applicant to determine the possible existence and extent of historic tidelands that affect the proposed development. As to all parts of the project site that are outside of the jurisdictional boundaries of the CCC and within the jurisdictional boundaries of the County of San Mateo, development in those areas would be subject to the Local Coastal Program (LCP) and Coastal Act access and recreation policies. Project consistency with individual LCP policies is evaluated in Table IV.I-1 (County of San Mateo General Plan Consistency Analysis) in the DEIR.

As discussed in the FEIR, the proposed project would be designed and constructed in conformance with all applicable development regulations of the LCP and the Coastal Act. Therefore, impacts would be less than significant and no mitigation measures are required. However, the County has added new recommended Mitigation Measure LU-2 (also Condition 5.z.) to require the property owner to work with the CCC to identify and delineate the CCC's jurisdiction over the project site, subject to CCC review and approval. The property owner shall obtain all necessary approvals from the Coastal Commission prior to the initiation of any development within areas of CCC jurisdiction.

**IV. COMMENTS FROM THE FEDERAL AVIATION ADMINISTRATION (FAA) REGARDING THE RESIDENTIAL USES OF THE WELLNESS CENTER**

The grant conditions imposed by the Federal Aviation Administration (FAA) with respect to Half Moon Bay Airport require that the County limit land uses around airports to those that are compatible with airport use. In a letter dated July 8, 2010, a representative of the FAA reiterated that, based on grant conditions (Assurance 21, Compatible Land Use), airport sponsors are required to take appropriate action to restrict use of land adjacent to the airport to activities that are compatible with normal airport operations (refer to Attachment Z). The letter further states that, generally, while planning and environmental documents proffer that there will not be any negative environmental impacts related to the proximity of the Wellness Center to the airport (e.g., noise impacts), based on past cases, the FAA representative believes that the Wellness Center residents will complain about noise associated with the airport. Also based on past experience, the FAA representative states that the public policy reaction to the complaints will be proposals to impose additional restrictions on normal airport operations.

Mitigation Measure HAZ-3 (Hazards Associated with Airport Operations) of the DEIR requires, prior to approval of final development plans, an aviation easement to be executed and recorded for the project site, in a form satisfactory to the County Director of Public Works. The mitigation measure requires the aviation easement to be recorded and shown on the vesting tentative map. Even without implementation Mitigation Measure HAZ-3, Impact HAZ-3 on page IV.G-25 states that 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 mitigation measure does not reduce potential hazard impact, but is a disclosure tool that preserves the County's ability to continue airport operations in that, through the recordation of the easement, the property owner grants a right to subject the property to noise, vibration, fumes, dust, and fuel particle emissions associated with normal airport activity.

In response to the FAA's letter, Mitigation Measure HAZ-3 (also Condition 5.t.) has been revised in the FEIR, to further clarify and disclose the potential airport noise to the Wellness Center owner(s), staff, and residents:

Prior to approval of final development plans, an aviation easement shall be prepared for the project site, the County Director of Public Works. The aviation easement shall be recorded and shown on the vesting tentative map. With approval of the Wellness Center, it is understood that the Wellness Center property owner(s) and tenants, and their successor's in interest in perpetuity, acknowledge the project's location adjacent to an airport and the noise level inherent in the use. The following statement shall be included in the details of the aviation easement on the recorded Final Map, prior to the issuance of the Certificate of Occupancy for any residential unit at the subject property:

“This parcel is adjacent to the Half Moon Bay Airport. Residents on this parcel may be subject to inconvenience or discomfort arising from airport operations, including but not limited to aircraft landings, take-offs, in air maneuvers and fly-overs, and on-the-ground engine start-ups and taxiing. San Mateo County recognizes the value of the Half Moon

Bay Airport to the residents of this County and intends to preserve airport operations, existing and future, from significant interference and disruption. With approval of the Wellness Center, it is understood by both the Wellness Center property owner(s) and the Half Moon Bay Airport that airport operations shall continue, notwithstanding noise complaints received from property owners, residents, staff, guests, and others from the Wellness Center. In the event that the Wellness Center resident(s) or property owner(s) are unwilling to live under such noise conditions and/or remain unsatisfied with the noise reduction measures being implemented by the airport, the affected resident(s) shall be relocated, with assistance provided by the property owner, to the satisfaction of the Planning and Building Department and/or the Department of Housing.”

As proposed, the Wellness Center buildings incorporate sound insulation and sound deflection and are shielded with landscaping designed to provide further noise buffering. Per Condition 45, the applicant would also be required to place vents and other openings away from noise sources and avoid structural features which direct noise toward interior spaces, to the extent feasible. In response to the FAA’s letter, the applicant has offered to make minor interior and exterior modifications to the Wellness Center buildings to further reduce noise levels to Wellness Center residents. The applicant proposes the following modifications:

1. Relocate the residential units so that they are as far as possible from the airport.
2. Construct the storage units and athletic facilities along the length of Building A of the Wellness Center, such that the non-residential areas are used to separate and buffer the residential units from the airport, further insulating the units from airport related noise.
3. Construct the residential units such that all face to the west and away from the airport, whereby no residential windows will face the airport and the residents.

Per Condition 56, the applicant is required to implement the above proposals to address the FAA’s comments, subject to the review of the Coastside Design Review Officer and to the approval of the Community Development Director. While it is acknowledged that the implementation of items 1 and 2 in the above list may result in some minor changes to the footprint of Buildings A and B, the following shall remain as approved by the Planning Commission: total building area and footprint, building area and footprint of structures located within the AO Zoning District, maximum building heights, and building design. Should the property wish to enter into a Subdivision Improvement Agreement, per Condition 63, the development agreement shall be revised to include the terms of this agreement, subject to the review and approval of the Department of Public Works.

As the local land use authority, the County, in this instant case the Planning Commission, has the authority to determine whether the sanitarium use is a compatible land use. Impact LU-2 of Section IV.I (Land Use and Planning) of the DEIR analyzes the project’s consistency with applicable land use plans, policies and regulations and concludes that the project complies with zoning requirements that address, among other things, the compatibility of the project with surrounding land uses. The section states that land use

and planning impacts would be less than significant and no mitigation measures are required.

## **V. DEVELOPMENT AGREEMENT**

The purpose of a development agreement is, for the applicant, to establish a contract with the County to maintain its regulations and requirements, as they apply to this project, as they exist at the time of project approval over the full project construction timeframe, regardless of changes to such regulations and requirements with this timeframe. The proposed development agreement is included in Attachment S. County Counsel is currently working with the applicant on the final terms of this document, which will be presented to the Board of Supervisors (Board). The development agreement is subject to the review of the Board. If approved by the Board, the development agreement would be intended to provide the applicant with regulatory certainty in the processing of necessary permits for the implementation of the approved project.

As the development agreement would incorporate by reference all conditions of project approval, the development agreement may provide additional assurance to the County of compliance with such conditions through the contractual agreement. Also, Planning staff has included Conditions 11 and 12 to require, under this contract, the applicant to pay for County efforts necessary for mitigation monitoring for this project, including the cost of a bond for traffic reports and potential traffic signal installation at Cypress Avenue and Airport Street, as well as roadway mitigation fees. The development agreement shall incorporate these requirements prior to review and approval of the agreement by the Board of Supervisors.

Planning staff recommends that the Planning Commission recommend approval of the development agreement, as conditioned, to the Board of Supervisors.

## **REVIEWING AGENCIES**

Aircraft Owners and Pilots Association  
Association of Bay Area Governments  
Bay Area Air Quality Management District  
CA Air Resources Board  
CA Coastal Commission  
CA Department of Boating and Waterways  
CA Department of Conservation  
CA Department of Fish and Game  
CA Department of Food and Agriculture  
CA Department of Health Services  
CA Department of Housing/Community Development  
CA Department of Parks and Recreation  
CA Department of Toxic Substances Control  
CA Department of Transportation  
CA Department of Water Resources  
CA Employment Development Department



CA Energy Commission  
CA Highway Patrol  
CA Integrated Waste Management Board  
CA Office of Historic Preservation  
CA State Lands Commission  
CA State Parks - Santa Cruz District  
CA Water Resources Control Board  
Cabrillo Unified School District  
Cal-Fire  
California Pilots Association  
City of Half Moon Bay  
City/County Association of Governments, Airport Land Use Committee  
Coastside County Water District  
Coastside Fire Protection District  
Coastside Scavenger Company/Seacoast Disposal  
Committee for Green Foothills  
Golden Gate Regional Center  
Granada Sanitary District  
Half Moon Bay Chamber of Commerce  
Half Moon Bay Library  
Half Moon Bay Police Department  
Local Agency Formation Commission (LAFCo)  
Midcoast Community Council  
Montara Water and Sanitary District  
National Marine Fisheries Service  
Native American Heritage Commission  
Peninsula Open Space Trust  
Pillar Ridge Homeowners Association  
Princeton Citizens Advisory  
Princeton-by-the-Sea Homeowners Association  
San Francisco Bay Regional Water Quality Control Board  
San Mateo County Agriculture/Weights and Measures Division  
San Mateo County Department of Health  
San Mateo County Department of Housing and Community Development  
San Mateo County Department of Parks  
San Mateo County Department of Public Works  
San Mateo County Office of Emergency Services  
San Mateo County Resource Conservation District  
San Mateo County Sheriff's Office  
US Army Corps of Engineers San Francisco District  
US Fish and Wildlife Service

## **ATTACHMENTS**

Copies of the Big Wave Wellness Center and Office Park Draft EIR are available at the following locations: (1) the Planning Department's web site at =; (2) the County Planning

Department, 455 County Center, Second Floor, Redwood City, California; and (3) the Half Moon Bay Library, 620 Correas Street, Half Moon Bay, CA 94019.

A. Findings & Conditions of Approval

*Attachments Describing the Project Site:*

- B. Vicinity Map for the Big Wave Project Sites
- C. Zoning Map
- D. Vegetation Communities Map from Draft EIR, October 2009

*Attachments Describing the Project Design (Attachments for Current Proposal are as underlined):*

- E. Office Park Property Site Plan from Draft EIR, October 2009
- F. Office Park Building Elevations from Draft EIR, October 2009
- G. Alternative C Office Park Property Vesting Tentative Map from FEIR, October 2010
- H. Building Elevation Design “Overlays” for Alternative C Office Park from FEIR, October 2010
- I. Office Park Grading & Erosion Control Plans
- J. Office Park Planting Plans
- K. Alternate Traffic Route Under Alternative C
- L. Analysis of Alternate Traffic Route Under Alternative C
- M. Wellness Center Property Site Plan from Draft EIR, October 2009
- N. Wellness Center Building Elevations from Draft EIR, October 2009
- O. Wellness Center Property Vesting Tentative Map from Final EIR, October 2010
- P. Wellness Center Grading & Erosion Control Plans
- Q. Wellness Center Planting Plans
- R. “90% Basis of Design- Riparian & Water/Wetlands Ecosystem Restoration” (also added to Appendix E of the DEIR in the FEIR)

*Attachments Describing Project Details:*

- S. Proposed Development Agreement
- T. “Big Wave Tsunami Force and Run-Up Report in Accordance with Zoning Ordinance 6326.2”, prepared Scott Holmes
- U. Review of Tsunami Report prepared by Scott Holmes by David Skelly, dated October 14, 2010
- V. Letter from Jim Porter, dated October 15, 2010
- W. Financial Information provided in Facilities Plan (Draft #2), January 2009

*Attachments Pertaining to Environmental Review (FEIR):*

- X. Visual Simulations from the DEIR
- Y. Mitigation Monitoring and Reporting Plan

*Attachments Pertaining to Airport Issues:*

- Z. Letter from the Federal Aviation Administration (FAA), dated July 8, 2010
- AA. Airport Layout Drawing

*Other Attachments:*

- BB. Letter from Coastside Fire Protection District, dated December 22, 2009
- CC. Definitions of Extremely Low Income, Very Low Income, Low Income, and Moderate Income Households (from the County's Housing Element)
- DD. In-Lieu Fee Worksheet

County of San Mateo  
Planning and Building Department

**RECOMMENDED FINDINGS AND CONDITIONS OF APPROVAL**

Project File Number: PLN 2005-00481, 482

Hearing Date: October 27, 2010

Prepared By: Camille Leung, Project Planner

For Adoption By: Planning Commission

**RECOMMENDED FINDINGS**

Regarding Environmental Review, Find:

1. That the Draft Environmental Impact Report together with the Final EIR (EIR), as reviewed by the Planning Commission at its meeting of October 27, 2010, are complete, correct and adequate, and prepared in accordance with the California Environmental Quality Act and applicable State and County Guidelines. The public review period for the Draft EIR was October 22, 2009 to December 24, 2009. The public review period for the Final EIR was October 15, 2010 to October 26, 2010.
2. That, on the basis of the Draft and Final EIR, no substantial evidence exists that the project, as proposed, mitigated, and conditioned, will have a significant effect on the environment. The EIR reveals that the project may only result in impacts considered “less than significant.”
3. That the Mitigation Monitoring and Reporting Program incorporated within the Final EIR, which monitors compliance with mitigation measures intended to avoid or substantially lessen environmental effects that would be significant absent such mitigation, has been adopted. Compliance with the conditions of approval listed below shall be monitored and confirmed according to implementation deadlines as specified within each condition.
4. That the EIR reflects the independent judgment of San Mateo County.

Regarding the Major and Minor Subdivision, Find:

5. That, in accordance with Section 7013.3.b of the County Subdivision Regulations, the tentative maps, together with the provisions for their design and improvement, are consistent with the San Mateo County General Plan. Planning staff has reviewed the tentative maps for the Wellness Center and Office Park developments and found them, as proposed and conditioned, to be consistent with the County General Plan as discussed in Section II.A of this report.

6. That the site is physically suitable for the type and proposed density of development. As discussed in the EIR, the project, as proposed and mitigated, would not result in any significant impacts to the environment. As described in Sections II.A and II.D of this report, the project complies with both the General Plan land use density designation and applicable Zoning Regulations. As described in Section II.F of this report, the project intends to minimize grading and comply with mitigation measures of the EIR to minimize geotechnical, tsunami hazards and other hazards to the project site and immediate vicinity.
7. That the design of the subdivision and the proposed improvements are not likely to cause serious public health problems, substantial environmental damage, or substantially and avoidably injure fish or wildlife or their habitat. Implementation of mitigation measures of the EIR, which have been included as conditions of approval in Attachment B, would reduce project environmental impacts, including those related to Hydrology and Water Quality and Biological Resources, as discussed in their respective sections of the EIR, to less than significant levels.
8. That the design of the subdivision and the proposed improvements will not conflict with easements acquired by the public at large for access through or use of property within the proposed subdivision. An existing easement, a 20-foot wide access and utility easement along the north side of the northern parcel, is shown on the Vesting Tentative Map (Attachment G). The project would not change the boundaries of or impede access to this existing easement.
9. That the design of the subdivisions provide, to the extent feasible, for future passive or natural heating or cooling opportunities. Future development on the parcels could make use of passive heating and cooling to the extent practicable because parcels generally have unobstructed solar access, thereby allowing solar energy to passively or actively (using rooftop solar panels) heat the proposed buildings.
10. That the discharge of waste from the proposed subdivision into an existing community sewer system would not result in violation of existing requirements prescribed by a State Regional Water Quality Control Board pursuant to Division 7 (commencing with Section 13000) of the State Water Code. The applicant proposes to treat all project wastewater flow through an on-site membrane bioreactor (MBR) wastewater treatment facility designed to meet Title 22 requirements. The applicant plans to recycle 16,000 gpd through toilet flushing, sub-surface landscape irrigation, and surface and solar panel washdown uses.<sup>27</sup> Any unused excess recycled water would be disposed of through the Granada Sanitary District (GSD) system through a sewer connection to accommodate 8 EDUs. Mitigation Measure UTIL-2 requires improvements to the GSD system as necessary to accommodate wastewater flows from the project. Therefore, the project, as proposed and conditioned, would not result in significant impact to the capacity of the wastewater collection system. The applicant also proposes an emergency connection to provide for a backup wastewater management system in the instance that the on-site wastewater

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<sup>27</sup> The applicant estimates reuse of 10,000 gpd through irrigation for non-drought years. The applicant estimates reuse of 5,000 gpd through irrigation for drought years, where estimated wastewater generation will drop from 26,000 gpd to 21,000 gpd.

treatment system fails or is over capacity. Condition 5.ii. requires compliance with requirements of the State Regional Water Quality Control Board and the California Department of Public Health as they apply to the project.

11. That the land is not subject to a contract entered into pursuant to the California Land Conservation Act of 1965 (“the Williamson Act”) and that the resulting parcels following a subdivision of that land would not be too small to sustain their agricultural use. The properties are not subject to a Williamson Act contract.
12. That, per Section 7005 of the San Mateo County Subdivision Regulations, the proposed subdivisions would not result in a significant negative effect on the housing needs of the region. As discussed in the Population and Housing Section of the EIR, the proposed project would assist the area in achieving a jobs/housing balance by providing approximately 825 net new jobs and 57 new housing units, or approximately 14 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. Impacts related to population growth associated with project operations would, therefore, be less than significant and no mitigation measures are required. Therefore, the project would not result in a negative effect on regional housing needs.

Regarding the Coastal Development Permit, Find:

13. That the project, as described in the application and accompanying materials required by Zoning Regulations Section 6328.4 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 (LCP). The project complies with applicable LCP policies, including policies of the Visual Resources, Housing, Hazards, Sensitive Habitats, and Shoreline Access components. As proposed and conditioned, the project complies with applicable design criteria of the County’s Community Design Manual, will enhance public opportunities for coastal recreation and shoreline access, has adequate access to water and wastewater services from on-site and/or municipal sources, and would not result in significant impacts to sensitive habitat.
14. 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). The project site is located between the nearest public road and the sea, or the shoreline of Pescadero Marsh. The project conforms with the public access and public recreation policies of Chapter 3 of the Coastal Act of 1976. The proposed trail and 10 beach user parking spaces will enhance public opportunities for coastal recreation and shoreline access.

Regarding the Use Permit, Find:

16. The modern sanitarium component of the Wellness Center and its accessory uses are “found to be necessary for the public health, safety, convenience or welfare.” As discussed in the staff report with regard to LCP Policy 3.5 (*Regional Fair Share*), the project helps to meet the need within the unincorporated areas of the County for affordable housing, as allocated by the Association of Bay Area Governments (ABAG). For 2007 to 2014, ABAG allocates a need for 881 affordable housing units in the area, where 523 units exist. Affordable housing for the disabled in San Mateo County is even more limited. Based on a review of County Housing Department data, only 356 units are available for the disabled of which only 194 units (or 54%) are affordable. As proposed and conditioned, the project would provide 57 units of affordable housing, thereby helping to bridge the gap between the need for affordable housing and the supply of affordable housing in the County unincorporated area.
17. That the establishment, maintenance and/or conducting of the proposed uses within the Airport Overlay (AO) Zoning District will not, under the circumstances of the particular case, result in a significant adverse impact to coastal resources, or be detrimental to the public welfare or injurious to property or improvements in said neighborhood. The structure located within the AO Zoning District, the 10,000 sq. ft. public storage building, as proposed and conditioned, complies with applicable LCP policies and AO Zoning District regulations and, as discussed in the EIR, would not result in significant environmental impacts.
18. That the proposed use in the Coastal Zone is consistent with the policies and standards of the San Mateo County Local Coastal Program (LCP), as the project complies with applicable policies of the Visual Resources, Housing, Hazards, Sensitive Habitats, and Shoreline Access components of the LCP.

Regarding the Design Review, Find:

19. That the project, as proposed and conditioned, is found to be in compliance with the standards for review listed in Section 6565.7 of the Design Review (DR) Zoning District Regulations, guidelines applicable to Princeton and the Coastal Zone, and the design criteria of the Community Design Manual.

Regarding the Grading Permit, Find:

20. That the granting of the permit to perform 26,050 cubic yards of balanced cut and fill will not have a significant adverse effect on the environment. As discussed in the EIR, the project, as conditioned, would not result in significant environmental impacts, including but not limited to, those related to erosion, surface water quality, and geology and soils.
21. That the project conforms to the criteria of Chapter 8, Division VII, San Mateo County Ordinance Code, including the standards referenced in Section 8605. The project, as proposed and conditioned, conforms to the standards in the Grading Regulations, including timing of grading activity, erosion and sediment control, and dust control. The project has

been reviewed and approved by the County's Department of Public Works and the Planning and Building Department's Geotechnical Engineer.

22. That the project is consistent with the General Plan. The County General Plan land use designation for the property is General Industrial and General Open Space. As proposed and conditioned, the project complies with applicable policies of the General Plan, as discussed in Section II.A of the staff report.

Regarding the Off-Street Parking Exception, Find:

23. That the establishment, maintenance and/or conducting of the off-street parking facilities, as proposed and conditioned, are as nearly in compliance with the requirements as are reasonably possible. Granting of a parking exception to allow 640 spaces at the Office Park site, where 737 would otherwise be called for under the regulations, would not result in a significant impact to parking in the area.
24. That the establishment, maintenance and/or conducting of the use will not, under the circumstances of the particular case, be detrimental to the public welfare or injurious to property or improvements in said neighborhood. Staff has determined that the proposed 640-space parking lot for the Office Park provides adequate on-site parking for tenants of the mixed use Office Park, based on the proposed division of land uses.

**RECOMMENDED CONDITIONS OF APPROVAL**

General Project Conditions:

1. This approval applies only to the proposal, documents and plans described in this report and submitted to and approved by the Planning Commission on October 27, 2010. Minor revisions or modifications to this project may be made subject to the review and approval of the Community Development Director. Revisions or modifications deemed a major modification shall be subject to review and approval by the Planning Commission at a public hearing.
2. This subdivision approval is valid for two years, during which time a Final Map shall be filed and recorded. An extension to this time period in accordance with Section 7013.5.c of the Subdivision Regulations may be issued by the Planning and Building Department upon written request and payment of any applicable extension fees (if required).
3. The Final Map shall be recorded pursuant to the plans approved by the Planning Commission; any deviation from the approved plans shall be reviewed and approved by the Community Development Director.
4. The term of the Use Permit for the sanitarium and the commercial public storage use located within the Airport Overlay (AO) Zoning District shall be ten (10) years from the date of the effective final decision. Thereafter, the applicant, if desiring to continue the use at this site, shall submit an application to the Planning and Building Department for use permit renewal six (6) months prior to expiration of this permit. This use permit shall also



be subject to regular administrative reviews for compliance. Administrative Reviews, including payment of the applicable fee to the County, shall be required to ensure compliance with the conditions of approval every year for the first 2 years. If the facility is determined to be in compliance for the first 2 years, then subsequent Administrative Reviews will be required every 2 years, with permit renewal required after 10 years. If the facility is found to be out of compliance during any Administrative Review process, annual reviews will be required until permit expiration. Administrative Reviews and reviews for Use Permit renewals shall monitor compliance with all conditions of approval, with emphasis on Condition 9 (Connection to a municipal water supplier).

Current Planning Section Conditions:

5. The property owner shall comply with all mitigation measures listed below (based on the Mitigation Monitoring and Reporting Program (MMRP) incorporated within the Final EIR and made available to the public on October 15, 2010). When timing has not been specified below, then mitigation timing and monitoring shall be as specified in the MMRP.

a. **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.

b. **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.

c. **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.

d. **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 reinspected 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 nonlisted 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.

e. **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 preconstruction 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.

f. **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.

g. **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.

h. **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.

i. **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.

j. **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.

k. **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.

l. **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.

m. **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).

n. **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 propriety piles (i.e., torque-down piles and auger cast piles); and (4) constructing a structural slab that spans supported between columns.

o. **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).



p. **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 ; (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.

q. **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; and (3) installing subdrains to collect and redirect water from areas that could adversely impact building foundations and vehicular pavement to a suitable outlet.

r. **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.

s. **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.

t. **Mitigation Measure HAZ-3: Hazards Associated with Airport Operations.**

Prior to approval of final development plans, an avigation easement shall be prepared for the project site, in a form satisfactory to the County Director of Public Works. The ~~n~~avigation~~a~~l easement shall be recorded and shown on the vesting tentative map. With approval of the Wellness Center, it is understood that the Wellness Center property owner(s) and tenants, and their successor's in interest in perpetuity, acknowledge the project's location adjacent to an airport and the noise level inherent in the use. The following statement shall be included in the details of the avigation easement on the recorded Final Map, prior to the issuance of the Certificate of Occupancy for any residential unit at the subject property:

“This parcel is adjacent to the Half Moon Bay Airport. Residents on this parcel may be subject to inconvenience or discomfort arising from airport operations, including but not limited to noise associated with aircraft landings, take-offs, in air maneuvers and fly-overs, and on-the-ground engine start-ups and taxiing. San Mateo County recognizes the value of the Half Moon Bay Airport to the residents of this County and seeks to protect airport operations, existing and future, from significant interference and disruption. With approval of the Wellness Center, it is understood on the part of both the Wellness Center property owner(s) and the Half Moon Bay Airport that airport operations shall take precedence and priority over potential noise complaints received from property owners, residents, staff, guests, and others from the Wellness Center. In the event that the Wellness Center resident(s) or property owner(s) express an inability or unwillingness to accept such noise conditions authorized under the terms of the avigation easement and/or remain unsatisfied with the noise reduction measures being implemented by the airport, the affected resident(s) shall be relocated, with assistance provided by the property owner, to the satisfaction of the Planning and Building Department and/or the Department of Housing. This condition shall be included in all contracts between residents of the Wellness Center and with property owners.

u. **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 building permit 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 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.

v. **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.

w. **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. 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.

Per Technical Memorandum #1 (TM #1), dated May 15, 2009, prepared by Schaaf and Wheeler (included in Appendix H of the DEIR), Stormwater Best Management Practices should serve several hydrologic and water quality functions, including maximizing groundwater recharge, minimizing quantities of stormwater runoff, and reducing pollutant loadings in stormwater runoff.

x. **Mitigation Measure HYDRO-6: Ground 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.

y. **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.

z. **Recommended Mitigation Measure LU-2**

The property owner shall work with the California Coastal Commission (CCC) to identify and delineate the CCC's jurisdiction over the project site, subject to CCC review and approval. The property owner shall obtain all necessary approvals from the Coastal Commission prior to the initiation of any development within areas of CCC jurisdiction.

aa. **Recommended Mitigation Measure LU-3**

The applicant shall comply with the following recommendations of the State Department of Transportation, Division of Aeronautics: 1) Federal Aviation Administration (FAA) Advisory Circular 150 /5370-2E “Operational Safety on Airports during Construction” shall be incorporated into the project design specifications 2) in accordance with Federal Aviation Regulation, Part 77 “Objects Affecting Navigable Airspace” a Notice of Proposed Construction or Alteration (Form 7460-1) shall be provided if required by the FAA, and 3) the location and type of landscape trees shall be selected carefully so they do not become a hazard to aircraft around the airport.

bb. **Recommended Mitigation Measure LU-4**

The applicant shall comply with the recommendations of the County’s Coastside Design Review Officer to implement changes to the Office Park buildings that improve consistency with applicable policies of the LCP and the Community Design Manual, prior to the project approval by the Planning Commission.

cc. **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 Leq 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 Leq.
- 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.

dd. **Mitigation Measure PS-1: Police Services.**

Provide onsite manned security with clear lines of communication to fire and emergency medical response.

ee. **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.

ff. **Mitigation Measure TRANS-1: Intersection Level of Service and Capacity.**

The property owner shall submit a traffic report to the Community Development Director, at full occupancy of every 60,000 sq. ft. of office space, until full project occupancy, and submit traffic reports bi-annually after full project occupancy. The report shall be signed and stamped by a Professional Transportation Engineer in the State of California and identify the Level of Service (LOS) at the intersection of Cypress Avenue and SR 1, Airport Street & Stanford/Cornell (Study Intersection 3 of DEIR), Broadway & Prospect Way (Study Intersection 2), Prospect Way & Capistrano (Study Intersection 1) and State Route 1 & Capistrano (Study Intersection 8) to evaluate if they maintain a LOS C or better. If Levels of Service fall below existing levels for the intersection of Cypress Avenue and SR1 (LOS C in the AM and LOS D in the PM), the applicant shall coordinate with Caltrans to pay a fair share for the installation of a signal as necessary to ensure that the signal will be installed within 1 year of the date of that report. If traffic reports reveal that the LOS of any of the other intersections listed above fall below LOS C, it shall identify methods for reducing vehicle trips to and from the project site, as well as other roadway or intersection improvements that would result in LOS C or better. The applicant shall implement the measures required by the Department of Public Works and the Planning and Building Department, subject to all necessary permitting and environmental review requirements, within 1 year of the date of that report. In the event that permits required for roadway or intersection improvements are not obtained, the methods for maintaining LOS C or better shall be achieved by reducing vehicle trips to and from the project site.

gg. **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.

hh. **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. Any implementation of Mitigation Measure UTIL-2b would require separate CEQA review and permit review.

ii. **Mitigation Measure UTIL-4: Wastewater Recycling and Disposal Requirements.**

The applicant shall comply with State Health Department and RWQCB requirements for wastewater recycling.

jj. **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 landscape areas for winter season dispersal of all wastewater flow not distributed for toilet flushing. The project's use of treated wastewater for irrigation shall be managed and controlled to prevent changes in existing drainage and hydrology that could adversely impact the biology or hydrology of wetland habitats or result in ponding that could result in health, circulation, or structural stability problems. Prior to Planning approval of any grading permit, the applicant shall submit a report, prepared by a biologist/hydrologist to determine appropriate recycled watering levels for all seasons that is consistent with the above requirement and the revised water budget analysis. The report shall be submitted for review by the Environmental Health Division, RWQCB, and the County Planning Department. Use of recycled water for irrigation shall be monitored for two years by a biologist/hydrologist to adjust water levels as necessary based on actual site conditions.

kk. **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.

ll. **Mitigation Measure UTIL-11: Be Served by a Landfill with Insufficient**  
**Permitted Capacity to Accommodate the Project's Solid Waste Disposal Needs**



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.
6. The applicant shall construct the project and project details as described in the certified EIR, including, but not limited to, the following features:
- a. Maintain the size and maximum height of project structures as approved by the Planning Commission.
  - b. Foundation systems shall utilize deep drilled piers and interlocking grade beams. No pile driving is permitted.
  - c. Design all structures to comply with design of the tsunami report prepared by Scott Holmes and reviewed by David Skelly in a letter dated October 14, 2010.
  - d. The project shall connect to GSD for a minimum of 8 EDUs..
  - e. The project shall achieve a Gold or Platinum LEED rating.
  - f. Funding and employment arrangement between the Office Park and Wellness Center, to benefit the disabled residents of the Wellness Center.
  - g. Implement the 90% Design Report and associated 10-year monitoring plan.
  - h. Retain the maximum total square feet of each mixed use.
  - i. Ensure that parking provided for each phase of Office Park construction meets parking requirements, as outlined in the staff report.
  - j. Wash and runoff from surfaces and solar panels shall not drain to wetlands or buffer areas.
  - k. The fitness center will not be available to the general public. Visitation and friend and family use of the Wellness Center will occur in off-peak hours and weekends.

- l. The property owner shall maintain the rates for all 57 units of the Wellness Center as affordable, such that residents and aides shall be limited to those of Extremely Low Income, Very Low Income, Low Income, and Moderate Income (as defined by the County's Housing Element, definitions included as Attachment CC of the staff report).
  - m. All on-site farming shall be converted to organic following an allowed conversion period. Use of synthetic fertilizers is prohibited.
  - n. The applicant shall implement a Transportation Demand Management program, including an off-site parking agreement and shuttle services to the Office Park (to accommodate a minimum of 50 cars and their drivers) for the purpose of reducing project traffic on Cypress Avenue, Prospect Way, Broadway to Cornell Avenue, Harvard Avenue, and Yale Avenue, or equivalent traffic reduction measures as approved by the Community Development Director.
  - o. To the extent feasible, golf carts will be used for travel between the Office Park and Wellness Center.
7. Per CEQA Section 15095, the applicant shall provide a copy of the final certified Final EIR to all responsible agencies. The applicant must complete this requirement within fourteen (14) days of the final approval of this project.
8. The applicant shall coordinate with the project planner to record the Notice of Completion and pay an environmental filing fee of \$2,792.25 (or current fee), as required under Fish and Game Code Section 711.4(d), plus a \$50 recording fee to the San Mateo County within four (4) working days of the final approval date of this project.
9. The applicant shall actively pursue a water connection from CCWD for the potable water and fire suppression needs of the entire project, and shall demonstrate such efforts by submitting a complete application to LAFCo requesting annexation to CCWD, as well as a joint application with CCWD to the Coastal Commission requesting the amendment to CDPs A-1-HMB-99-20 and A-2-SMC-99-63 required for such a connection, within 90 days of the approval of this permit, and by diligently pursuing the approval of these applications. If and when a water connection is approved and installed, the existing well shall be closed to the property owner per the requirements of the Director of the Environmental Health Division and other applicable regulatory agencies. In the instance that LAFCo denies the annexation of the project sites to the service area boundaries of CCWD and/or the Coastal Commission denies the Coastal Development Permits for the El Granada Pipeline necessary for connection of the project to CCWD, the proposed well may be used to serve the project on a permanent basis.
10. The applicant shall comply with the requirements of all local review agencies, including requirements not expressly listed below.

Development Agreement

11. The applicant shall enter into a contract with the San Mateo County Planning and Building Department for all mitigation monitoring for this project prior to the issuance of any grading permit “hard card” for the project. The fee shall be staff’s cost, plus 10 percent, as required in the current Planning Service Fee Schedule. Planning staff may, at their discretion, contract these services to an independent contractor at cost, plus an additional 10 percent for contract administration.
12. Prior to the recordation of the Final Map, and in accordance with the County Subdivision Regulations Section 7033 et al; the applicant shall furnish to the County good and sufficient security in the form of the following:
  - a. Performance Security (100% of estimated cost),
  - b. Materials and Labor Security (50% of estimated cost), and
  - c. Warranty Security (50% of estimated cost)

Security is required to analyze, review and construct traffic signals as required by Mitigation Measure TRANS-1. The applicant shall submit a bonafide estimate for the cost of studying and installing signals to the Department of Public Works and CalTrans for approval.

13. Prior to the issuance of any building permit, the applicant will be required to provide payment of “roadway mitigation fees”, or perform equivalent improvements, based on the square footage (assessable space) of the proposed building per Ordinance No. 3277.
14. The development agreement shall be revised to ensure the maintenance of the pervious surface parking lot, wastewater treatment system, water distribution system, all public trails, beach user parking, wetlands habitat, project landscaping, and LEED rated features for the life of the project.

#### Grading Permit Conditions

15. The applicant is required to comply with the approved Erosion and Sediment Control Plan and the County’s Drainage Policy.
16. No grading shall be allowed during the winter season (October 1 to April 30) to avoid potential soil erosion unless approved, in writing, by the Community Development Director. The property owner shall submit a letter to the Current Planning Section, at least two weeks prior to commencement of grading, stating the date when grading will begin.
17. Two separate “hard cards,” one for the Wellness Center site and one for the Office Park site, for project grading are required. Each grading hard card can only be issued simultaneously or after the issuance of a building permit for the construction of a structure on each parcel, subject to the approval of the Planning and Building Department’s Geotechnical Engineer, Department of Public Works and the Current Planning Section.

18. The applicant shall file a Notice of Intent (NOI) with the State Water Resources Board to obtain coverage under the State General Construction Activity NPDES Permit. A copy of the project's NOI and Stormwater Pollution Prevention Plan (SWPPP) shall be submitted to the Current Planning Section, prior to the issuance of any grading permit "hard card."
19. Prior to the issuance of the grading permit "hard card," the applicant shall schedule an erosion control inspection by Current Planning Section staff to demonstrate that the approved erosion control plan has been implemented. The applicant is responsible for ensuring that all contractors minimize the transport and discharge of pollutants from the project site into local drainage systems and water bodies by adhering to the San Mateo Countywide Water Pollution Prevention Program's (SMCWPPP) "General Construction and Site Supervision Guidelines," including:
  - a. Stabilizing all denuded areas and maintaining erosion control measures continuously between October 15 and April 15. Stabilizing shall include both proactive measures, such as the placement of straw bales or coir netting, and passive measures, such as minimizing vegetation removal and revegetating disturbed areas with vegetation that is compatible with the surrounding environment.
  - b. Storing, handling, and disposing of construction materials and wastes properly, so as to prevent their contact with stormwater.
  - c. Controlling and preventing the discharge of all potential pollutants, including pavement cutting wastes, paints, concrete, petroleum products, chemicals, wash water or sediments, and non-stormwater discharges to storm drains and watercourses.
  - d. Using sediment controls or filtration to remove sediment when dewatering site and obtaining all necessary permits.
  - e. Avoiding cleaning, fueling, or maintaining vehicles on-site, except in a designated area where wash water is contained and treated.
  - f. Delineating with field markers clearing limits, setbacks, and drainage courses.
  - g. Protecting adjacent properties and undisturbed areas from construction impacts using vegetative buffer strips, sediment barriers or filters, dikes, mulching, or other measures as appropriate.
  - h. Performing clearing and earth-moving activities only during dry weather.
  - i. Limiting construction access routes and stabilizing designated access points.
20. While the applicant must adhere to the approved erosion and sediment control plan during grading and construction, it is the responsibility of the civil engineer and/or construction manager to implement the Best Management Practices (BMPs) that are best suited for this project site. If site conditions require additional measures in order to comply with the SMCWPPP and prevent erosion and sediment discharges, said measures shall be installed

immediately under the direction of the project engineer. If additional measures are necessary, the erosion and sediment control plan shall be updated to reflect those changes and shall be resubmitted to the Planning and Building Department for review. The County reserves the right to require additional (or entirely different) erosion and sediment control measures during grading and/or construction if the approved plan proves to be inadequate for the unique characteristics of each job site.

21. Prior to the issuance of a grading permit “hard card,” the applicant shall submit a schedule of grading operations, subject to review and approval by the Department of Public Works and the Current Planning Section. The submitted schedule shall include a schedule for winterizing the area and details of the off-site haul operations, including, but not limited to: gravel import site(s), size of trucks, haul route(s), time and frequency of haul trips, and dust and debris control measures. The submitted schedule shall represent the work in detail and project grading operations through to the landscaping and/or habitat creation of all disturbed areas. As part of the review of the submitted schedule, the County may place such restrictions on the hauling operation, as it deems necessary. During periods of active grading, the applicant shall submit monthly updates of the schedule to the Department of Public Works and the Current Planning Section.
22. The provision of the San Mateo County Grading Regulations shall govern all grading on and adjacent to this site. Per San Mateo County Ordinance Code Section 8605.5, all equipment used in grading operations shall meet spark arrester and fire fighting tool requirements, as specified in the California Public Resources Code.
23. Upon the start of grading activities and through to the completion of the project, the applicant shall be responsible for ensuring that the following dust control guidelines are implemented:
  - a. All graded surfaces and materials, whether filled, excavated, transported or stock-piled, shall be wetted, protected or contained in such a manner as to prevent any significant nuisance from dust, or spillage upon adjoining water body, property, or streets. Equipment and materials on the site shall be used in such a manner as to avoid excessive dust. A dust control plan may be required at anytime during the course of the project.
  - b. A dust palliative shall be applied to the site when required by the County. The type and rate of application shall be recommended by the soils engineer and approved by the Department of Public Works, the Planning and Building Department’s Geotechnical Section, and the Regional Water Quality Control Board.
24. Final approval of all Grading Permits is required. For final approval of the Grading Permits, the applicant shall ensure the performance of the following activities within thirty (30) days of the completion of grading at the project site:
  - a. The engineer shall submit written certification that all grading has been completed in conformance with the approved plans, conditions of approval/mitigation measures,

and the Grading Regulations, to the Department of Public Works and the Planning and Building Department's Geotechnical Section.

- b. The geotechnical consultant shall observe and approve all applicable work during construction and sign Section II of the Geotechnical Consultant Approval form, for submittal to the Planning and Building Department's Geotechnical Engineer and Current Planning Section.

### Cultural Resources

25. The applicant and contractors must be prepared to carry out the requirements of California State law with regard to the discovery of human remains during construction, whether historic or prehistoric. In the event that any human remains are encountered during site disturbance, all ground-disturbing work shall cease immediately and the County coroner shall be notified immediately. If the coroner determines the remains to be Native American, the Native American Heritage Commission shall be contacted within 24 hours. A qualified archaeologist, in consultation with the Native American Heritage Commission, shall recommend subsequent measures for disposition of the remains.

### Wetlands, Landscaping, and Trails

26. The property owner shall record a conservation easement over the areas within delineated wetlands and buffer zones.
27. The applicant shall provide a plan for the full implementation of the proposed wetland habitat creation, landscaping, and installation of wildlife barriers on both sites, subject to the review and approval of the Community Development Director, prior to the issuance of any Certificate of Occupancy for each site.
28. The applicant shall revise planting plans to suit the approved site plans for the Wellness Center and Office Park, retaining the overall sq. ft. of proposed landscaping.
29. The applicant shall revise parking lot landscaping for both sites such that tree planting occurs in an irregular, more natural fashion.
30. The applicant shall revise landscaping plan to utilize landscaping to further break up the large amount of parking.
31. Trees shall be selected so as to block the views of the proposed buildings and will be maintained so as to not block the sun to the single-story homes on the northern side (Pillar Ridge property).
32. The property owner shall comply with LCP Policy 7.17 (*Performance Standards in Wetlands*), which requires 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 Community Development Director including “no action” in order to allow for natural re-establishment, (6) no herbicides be used in wetlands unless specifically approved by the County Agricultural Commissioner and the 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.

33. The reference to a trail connection to POST land shall be removed, as shown on the recorded Final Map.
34. The property owner of the Office Park property shall record an access easement allowing public access on the trail along Airport Road and on the northern boundary of the Pillar Ridge property, which shall be shown on the Final Map for the proposed subdivision.
35. The property owner of the Office Park shall maintain the public trail in a clean and safe manner and to clearly identify the trail with signage visible along Airport Road in perpetuity.
36. The property owner shall utilize methods to minimize off-trail access within the 100-foot wetland buffer zone and drainage, subject to the review and approval of the Director of the County Department of Parks and Recreation (County Parks). The applicant shall install trail signage, including signage listing access hours and prohibited uses and activities, as required by County Parks. The property owner shall demonstrate compliance with shore-line access requirements prior to the issuance of the Certificate of Occupancy for any Office Park building.
37. Landscaping plans shall demonstrate compliance with the California Water Efficient Landscape Ordinance (AB 1881), prior to the Current Planning Section’s approval of any building permit application.

#### Traffic and Parking

38. The property owner of the Office Park shall construct shower and locker facilities for every 56,250 sq. ft. constructed. The property owner of the Office Park shall implement all other TDM measures in order to further mitigate parking and traffic impacts.
39. Loading bays of the Office Park buildings closest to the Mobile Home Park shall be located at the rear or south side of the buildings.
40. The property owner shall install adequate golf cart parking spaces on both properties.
41. The property owner shall comply with beach user parking requirements (minimum of 20% of all parking spaces) at the Wellness Center site. Required beach user spaces shall be reserved and clearly marked for such uses.

42. A minimum of 25% of all parking spaces at the project sites shall be compact (minimum dimensions: 8 feet by 16 feet) and clearly marked as such.

#### Noise

43. The applicant shall construct Office Park buildings on Lots 3 and 4 and Lots 9 and 10, lots nearest the Pillar Ridge homes, so that the buildings would act as an additional permanent noise barrier through to the end of project construction.
44. The applicant would also be required to comply with the County's Noise Ordinance limiting construction hours to between 7:00 a.m. – 6:00 p.m. on weekdays and 9:00 a.m. – 5:00 p.m. on Saturdays, and prohibiting construction on Sundays, Thanksgiving and Christmas.
45. Per General Plan Policies 16.5 (*Noise Reduction Along the Path and at the Receiver*) and 16.15 (*Architectural Design Noise Control*), the applicant shall implement techniques incorporated into the design and construction of new development, intended to achieve noise reduction along the path and at the receiver, including, but not limited to, site planning, noise barriers, architectural design, and construction techniques, including (1) grouping noise sensitive rooms together separated from noise sources, (2) placing windows, vents and other openings away from noise sources, and (3) avoidance of structural features which direct noise toward interior spaces.

#### Tsunami Hazard

46. The property owner shall conduct two (2) tsunami evacuation trainings a year for the Wellness Center, using training materials such as the USGS Tsunami Preparedness. Tsunami trainings shall also be conducted on a regular basis at the Office Park.
47. The applicant shall submit an emergency preparedness and evacuation manual (including tsunami and earthquake events) for both project sites, subject to the review and approval of the County Office of the Sheriff, prior to the issuance of the first building permit issued for each property.

#### Aesthetics

48. The applicant shall implement the design "overlays" (included as Attachment X), which further reduce the appearance of building mass and incorporate architectural details of the Wellness Center and Princeton into the design of Office Park structures
49. The property owner shall adapt the original design of the Wellness Center (as shown in building elevations included in the DEIR) to the approved site plan for the Wellness Center, subject to the approval of the County's Design Review Officer.
50. The property owner shall visually and/or physically break up the mass of Building A, or better balance the sizes Buildings A and B, while retaining the maximum total square



footage of the Wellness Center, subject to the approval of the County's Design Review Officer.

51. The project shall utilize existing utility poles. No new utility poles shall be constructed.
52. For the Office Park, only parking uses, trail uses and landscaping shall be located within the AO Zoning District.

#### Airport

53. The property owner of the Wellness Center shall ensure that public storage uses comply with Section 6288.2. (Uses Permitted) of the Zoning Regulations, such that residential uses are excluded from the AO Zoning District area and that, for permitted uses, there are no more than three (3) persons occupying the area at any one time.
54. Storage of bulk petroleum products or chemicals is prohibited within all areas of the public storage facility.
55. The property owner shall comply with policies of the San Mateo County Comprehensive Airport Land Use Plan (CLUP) regarding hazards to aircraft in flight, by prohibiting uses with the following associated effects:
  - a. 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.
  - b. 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 straight final approach toward a landing.
  - c. Any use that would generate smoke or rising columns of air.
  - d. Any use that would attract large concentrations of birds within approach-climbout areas.
  - e. Any use that would generate electrical/electronic interference that may interfere with aircraft communication equipment and/or aircraft instrumentation.
56. The property owner shall record a deed restriction to require project compliance with the requirements of the AO Zoning District.
57. The applicant shall submit a revised Wellness Center site plan to show the following modifications, subject to the review of the Coastside Design Review Officer and the approval of the Community Development Director. While it is acknowledged that the implementation of items 1 and 2 in the above list may result in some minor changes to the footprint of Buildings A and B, the following shall remain as approved by the Planning

Commission: total building area and footprint, building area and footprint of structures located within the AO Zoning District, maximum building heights, and building design.

- a. Relocate the residential units so that they are as far as possible from the airport.
- b. Construct the storage units and athletic facilities along the length of Building A of the Wellness Center, such that the non-residential areas are used to separate and buffer the residential units from the airport, further insulating the units from airport related noise.
- c. Construct the residential units such that all face to the west and away from the airport, whereby no residential windows will face the airport and the residents.

### Housing

58. A legal guardian shall review the signing of any waivers by DD residents.
59. The Wellness Center is required to prioritize disabled adults residing in the Coastal Zone over those who do not reside in the Coastal Zone in the consideration of residential applications.

### Department of Public Works

60. The applicant shall submit a Final Map to the Department of Public Works for review and recording.
61. The applicant shall prepare a plan indicating the proposed connection to Granada Sanitary District (GSD). This plan should be included on the improvement plans and submitted to the Department of Public Works for review. Upon completion of this review, the applicant or his engineer shall have these approved plans signed by GSD.
62. At the time a water connection is granted, the applicant shall submit, to both the Department of Public Works and the Planning Department, written certification from the appropriate Water District stating that their requirements to provide water service connections to the proposed parcels of this subdivision have been met.
63. Prior to recording the Final Map, the applicant will be required to submit to the Department of Public Works a complete set of improvement plans including all provisions for roadways, driveways, utilities, storm drainage, and stormwater treatment, all in accordance with the County Subdivision Regulations, County Standard Details, County Drainage Policy and NPDES Permit, plus applicable plan review fee.
64. Upon the Department of Public Works' approval of the improvement plans, the applicant may be required to execute a Subdivision Improvement Agreement and post securities with the Department of Public Works, if applicable, as follows:
  - a. Faithful Performance - 100% on the estimated cost of constructing the improvements;

- b. Labor and Materials - 50% of the estimated cost of constructing the improvements.
  - c. Warranty – 50% of the estimated cost of guaranteeing the improvements
65. The applicant shall install a 10-foot wide Class 1 sidewalk along the front of both project sites, subject to review and approval by the Department of Public Works (DPW) and the issuance of an encroachment permit by DPW.
  66. The applicant shall install k-rails within the Airport Street right-of-way (northbound only) over the drainage channel. Area protected by the k-rail shall accommodate pedestrian and bicycle access. Design to be reviewed and approved by the Department of Public Works and the Department of Parks and Recreation prior to installation. An encroachment permit is required for all work within the County public right-of-way.
  67. The applicant shall submit a permanent stormwater management plan in compliance with the County's Drainage Policy (including stormwater detention requirements) and applicable NPDES requirements (particularly Provision C.3) for review and approval by the Department of Public Works, prior to the Current Planning Section's approval of any building permit. Individual operation and maintenance agreements for the Wellness Center and Office Park developments shall include all permanent stormwater treatment measures, as approved by the Community Development Director and the Department of Public Works, shall be executed prior to the Current Planning Section's final approval of any building permit for residences.
  68. As described in Alternative C of the EIR, prohibit project and construction traffic along Cypress Street, a largely residential street, thereby limiting traffic to non-residential streets in Princeton. All proposed streets improvements shall be subject to the review and approval of the Department of Public Works.
  69. The access and utility easement on the Office Park property shall meet the access requirements of the Department of Public Works and the requirements of all applicable utility providers, prior to the final approval of the Final Map by the Department of Public Works.
  70. Any work within the County right-of-way shall not be commenced until County requirements for the issuance of an encroachment permit have been met. Plans for such work shall be reviewed by the Department of Public Works prior to the issuance of the permit.

Environmental Health Division Conditions:

71. All Office Park businesses and the Wellness Center shall comply with Division requirements for the handling and/or storing of hazardous materials.
72. Mutual Water Company: Operator to be licensed by the State Department of Public Health.
73. Well seal shall be a minimum of 100-feet from any pervious (infiltration ponds) surfaces.

74. During the first year, the applicant shall submit reports prepared by a licensed civil engineer evaluating the impact of the well on groundwater and surface water levels and quality and plant species and animals of water dependent sensitive habitats to determine if the preliminary safe yield adequately protects the sensitive habitats and what measures should be taken if and when adverse effects occur.
75. The property shall comply with the annual monitoring and reporting requirement of Section 4.68.250 of Chapter 4.68 (Wells) of the San Mateo Ordinance Code, which requires any well used or operated as a domestic water supply to have a meter installed on the well to record the volume of water used. A record of such water usage shall be submitted by the permittee to the County Health Officer annually unless otherwise requested by the County Health Officer.

#### Parks

76. Prior to the recordation of the Final Map, the property owner shall either produce a deed showing the donation of the land to a park service provider or pay an in-lieu fee, meeting the requirements of Section 7055.3 of the County Subdivision Regulations. As of the date of this report, the in-lieu fee for this subdivision is \$963.30. The fee shall be re-calculated at the time of Final Map recording as indicated in the County Subdivision Regulations.

#### Building Inspection Section

77. Building permits may be required for all areas of construction. Contact the Building Inspection Section prior to ANY construction for permit requirements.

#### Coastside County Fire Protection District

78. The applicant shall demonstrate compliance with all the requirements of the Coastside County Fire Protection District, including but not limited to, those stated in the District's letter dated December 22, 2010 (Attachment X).

#### LAFCo

79. The property owner is responsible for the annexation of the project site to County governed special districts that will provide utility or other service. The project applicant is responsible for application and fees to the San Mateo Local Agency Formation Commission.

#### Pacific Gas & Electric Company

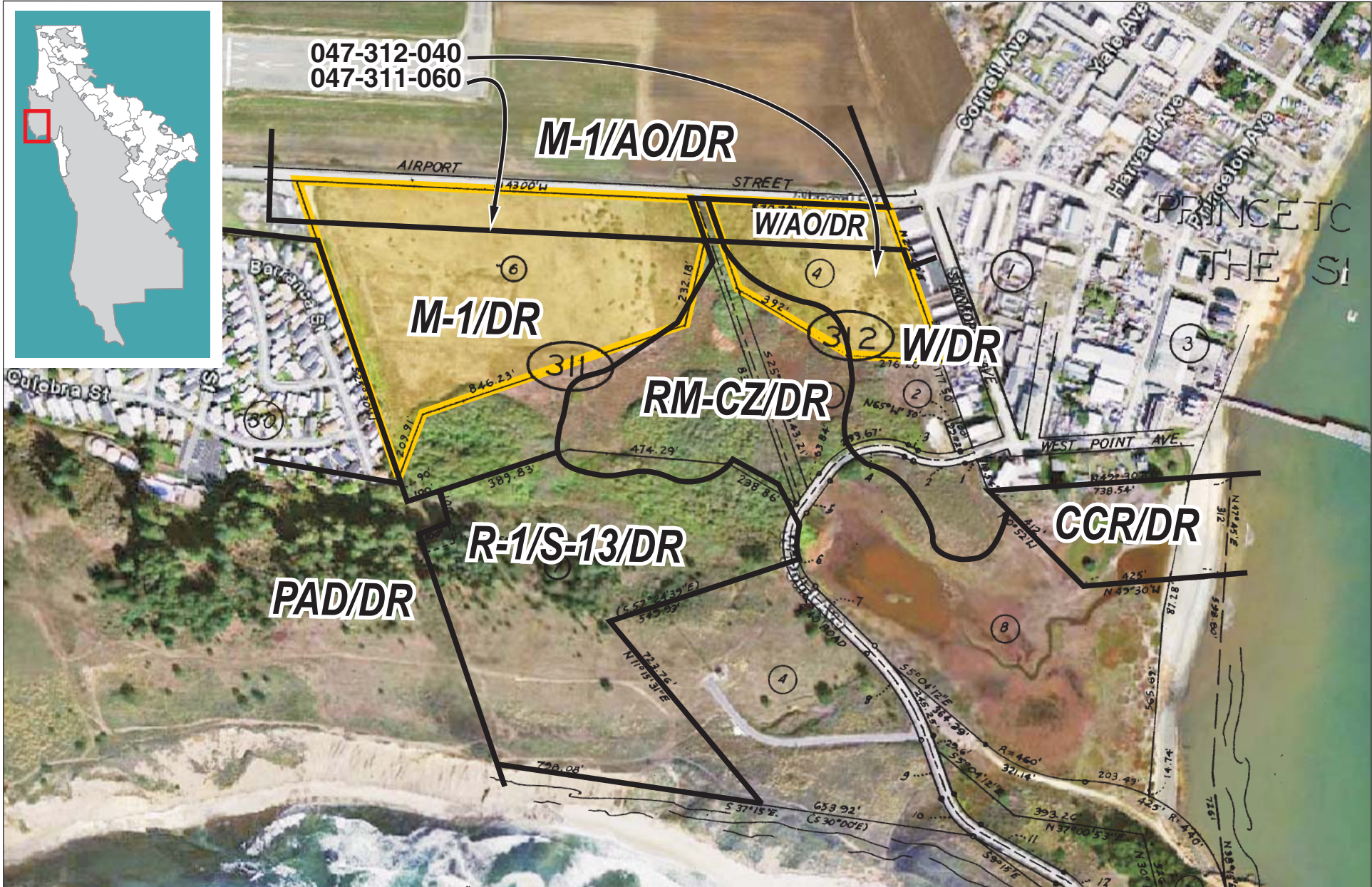
80. The property owner will be responsible for the costs associated with the relocation of existing PG&E facilities to accommodate the project.

#### CalTrans

81. Any work within the CalTrans' right-of-way shall not be commenced until CalTrans' requirements for the issuance of an encroachment permit have been met. Plans for such work shall be reviewed by CalTrans prior to the issuance of the permit.





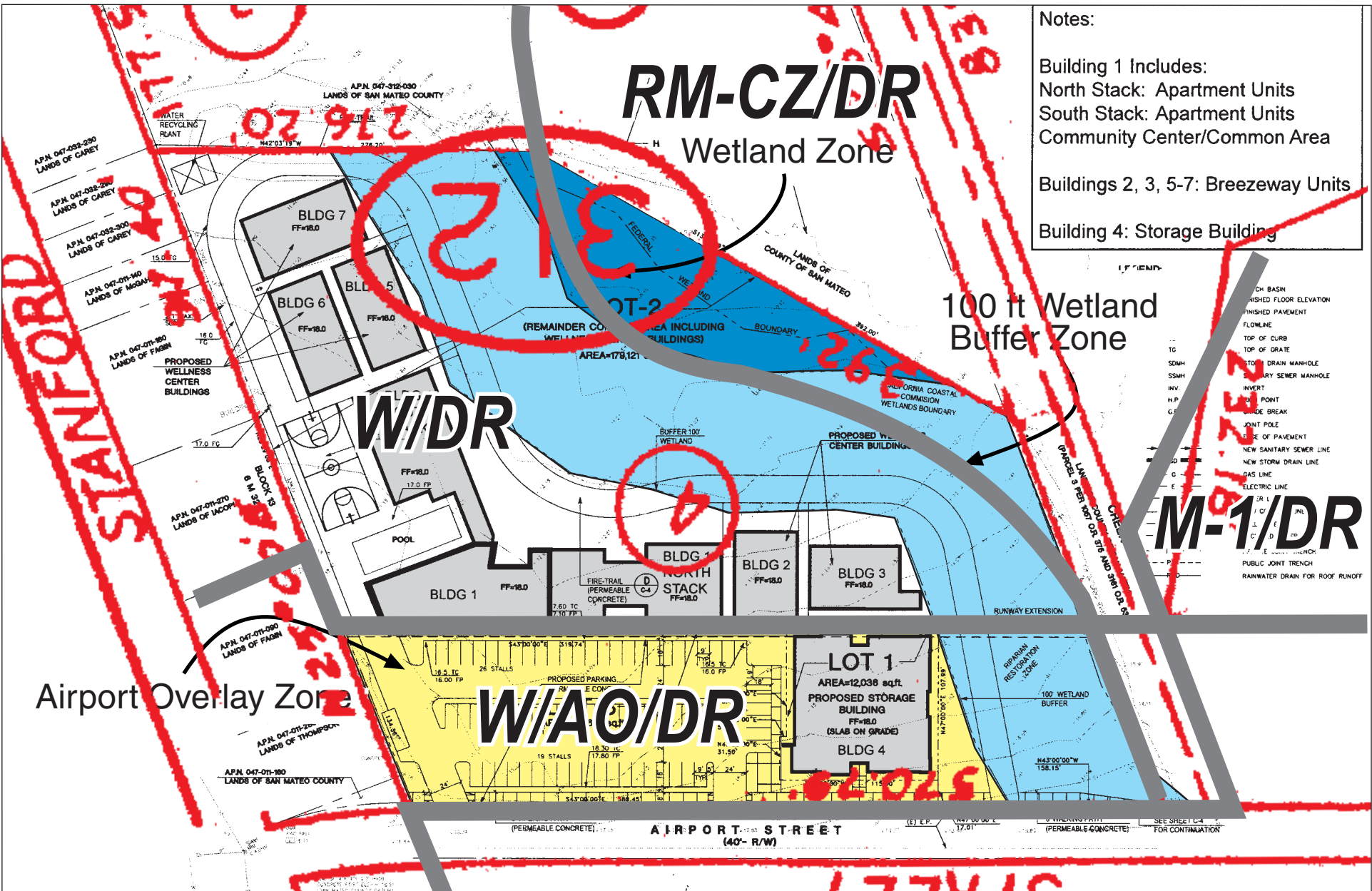


# Big Wave Final EIR

## Zoning Map

Figure A





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

# Big Wave Final EIR - Wellness Center

## Zoning Map

Figure B

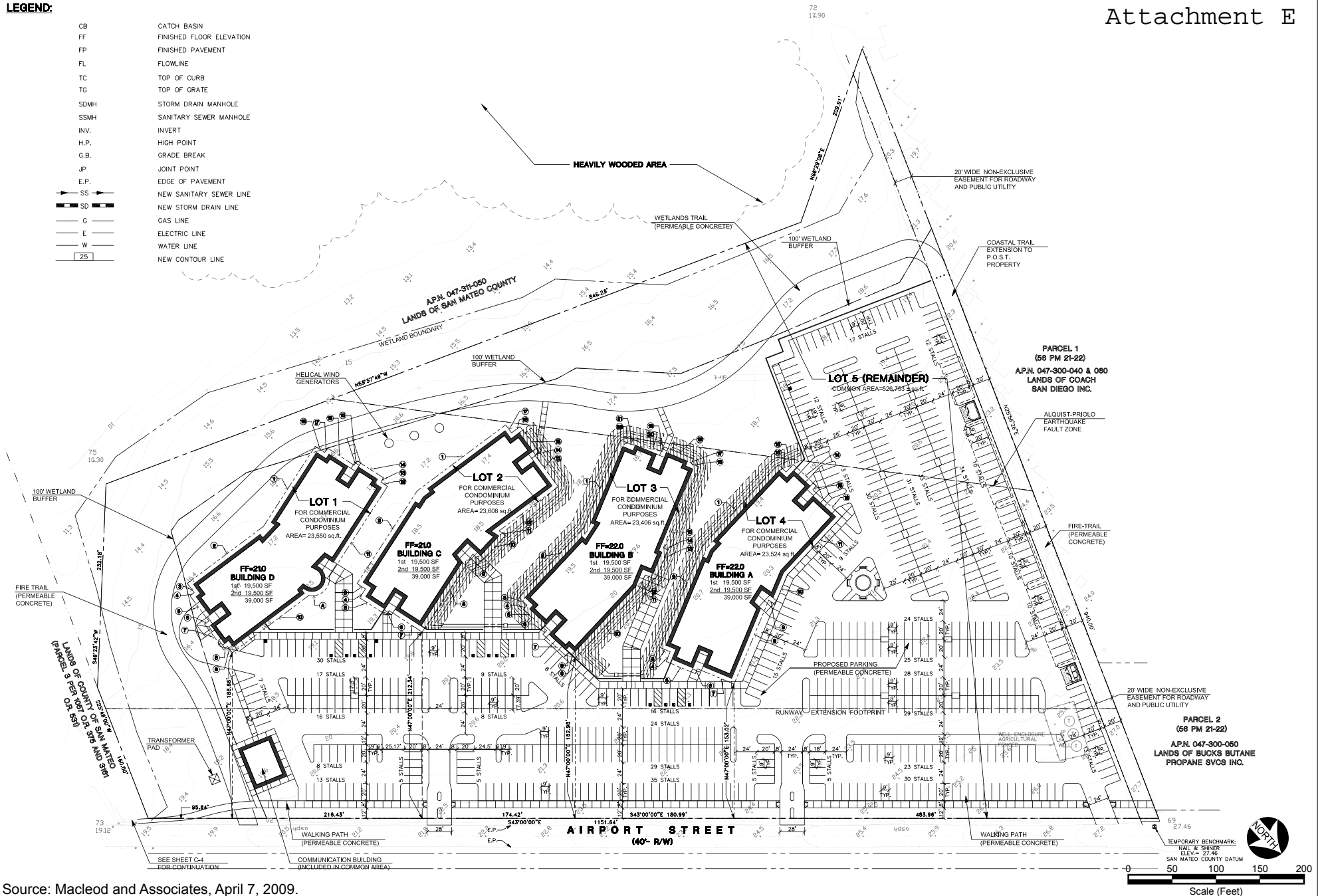




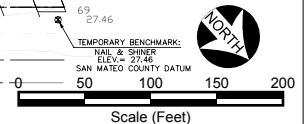
Source: HJW GeoSpatial, Inc., MacLeod and Associates and Christopher A. Joseph & Associates, May 2007; WSP, March 17, 2008.

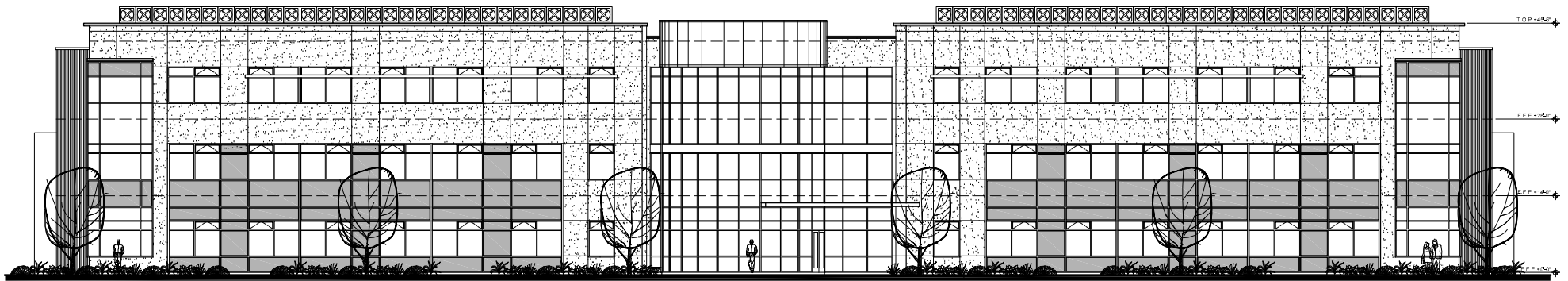
**LEGEND:**

- 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
- 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**

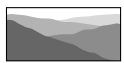


**EAST & WEST/RIGHT & LEFT SIDE ELEVATION**



**SOUTH/REAR ELEVATION**

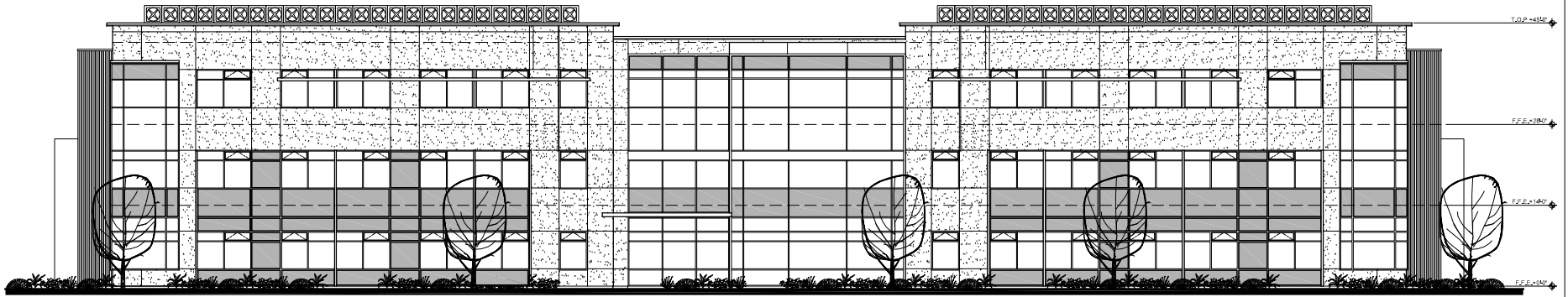
Source: Wald Ruhnke & Dost Architects LLP, July 2009.



CHRISTOPHER A. JOSEPH & ASSOCIATES  
Environmental Planning and Research

Attachment F

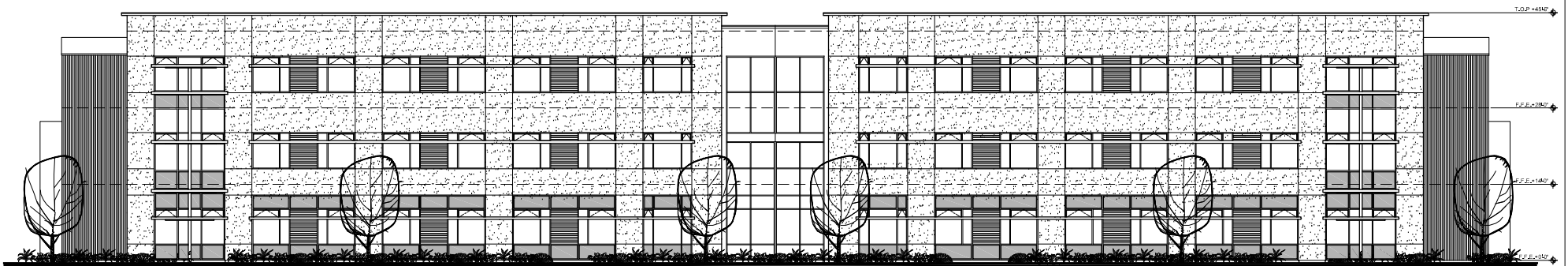
Figure III-10  
Office Park Building A Elevations



**NORTH/FRONT ELEVATION**

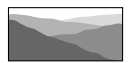


**EAST & WEST/RIGHT & LEFT SIDE ELEVATION**



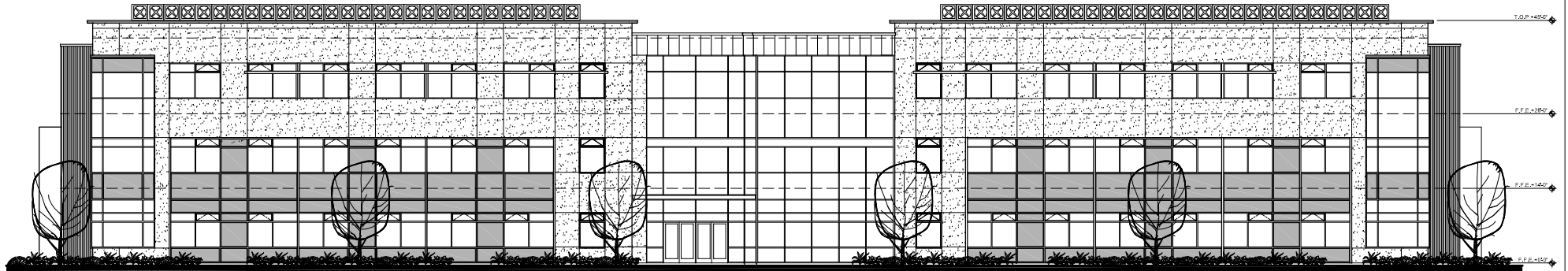
**SOUTH/REAR ELEVATION**

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



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Figure III-11  
Office Park Building B Elevations



**NORTH/FRONT ELEVATION**

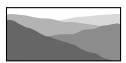


**EAST & WEST/RIGHT & LEFT SIDE ELEVATION**



**SOUTH/REAR ELEVATION**

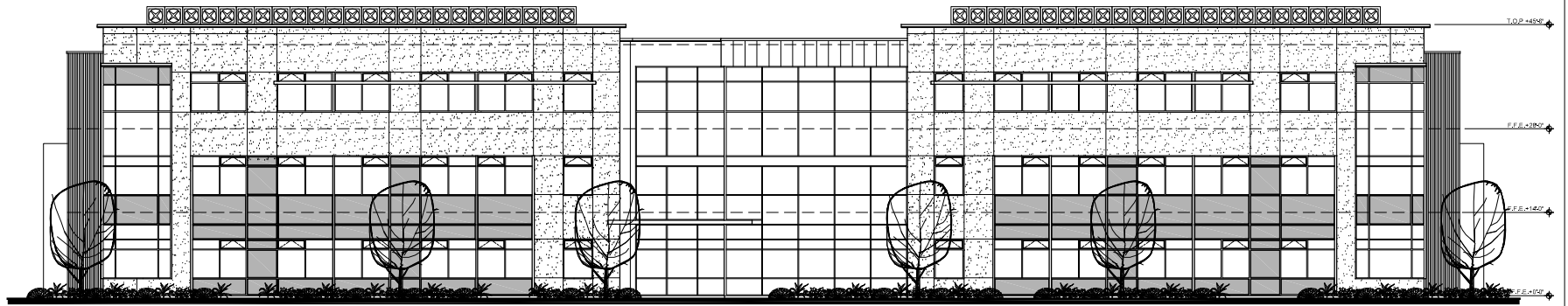
Source: Wald Ruhnke & Dost Architects LLP, July 2009.



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Figure III-12  
Office Park Building C Elevations

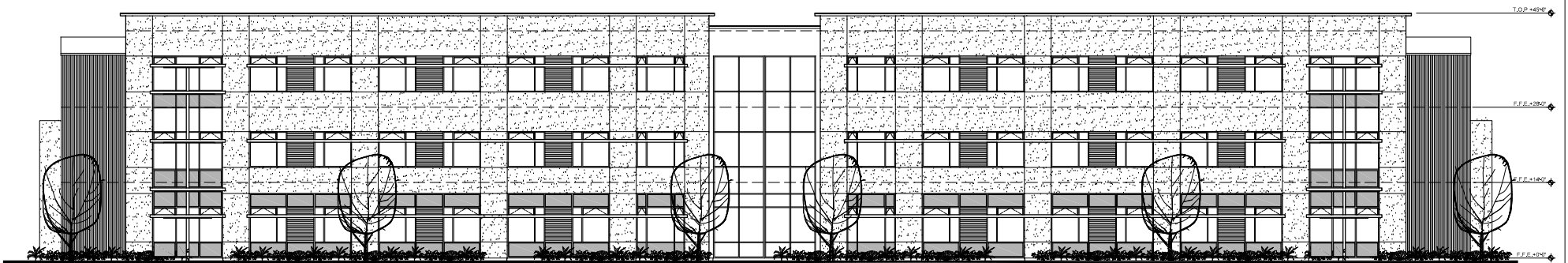




**NORTH/FRONT ELEVATION**

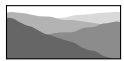


**EAST & WEST/RIGHT & LEFT SIDE ELEVATION**



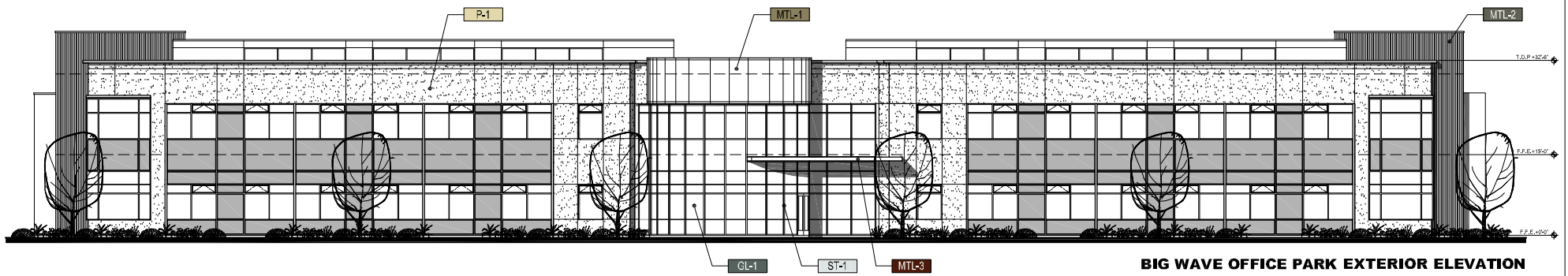
**SOUTH/REAR ELEVATION**

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



CHRISTOPHER A. JOSEPH & ASSOCIATES  
Environmental Planning and Research

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> FIELD PAINT SHERWIN WILLIAMS SW7723 COLONY BUFF</p>	 <p><b>MTL-1</b> METAL PANEL FIRESTONE - UNACLAD SIERRA TAN</p>	 <p><b>MTL-2</b> CORRUGATED METAL FIRESTONE - UNACLAD SLATE GRAY</p>	 <p><b>MTL-3</b> METAL CANOPY FIRESTONE - UNACLAD COLONIAL RED</p>	 <p><b>ST-1</b> STOREFRONT KAWNEER CLEAR ANODIZED</p>	 <p><b>GL-1</b> GLASS PPG IDEASCAPES SOLARGRAY</p>
---	--	---	---	--	---

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



CHRISTOPHER A. JOSEPH & ASSOCIATES  
Environmental Planning and Research

Figure III-14  
Office Park Exterior Finishes Materials

**PARKING NOTE:**

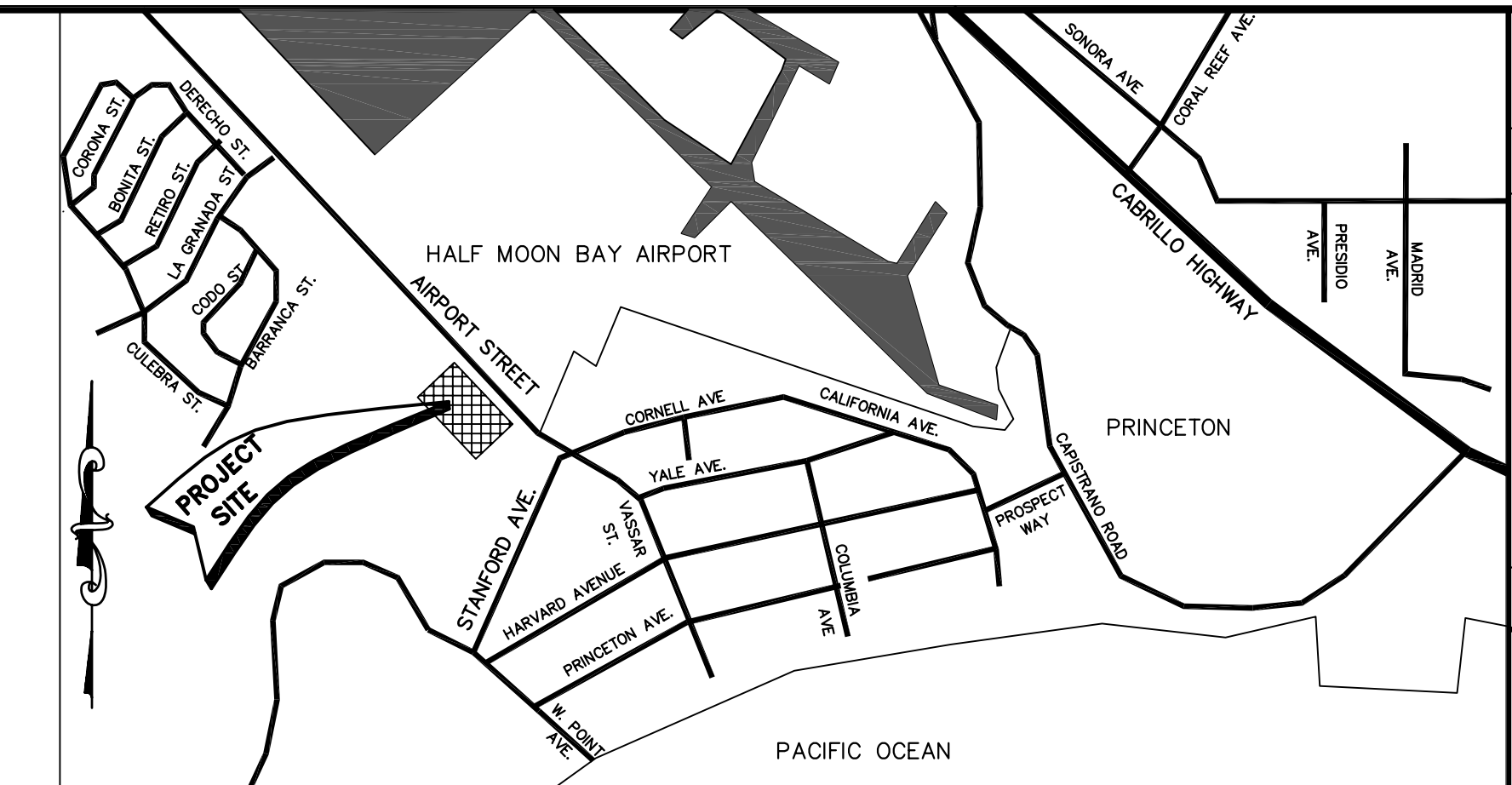
TYPICAL PARKING STALL DIMENSIONS = 9' X 20'  
TYPICAL HANDICAP PARKING STALL DIMENSIONS = 9' X 20' WITH 8' WIDE UNLOADING AREA

**TREE NOTE:**

THERE ARE NO EXISTING TREES ON THE SUBJECT PROPERTY.

**EASEMENT NOTE:**

PRIVATE UTILITY EASEMENTS WILL BE RESERVED OVER EACH PARCEL FOR THE BENEFIT OF THE OTHER PARCELS, WHERE APPROPRIATE. THE DELINEATION OF THOSE EASEMENTS IS NOT SHOWN ON THESE PLANS, BUT WILL BE CONFIGURED AND DELINEATED DURING THE BUILDING PERMIT PROCESS.



**LOCATION MAP**

NOT TO SCALE

**RECORD OWNER AND SUBDIVIDER:**

BIG WAVE LLC  
P.O. BOX 700  
BELMONT CA. 94002

**LAND SURVEYOR AND CIVIL ENGINEER:**

MacLEOD & ASSOCIATES  
965 CENTER STREET  
SAN CARLOS, CA 94070  
(650) 593-8580

**ASSESSOR'S PARCEL NUMBER**

047-311-060

**EXISTING & PROPOSED ZONING**

M-1/DR - LIGHT INDUSTRIAL WITH DESIGN REVIEW

**UTILITIES:**

GAS AND ELECTRICITY: PACIFIC GAS AND ELECTRIC COMPANY  
SANITARY SEWER: GRANADA SANITARY DISTRICT  
WATER: COASTSIDE WATER DISTRICT  
TELEPHONE: A T & T  
FIRE PROTECTION: HALF MOON BAY

**FLOOD ZONE:**

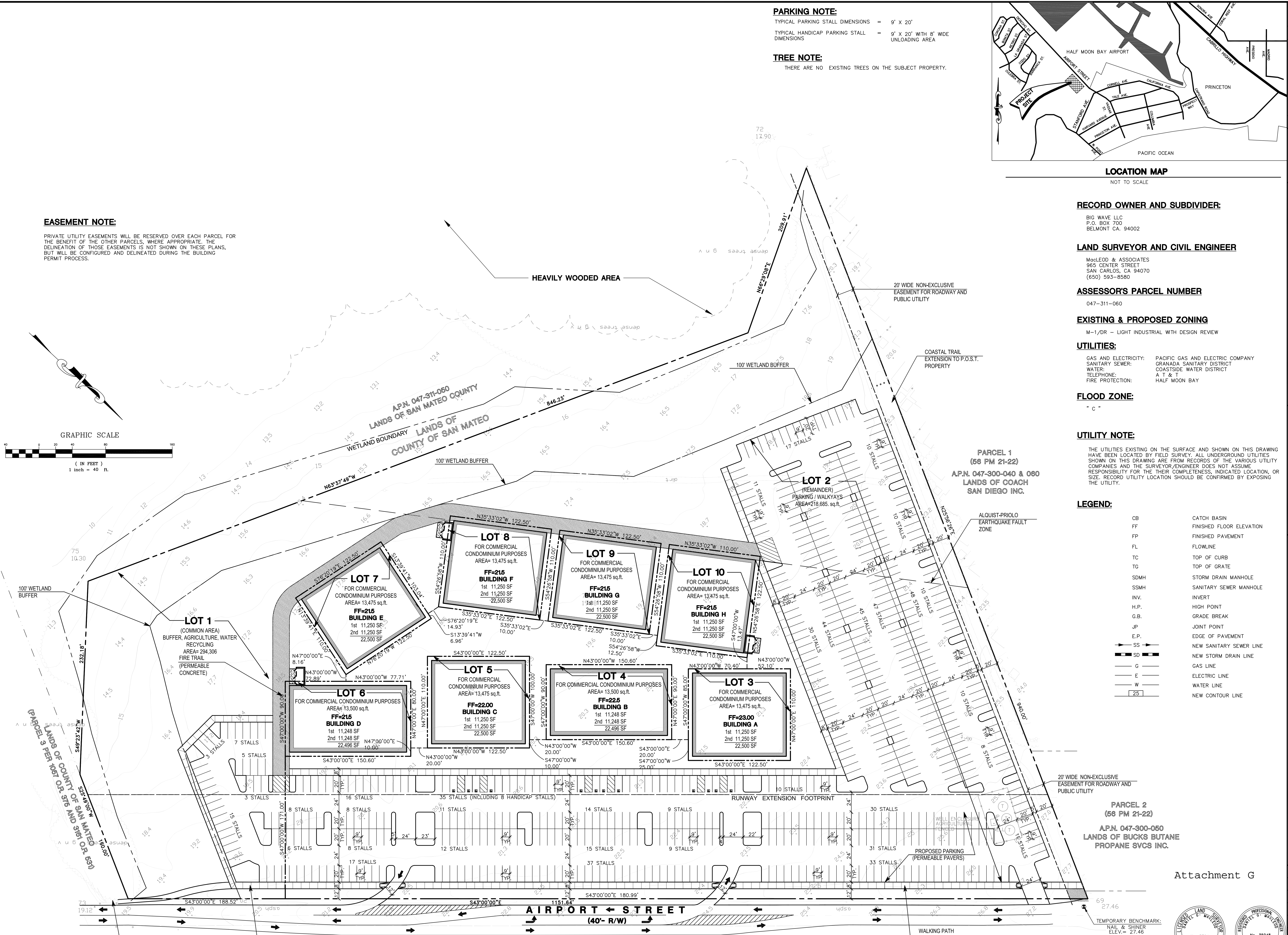
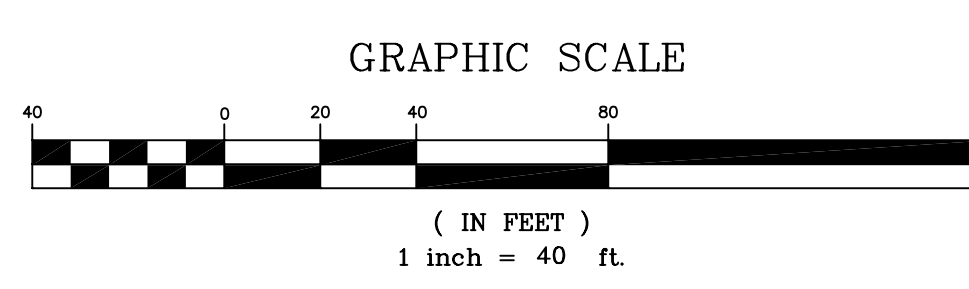
"C"

**UTILITY NOTE:**

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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
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



DATE:	
BY:	
DESCRIPTION:	
AREA:	
PREPARED FOR:	BIG WAVE LLC
CALIFORNIA	
BEING A SUBDIVISION OF A.P.N. 047-311-060	
PRINCETON BY THE SEA	
DRAWN BY:	AAP
DESIGNED BY:	VPG
CHECKED BY:	DGM
SCALE:	1" = 40'
DATE:	05/17/10
DRAWING NO.:	1608-00
SHEET:	C-1

Attachment G

TEMPORARY BENCHMARK:  
NAIL & SHINER  
ELEV: 27.46  
SAN MATEO COUNTY DATUM

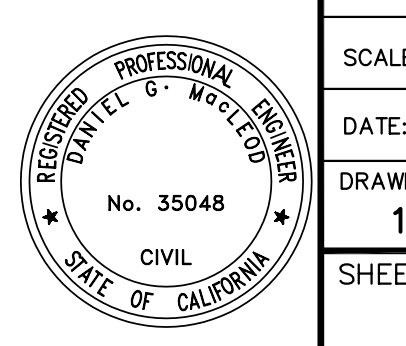
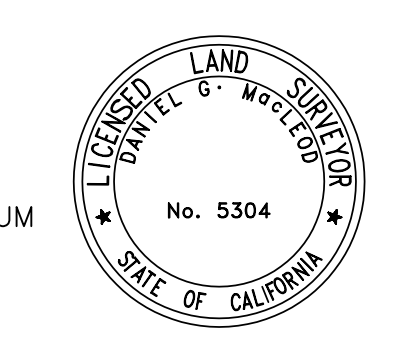


Figure I of the FEIR







HORIZONTAL HADI-PLANK "NATURAL PINE SIDING

WINDOW AWNING  
WITH STEEL WIRE SUPPORTS

RECESSED WINDOW

RECESSED WINDOW

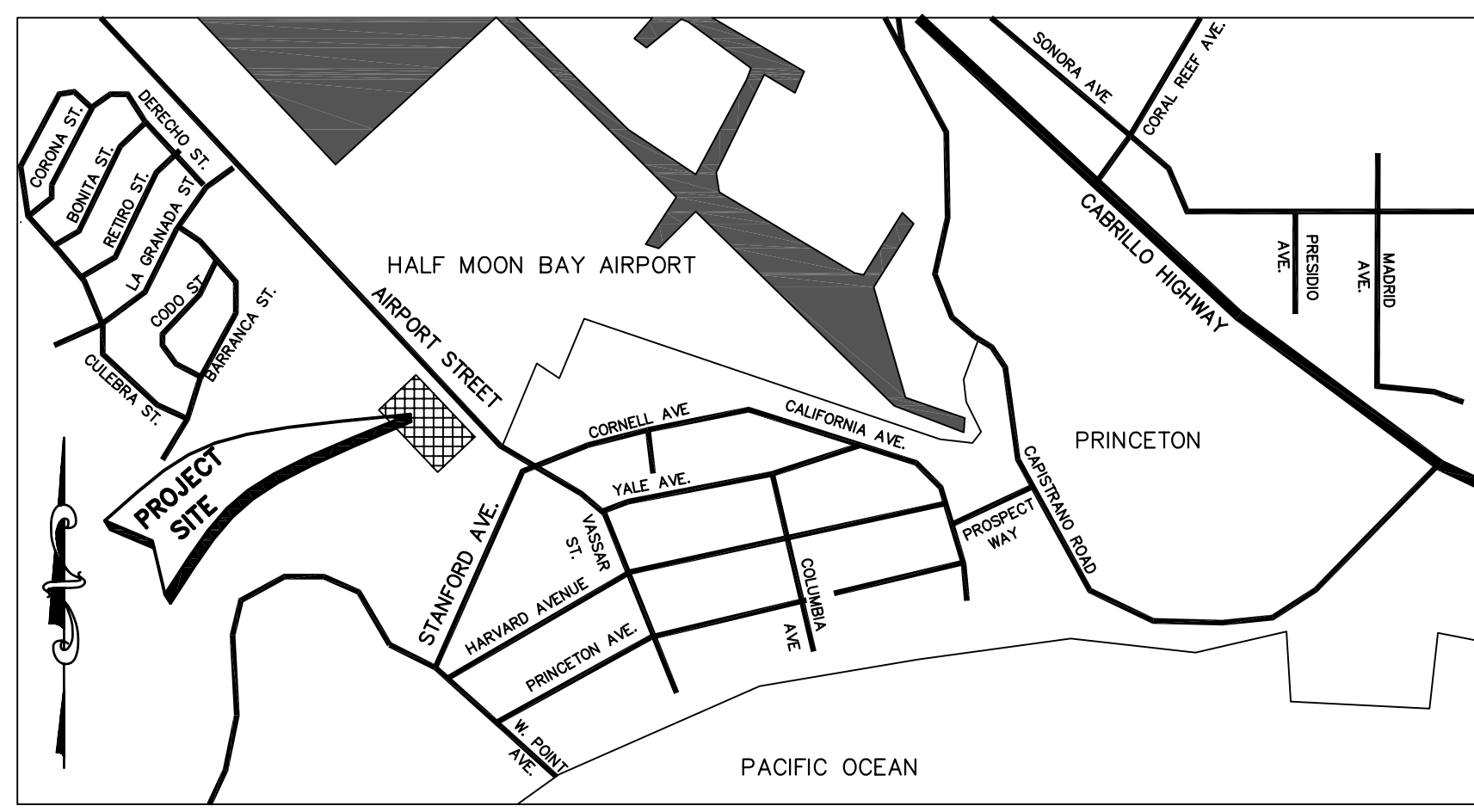
PAINTED STUCCO

**THREE-STORY OFFICE BUILDING**

WINDOW ACCENT

ENTRY CANOPY

HORIZONTAL HADI-PLANK "NATURAL PINE SIDING



**LOCATION MAP**  
NOT TO SCALE

**GENERAL NOTES:**

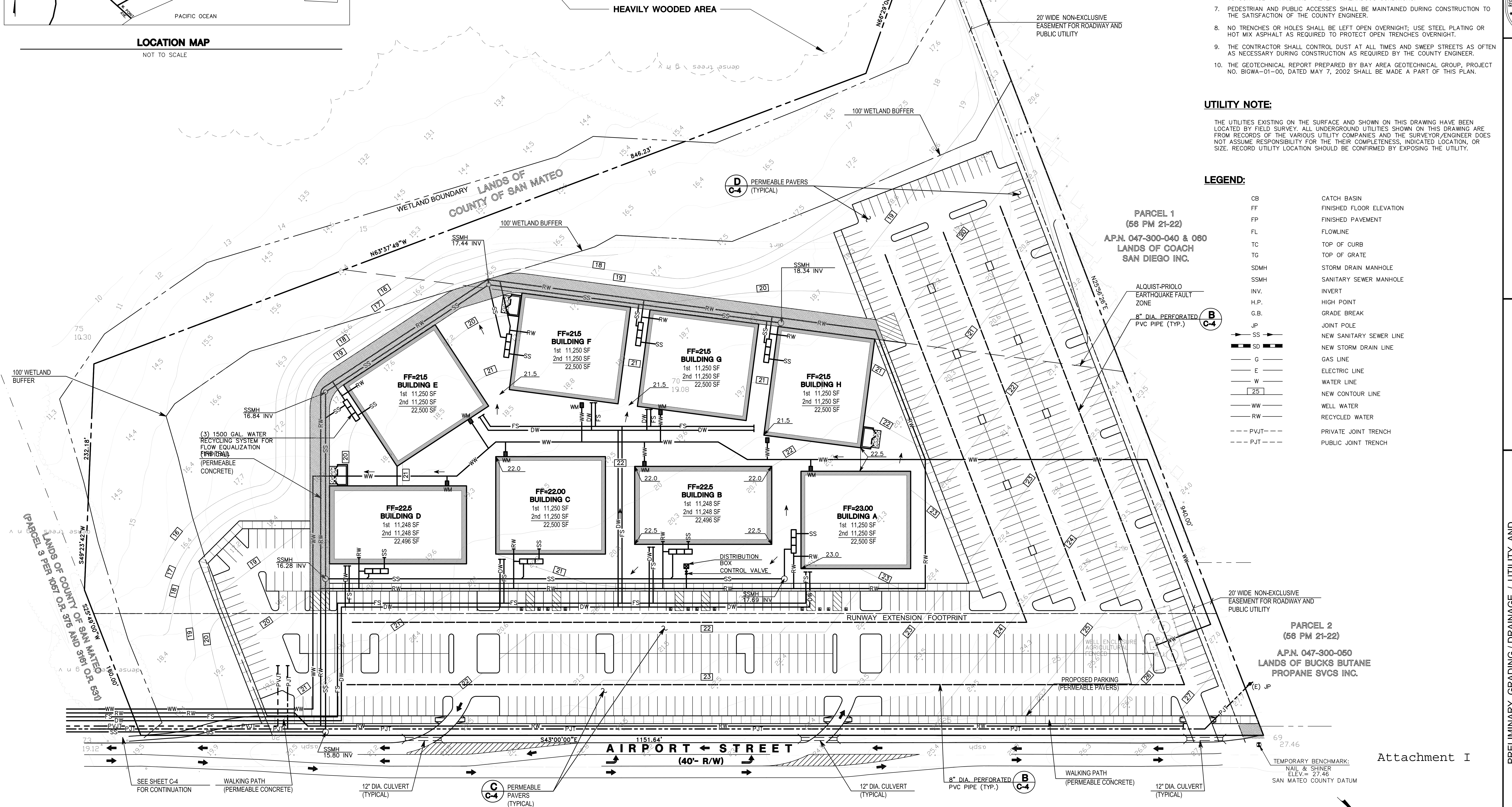
- ELEVATIONS AND LOCATIONS OF ALL UTILITY CROSSINGS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF ANY CONSTRUCTION AFFECTING SAID LINES. CONTACT USA AT (800) 642-2444 AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATION.
- ALL APPLICABLE WORK SHALL BE DONE IN ACCORDANCE WITH THE COUNTY OF SAN MATEO STANDARD TECHNICAL SPECIFICATIONS AND DETAILS, PREPARED IN THE OFFICE OF THE ENGINEERING DIVISION, INCLUDING MODIFICATIONS CONTAINED HEREIN.
- THE CONTRACTOR SHALL RESTORE ALL DAMAGED, REMOVED OR OTHERWISE DISTURBED WALLS, FENCES, SERVICES, UTILITIES, IMPROVEMENTS OR FEATURES OF WHATEVER NATURE, DUE TO CONTRACTORS WORK.
- THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE INSTALLATION OF FACILITIES BY PG&E, PACIFIC BELL, AND CABLE TV INSTALLATION. VALVE BOXES AND STRUCTURES TO BE SET TO GRADE IN CONCRETE AFTER PAVING.
- THE CONTRACTOR SHALL GIVE THE COUNTY ENGINEER AT LEAST TWO WORKING DAYS ADVANCE NOTICE FOR INSPECTION. (650) 363-4100.
- FOR LANE CLOSURES, THE CONTRACTOR SHALL PREPARE A TRAFFIC CONTROL PLAN AND SHALL OBTAIN APPROVAL OF THE COUNTY ENGINEER BEFORE COMMENCING WORK. THE CONTRACTOR SHALL PROVIDE FLAGMEN, CONES AND BARRICADES, AS NECESSARY TO CONTROL TRAFFIC AND PREVENT HAZARDOUS CONDITIONS.
- PEDESTRIAN AND PUBLIC ACCESSES SHALL BE MAINTAINED DURING CONSTRUCTION TO THE SATISFACTION OF THE COUNTY ENGINEER.
- NO TRENCHES OR HOLES SHALL BE LEFT OPEN OVERNIGHT; USE STEEL PLATING OR HOT MIX ASPHALT AS REQUIRED TO PROTECT OPEN TRENCHES OVERNIGHT.
- THE CONTRACTOR SHALL CONTROL DUST AT ALL TIMES AND SWEEP STREETS AS OFTEN AS NECESSARY DURING CONSTRUCTION AS REQUIRED BY THE COUNTY ENGINEER.
- THE GEOTECHNICAL REPORT PREPARED BY BAY AREA GEOTECHNICAL GROUP, PROJECT NO. BIGWA-01-00, DATED MAY 7, 2002 SHALL BE MADE A PART OF THIS PLAN.

**UTILITY NOTE:**

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**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
- JP JOINT POLE
- 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



**PARCEL 1**  
(56 PM 21-22)  
A.P.N. 047-300-040 & 080  
LANDS OF COACH  
SAN DIEGO INC.

**PARCEL 2**  
(56 PM 21-22)  
A.P.N. 047-300-050  
LANDS OF BUCKS BUTANE  
PROPANE SVCS INC.

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

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

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

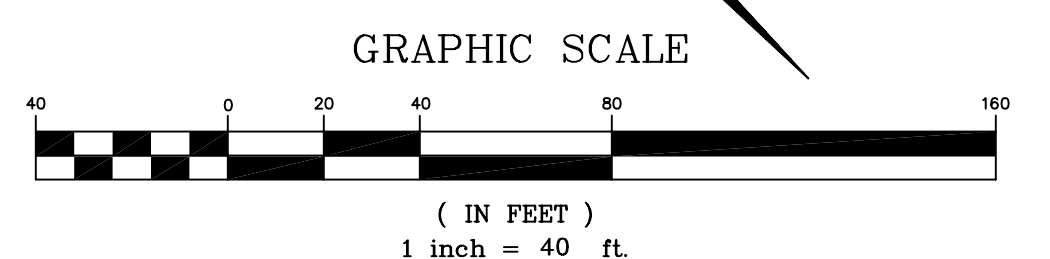


Figure G of the FEIR

Attachment I

DATE: \_\_\_\_\_  
BY: \_\_\_\_\_

PROFESSIONAL SEAL  
No. 35048  
CIVIL  
STATE OF CALIFORNIA

**MACLEOD AND ASSOCIATES**  
CIVIL ENGINEERING • LAND SURVEYING  
965 CENTER STREET • SAN CARLOS • CA 94070 • (650) 593-8580

PREPARED FOR:  
BIG WAVE LLC

CALIFORNIA

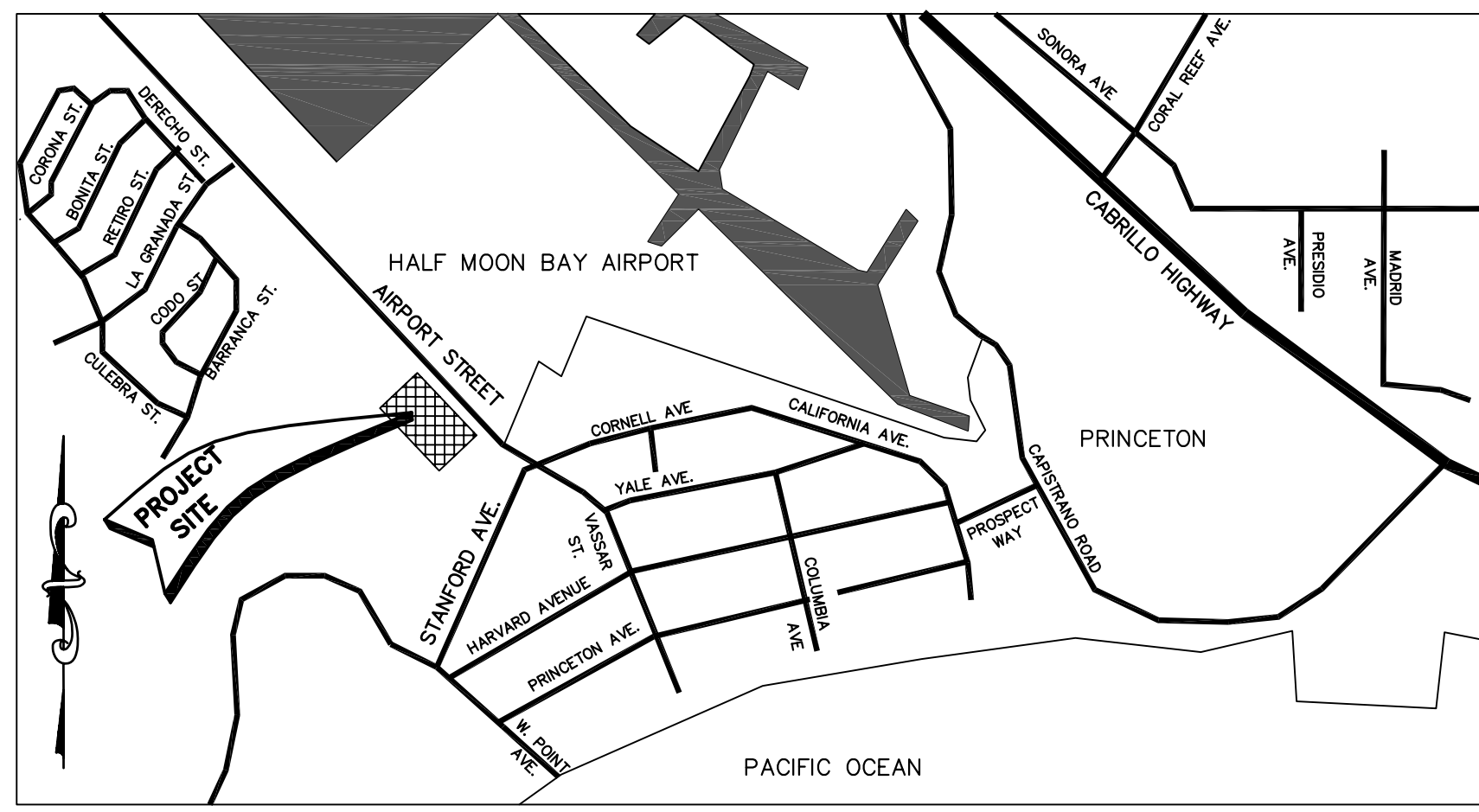
PRELIMINARY GRADING / DRAINAGE / UTILITY AND  
PERMANENT STORM WATER CONTROLS  
BIG WAVE OFFICE PARK  
AIRPORT STREET  
SAN MATEO COUNTY

DRAWN BY: AAP  
DESIGNED BY: VPG  
CHECKED BY: DGM  
SCALE: 1" = 40'  
DATE: 05/17/10  
DRAWING NO:  
**1608-00**  
SHEET  
**C-2**

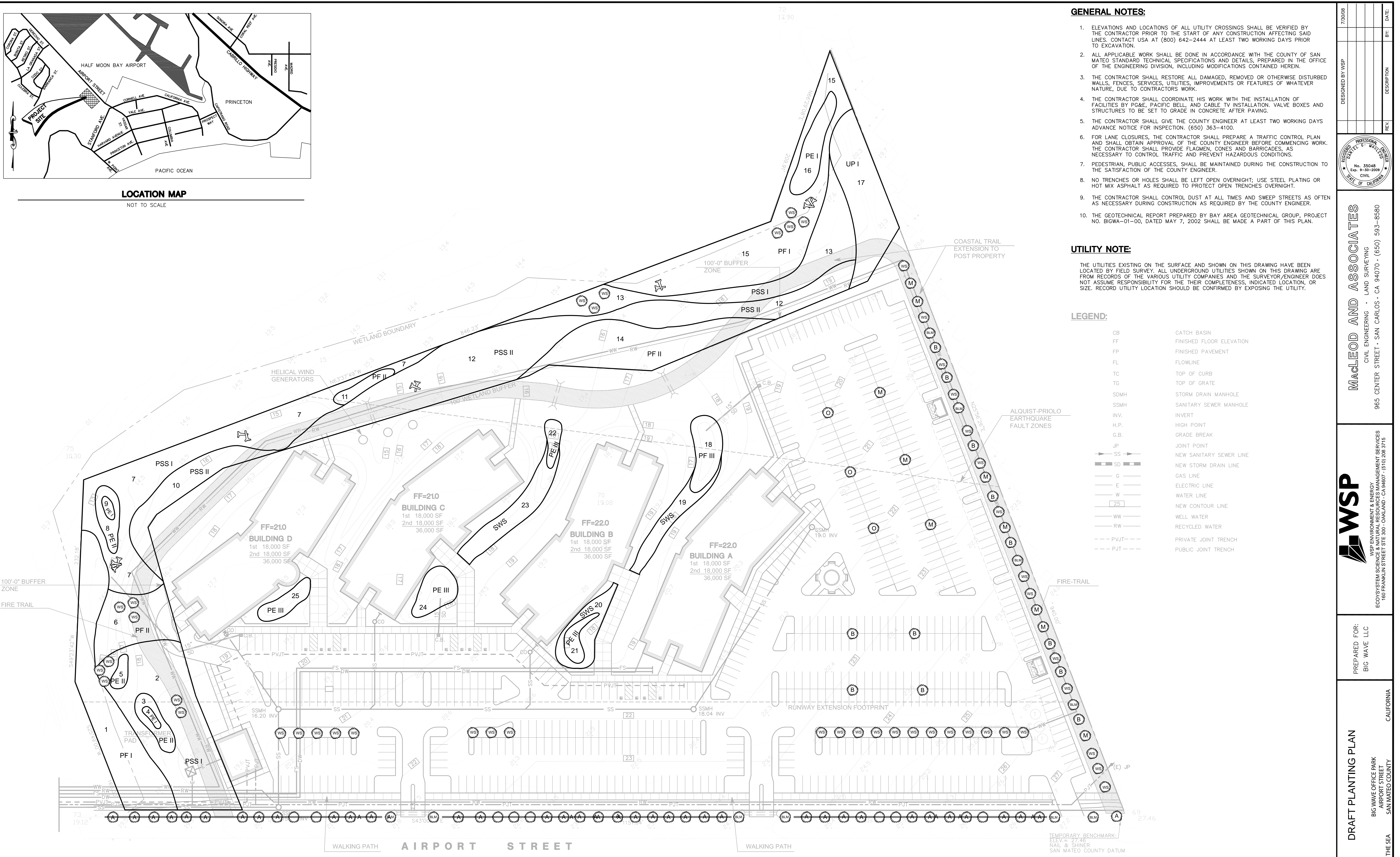








**LOCATION MAP**  
NOT TO SCALE



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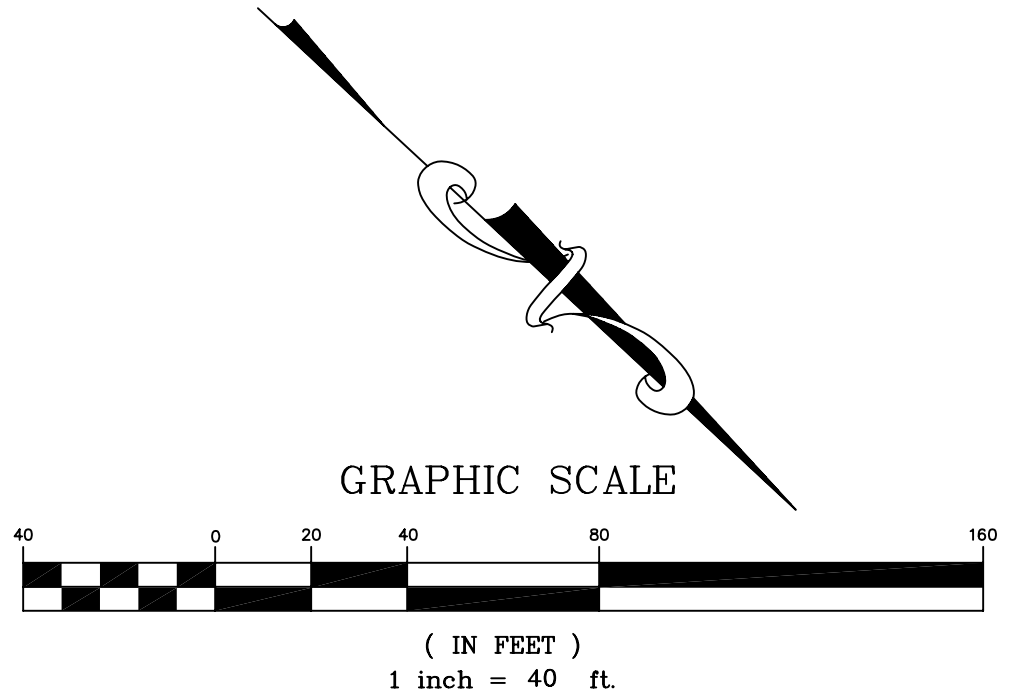
**LEGEND:**

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

Revised Figure III-23 of the DEIR

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)
W	Western Sycamore
WT	Windthrow
14	Planting Polygon

LANDSCAPING PLAN	
(O)	Live Oak
(M)	Madrone
(B)	California Buckeye
(SM)	Big Leaf Maple
(*)	Red Alder / Leopard Rush / Santa Barbara Sedge / Lily Perimeter Alley



Attachment J

**FIGURE 5**

DESIGNED BY WSP

REGISTERED PROFESSIONAL ENGINEER  
No. 35048  
Exp. 9-30-2009  
CIVIL  
STATE OF CALIFORNIA

**MACLEOD AND ASSOCIATES**  
CIVIL ENGINEERING • LAND SURVEYING  
965 CENTER STREET • SAN CARLOS, CA 94070 • (650) 593-8580

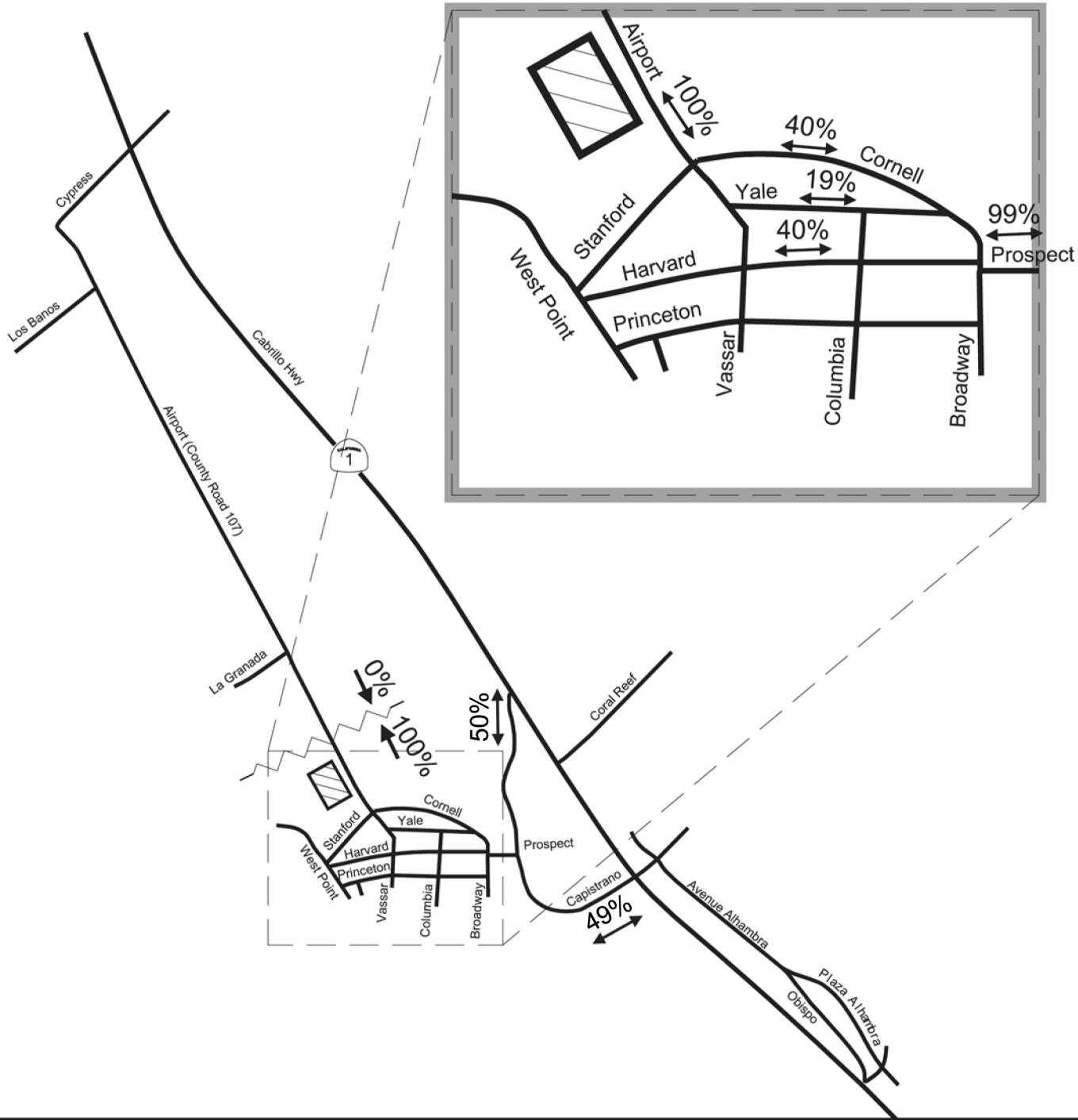
**WSP**  
WSP ENVIRONMENT & ENERGY  
ECOSYSTEM SCIENCE & NATURAL RESOURCES MANAGEMENT SERVICES  
160 FRANKLIN STREET STE 300 • OAKLAND, CA 94607 • (510) 208 3715

PREPARED FOR:  
BIG WAVE LLC

**DRAFT PLANTING PLAN**  
BIG WAVE OFFICE PARK  
AIRPORT STREET  
SAN MATEO COUNTY  
CALIFORNIA

PRINCETON BY THE SEA

DRAWN BY: AAP  
DESIGNED BY: VPG  
CHECKED BY: DGM  
SCALE: 1" = 40'  
DATE: 07/30/08  
DRAWING NO.: 1608-00  
SHEET: P-1



**LEGEND**

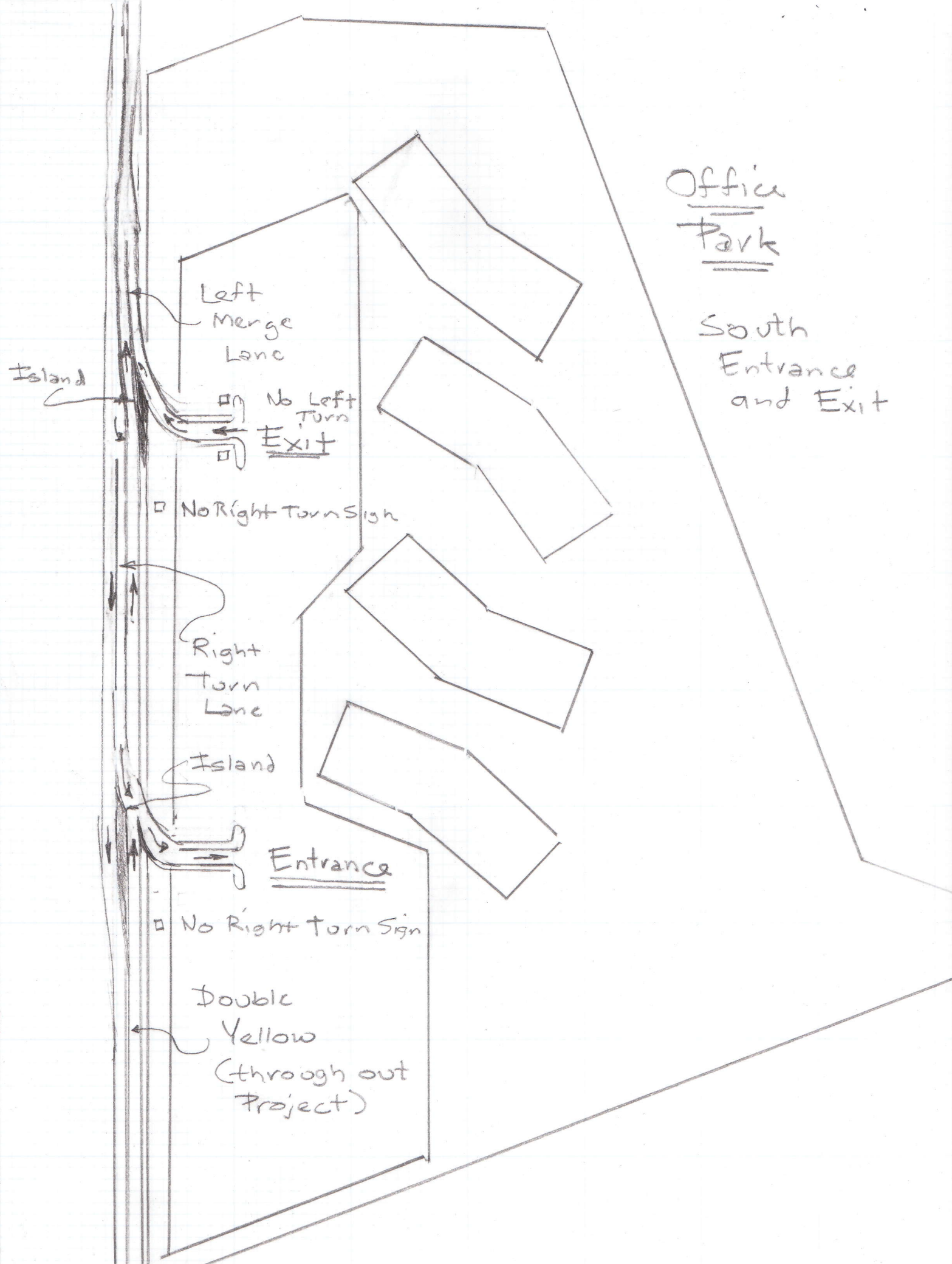
 SITE LOCATION

**FIGURE D**



Office  
Park

South  
Entrance  
and Exit



Left  
Merge  
Lane

Island

No Left  
Turn  
Exit

No Right Turn Sign

Right  
Turn  
Lane

Island

Entrance

No Right Turn Sign

Double  
Yellow  
(through out  
Project)

## **MODIFIED ALTERNATIVE C**

### **ALTERNATE OFFICE PARK TRAFFIC CIRCULATION OPTION**

An on and off-site traffic circulation option has been created under Modified Alternative C which would prohibit project operational or construction-related traffic on Cypress Avenue, which is largely residential in nature. Under this option, both project traffic and construction traffic would be prohibited from accessing the site from Airport Street north of the project site. Therefore, for project traffic, the site would be accessed using North or South Capistrano Road to and from Cabrillo Highway. Construction trucks would access the site using North Capistrano Road to and from Cabrillo Highway. The revised traffic route includes only non-residential streets. The alternate route is shown in Figure D of the FEIR.

The site plan would include onsite signs prohibiting traffic from making a right turn when entering the site and a left turn when exiting the site, as well as modifications within the public right-of-way to prevent such turns. The Figure F of the DEIR shows the proposed improvements to Airport Street to route all project traffic to the south to avoid impacts to the residential communities to the north.

### **BENEFITS OF ALTERNATE TRAFFIC CIRCULATION**

The traffic circulation option would direct project traffic, as estimated by Hexagon Transportation Consultants, Inc., in a report dated June 24, 2009 (Hexagon Traffic Report) prepared for the Big Wave Wellness Center and Office Park Draft EIR, to streets in Princeton that largely serve industrial and commercial uses. The alternate route is intended to maintain the residential character of Cypress Avenue, as well as the residential character of side streets along Airport Street north of the project site, such as La Granada Avenue (access to the Pillar Ridge Mobile Home Park) and Los Banos Ave.

Implementation of this option would also significantly reduce or eliminate project-generated traffic to the above intersections. As sated in the Draft EIR, under worst-case project conditions, the northbound left-turn movement on Cypress Avenue at Cabrillo Highway (Study Intersection 6) would operate at LOS F with a delay of 59.8 seconds. Under this option, project traffic would not utilize Cypress Avenue or Airport Street north of the project site. The alternate route transfers project traffic volume (86 AM trips and 77 PM trips as shown in Figure 12 of the Hexagon Traffic Report) from Study Intersection 6 to Study Intersection 8 (Cabrillo Highway at North Capistrano Road).

Based on the foregoing, intersection LOS for the following intersections would not be impacted or only minimally impacted by the project and would remain at existing or “background” levels<sup>1</sup>, as presented in the DEIR:

---

<sup>1</sup> *Background conditions include existing traffic plus additional traffic generated by approved developments in the area.*



- Cypress Avenue at Cabrillo Highway (Study Intersection 6)
- Airport Road at Los Banos Avenue (Study Intersection 5)
- Airport Road at La Granada Avenue (Study Intersection 4)

## **POTENTIAL IMPACTS OF ALTERNATE TRAFFIC CIRCULATION**

The traffic circulation option transfers project traffic (86 AM trips and 77 PM trips) from the Cypress Avenue at Cabrillo Highway at Cabrillo Highway (Study Intersection 6) to Cabrillo Highway at North Capistrano Road (Study Intersection 8). Intersection LOS for the following Princeton intersections may be further impacted than the level discussed in the DEIR:

- Cabrillo Highway at North Capistrano Road (Study Intersection 8)
- Prospect Way at Capistrano Road (Study Intersection 1)
- Prospect Way at Broadway/Cornell Avenue (Study Intersection 2)
- Airport Road at Stanford Avenue/Cornell Avenue (Study Intersection 3)

Additional trips through these intersections under this alternate traffic route are shown in Tables 1 through 8, below. However, as described below, project impacts to intersection LOS would not be considered significant with implementation of the recommended mitigation measures. The following is an analysis of the anticipated impact of this option to intersection LOS levels:

### **A. CABRILLO HIGHWAY AT NORTH CAPISTRANO ROAD (STUDY INTERSECTION 8)**

At the Cabrillo Highway at North Capistrano Road (Study Intersection 8) intersection, under original project conditions<sup>2</sup>, Figure 13 of the Hexagon Traffic Report estimates 31 AM westbound trips (from Cabrillo Highway to North Capistrano Road) and 25 PM northbound trips (from North Capistrano Road to Cabrillo Highway), where intersection LOS is “C” in both the AM and PM during peak hours with 15.1 seconds of delay in the AM and 18.5 seconds of delay in the PM. The revised route would add 86 AM westbound trips and 77 PM northbound trips. This intersection is configured with left and right turn pockets and a left turn and right turn merge lanes. The intersection has sight visibility for cars being detained at the signalized intersection of Capistrano South.

---

<sup>2</sup> *Project traffic volumes for “project conditions” are the sum of Background trips plus Project trips, based on the assignment in the June 2009 traffic report by Hexagon Transportation Consultants, Inc.*

<i>Cabrillo Highway at North Capistrano Road</i>	<i>Original Project Traffic Volumes</i>			Additional Revised Project Trips	Revised Project Traffic Volume
	Trips	Worst Case LOS	Delay (in seconds)		
1. Cabrillo Highway to North Capistrano Road – westbound (AM)	31	<i>C</i>	<i>15.1</i>	86	117
2. North Capistrano Road to Cabrillo Highway – northbound (PM)	25	<i>C</i>	<i>18.5</i>	77	102
Total	56			163	219

As AM and PM LOS levels are at level “C” under original project conditions, the additional trips from the alternate traffic route may impact AM & PM intersection LOS such that both exceed level “C” (over 25 seconds of delay for unsignalized intersections). Implementation of mitigation measures in the Final EIR, as summarized below, would reduce the impact related to project peak-hour traffic volumes and intersection LOS to a less-than-significant level.

- Mitigation Measure TRANS-1 requires the property owner to submit a traffic report to the County, at full occupancy of every 60,000 sq. ft. of office space up until full project occupancy and bi-annually after full project occupancy. The report should be study level of service at the following intersections: Cypress Avenue and SR 1 (Study Intersection 6), Airport Street & Stanford/Cornell (Study Intersection 3), Broadway & Prospect Way (Study Intersection 2), Prospect Way & Capistrano (Study Intersection 1) and State Route 1 & Capistrano (Study Intersection 8) to evaluate if they maintain a LOS level “C” or better. If traffic reports reveal that the LOS of any of these intersections exceeds level “C”, the applicant will be required to implement recommendations, such that LOS levels are maintained at level “C” or better, within 1 year of the date of that report.

In addition, as stated in the FEIR, the applicant proposes to implement Traffic Demand Management (TDM) measures, including an off-site parking agreement and shuttle services to the Office Park (to accommodate a minimum of 50 cars and their drivers) for the purpose of reducing project traffic along the Cabrillo Highway to North Capistrano Road to Prospect Way to Broadway to Cornell Avenue/California Avenue or Harvard Avenue/Yale Avenue to Airport Street

route. Therefore, the project as currently proposed and mitigated, would result in impacts related to project peak-hour traffic volumes and intersection LOS that are considered less than significant.

**B. PROSPECT WAY AT CAPISTRANO ROAD (STUDY INTERSECTION 1)**

Figure 13 of the Hexagon Traffic Report estimates original project traffic volume<sup>3</sup> between Prospect Way and South Capistrano Road at 251 AM westbound trips and 274 PM southbound trips. Between Prospect Way and North Capistrano Road, Figure 13 of the Hexagon Traffic Report estimates original project traffic volume at 29 AM westbound trips and 29 PM northbound trips. Intersection LOS under original project conditions is at level “A” in the AM and level “B” in the PM. The revised route would add 86 AM westbound trips and 77 PM northbound project trips to project conditions.

While AM intersection LOS is at a level “A” and is not likely to exceed level LOS “C”, the alternate traffic route may impact PM intersection LOS, currently at LOS B. The additional PM trips from this option added onto total project traffic volumes along Prospect Way (north and southbound) could cause intersection LOS to exceed level “C” (or 25 seconds of delay) in the PM. As illustrated in the table below, the additional 77 PM northbound trips would be added to the estimated 303 PM trips under project conditions for a total of 380 PM trips.

---

<sup>3</sup> *Project traffic volumes are the sum of Background trips plus Project trips, based on the assignment in the June 2009 traffic report by Hexagon Transportation Consultants, Inc.*

<i>Table 2</i> <b>Prospect &amp; Capistrano Intersection (Study Intersection 1) – Original &amp; Optional Project Traffic AM &amp; PM Volumes</b>					
<i>Prospect &amp; Capistrano Intersection</i>	<i>Original Project Traffic Volumes</i>			Additional Revised Project Trips	Revised Project Traffic Volume
	Trips	Worst Case LOS	Delay (in seconds)		
1. North Capistrano Road to Prospect Way – Westbound (AM)	29	A	9.4	86	115
2. South Capistrano Road to Prospect Way – Westbound (AM)	251	A	9.4	--	251
AM Total	280			86	366
3. Prospect Way to North Capistrano Road – Northbound (PM)	29	B	11	77	106
4. Prospect Way to South Capistrano Road – Southbound (PM)	274	B	11	--	274
PM Total	303			77	380
Total	583			163	746

To reduce the potential impact to PM intersection LOS, the applicant proposes to construct a designated left turn lane from Prospect Way onto North Capistrano Road, such that traffic turning left onto North Capistrano does not delay traffic turning right to proceed onto South Capistrano Road. Implementation of Mitigation Measures TRANS-1 (requires traffic reports and implementation of recommendations such that LOS levels are maintained at “C” or better) and shuttle and designated turn lane proposals would reduce the impact related to project peak-hour traffic volumes and intersection LOS to a less-than-significant level.

**C. PROSPECT WAY AT BROADWAY/CORNELL AVENUE (STUDY INTERSECTION 2)**

As illustrated in the table below, the alternate traffic route would result in an additional 86 AM trips onto the estimated 114 AM trips (LOS “B” with 11.8

seconds of delay) estimated under original project conditions in Figure 13 of the Hexagon Traffic Report, for a total of 200 trips. The alternate traffic route would result in an additional 77 PM trips onto the estimated 167 trips (LOS “B” with 13.8 seconds of delay) estimated under original project conditions in Figure 13 of the Hexagon Traffic Report, for a total of 244 PM trips.

<b>Prospect Way at Broadway/Cornell Avenue (Study Intersection 2)– Original &amp; Optional Project Traffic AM &amp; PM Volumes</b>					
<i>Prospect Way at Broadway/Cornell Avenue</i>	<i>Original Project Traffic Volumes</i>			Additional Revised Project Trips	Revised Project Traffic Volume
	Trips	Worst Case LOS	Delay (in seconds)		
1. Prospect Way to Broadway/Cornell Avenue – westbound (AM)	114	<i>B</i>	<i>11.8</i>	86	200
2. Broadway/Cornell Avenue to Prospect Way – eastbound (PM)	167	<i>B</i>	<i>13.8</i>	77	244
Total	281			163	444

While the additional 86 AM trips is unlikely to increase the delay from 11.8 under LOS B to over 25 seconds such that intersection LOS exceeds level “C” in the AM, there is a small potential for intersection LOS to exceed level “C” in the PM (increase from 13.8 seconds of delay under LOS B to over 25 seconds of delay). This potential is reduced as traffic is more likely to disperse between Cornell Avenue and Harvard Avenue (drivers will shift their route to maintain the shortest delay), rather than concentrate on Cornell Avenue as originally analyzed in the DEIR. This is illustrated in Figure D of the Final EIR. In addition, implementation of Mitigation Measures TRANS-1 (requires traffic reports and implementation of recommendations such that LOS levels are maintained at “C” or better) and the proposed shuttle would further reduce the impact related to project peak-hour traffic volumes and intersection LOS to a less-than-significant level.

**D. Airport Road at Stanford Avenue/Cornell Avenue (Study Intersection 3)**

The alternate traffic route could potentially add 86 AM northbound trips and 77 PM eastbound trips onto the 131 AM northbound project trips and 109 PM eastbound project trips, estimated under original project conditions in Figure 13 of the Hexagon Traffic Report.

*Table 4*  
**Airport Road at Stanford Avenue/Cornell Avenue (Study Intersection 3)  
Original & Optional Project Traffic AM & PM Volumes**

<i>Airport Road at Stanford Avenue/Cornell Avenue</i>	<i>Original Project Traffic Volumes</i>			Additional Revised Project Trips	Optional Project Traffic Volume
	Trips	Worst Case LOS	Delay (in seconds)		
1. Stanford Avenue/Cornell Avenue to Airport Road – northbound (AM)	131	<i>B</i>	<i>10.7</i>	86	217
2. Airport Road at Stanford Avenue/Cornell Avenue – eastbound (PM)	109	<i>B</i>	<i>11.9</i>	77	186
Total	240			163	403

While the additional AM and PM trips are unlikely to increase the delays under LOS B shown in Table 4 to over 25 seconds<sup>4</sup> such that intersection LOS exceeds level “C”, there is a small potential for this to occur. This potential is reduced as traffic is more likely to disperse between Cornell Avenue and Harvard Avenue (drivers will shift their route to maintain the shortest delay), rather than concentrate on Cornell Avenue as originally analyzed in the DEIR. This is shown in Figure D of the Final EIR. In addition, implementation of Mitigation Measures TRANS-1 (requires traffic reports and implementation of recommendations such that LOS levels are maintained at “C” or better) and the proposed off-site parking agreement and shuttle to accommodate a minimum of 50 cars and their drivers, would further reduce the impact related to project peak-hour traffic volumes and intersection LOS to a less-than-significant level.

## **POTENTIAL CUMULATIVE IMPACT OF ALTERNATE TRAFFIC CIRCULATION**

In the Hexagon Traffic Report, 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.

## **CUMULATIVE BENEFITS OF REVISED TRAFFIC CIRCULATION**

<sup>4</sup> LOS C includes delays of 15.1 to 25 seconds for unsignalized intersections.

The alternate traffic circulation would prohibit access to or from the Office Park from Airport Street north of the project site and Cypress Avenue. Therefore, under "cumulative with project" conditions, intersection LOS for the following intersections would not be impacted or only minimally impacted by the project and would remain at "cumulative without project" levels, as shown in Table IV.M-11 of the DEIR:

- Cypress Avenue at Cabrillo Highway (Study Intersection 6)
- Airport Road at Los Banos Avenue (Study Intersection 5)
- Airport Road at La Granada Avenue (Study Intersection 4)

## **POTENTIAL CUMULATIVE IMPACTS OF ALTERNATE TRAFFIC CIRCULATION**

The following is an analysis of the anticipated impact of the alternate traffic circulation to "cumulative with project" intersection LOS levels as presented in the Hexagon Traffic Report:

### **E. CABRILLO HIGHWAY AT NORTH CAPISTRANO ROAD (STUDY INTERSECTION 8)**

The alternate route would add 86 AM westbound trips from Cabrillo Highway to North Capistrano Road and 77 PM eastbound trips from North Capistrano Road to Cabrillo Highway, where Figure 15 of the Hexagon Traffic Report estimates 36 AM westbound trips and 28 PM eastbound trips under original "cumulative with project" conditions.

<i>Table 5</i> <b>Cabrillo Highway at North Capistrano Road (Study Intersection 8) – Cumulative Traffic AM &amp; PM Volumes With Alternate Traffic Route</b>					
<i>Cabrillo Highway at North Capistrano Road</i>	<i>Cumulative With Original Project</i>			Additional Revised Project Trips	Cumulative with Optional Project Traffic Volume
	Trips	Worst Case LOS	Delay (in seconds)		
1. Cabrillo Highway to North Capistrano Road – westbound (AM)	36	<i>C</i>	<i>17.3</i>	86	122
2. North Capistrano Road to Cabrillo Highway – eastbound (PM)	28	<i>C</i>	<i>23.2</i>	77	105
Total	64			163	227

Under the alternate traffic route, there is a potential for both AM and PM intersection LOS to exceed level “C” under cumulative with project conditions. However, this potential is reduced due to the existing configuration of the intersection (left and right turn pockets, left turn and right turn merge lanes, and sight visibility for cars being detained at the signalized intersection of Capistrano South). Therefore, the alternate traffic route would not result in a potentially significant impact to intersection LOS. The implementation of Mitigation Measures TRANS-1 and proposed off-site parking agreement and shuttle to accommodate a minimum of 50 cars and their drivers would further reduce the project impact to cumulative intersection LOS to a less-than-significant level.

**F. PROSPECT WAY AT CAPISTRANO ROAD (STUDY INTERSECTION 1)**

Under original “cumulative with project” conditions, Figure 15 of the Hexagon Traffic Report estimates traffic between Prospect Way and South Capistrano Road at 279 AM westbound trips and 309 PM southbound trips. Between Prospect Way and North Capistrano Road, Figure 15 of the Hexagon Traffic Report estimates “cumulative with project” conditions at 35 AM westbound trips and 35 PM northbound trips. Intersection LOS under original “cumulative with project” conditions is at level “A” in the AM and level “B” in the PM. The revised route would add 86 AM westbound trips and 77 PM northbound project trips to project traffic conditions.

While AM intersection LOS is not likely to exceed level LOS “C” (as intersection LOS under original “cumulative with project” is estimated at level “A”), the revised traffic circulation may impact PM intersection LOS, currently at LOS



“B”. The additional PM trips from the alternate traffic route onto total cumulative project traffic volumes along Prospect Way (north and southbound) could cause intersection LOS to exceed level “C” (or 25 seconds of delay) in the PM. As illustrated in the table below, the additional 77 PM northbound trips would be added to the estimated 344 PM trips under project conditions for a total of 421 PM trips.

<i>Prospect &amp; Capistrano Intersection</i>	<i>Cumulative With Original Project</i>			Additional Revised Project Trips	Cumulative with Optional Project Traffic Volume
	Trips	Worst Case LOS	Delay (in seconds)		
1. North Capistrano Road to Prospect Way – Westbound (AM)	35	A	9.6	86	121
2. South Capistrano Road to Prospect Way – Westbound (AM)	279	A	9.6	--	279
AM Total	314			86	400
3. Prospect Way to North Capistrano Road – Northbound (PM)	35	B	11.9	77	112
4. Prospect Way to South Capistrano Road – Southbound (PM)	309	B	11.9	--	309
PM Total	344			77	421
Total	658			163	821

Implementation of Mitigation Measures TRANS-1 and proposed off-site parking agreement and shuttle to accommodate a minimum of 50 cars and their drivers would reduce project impact to cumulative PM intersection LOS to a less-than-significant level.

**G. PROSPECT WAY AT BROADWAY/CORNELL AVENUE (STUDY INTERSECTION 2)**

As illustrated in the table below, the addition of 86 AM trips to the 136 trips (LOS “B” with 12.8 seconds of delay) estimated under original “cumulative with project” conditions shown in Figure 15 of the Hexagon Traffic Report would result in a total of 222 AM trips. The alternate traffic route would result in the addition of 77 PM trips to the 200 trips (LOS “C” with 16 seconds of delay) estimated under original “cumulative with project” conditions, for a total of 277 PM trips.

<i>Prospect Way at Broadway/Cornell Avenue</i>	<i>Cumulative With Original Project</i>			Additional Revised Project Trips	Cumulative with Optional Project Traffic Volume
	Trips	Worst Case LOS	Delay (in seconds)		
1. Prospect Way to Broadway/Cornell Avenue – westbound (AM)	136	<i>B</i>	<i>12.8</i>	86	222
2. Broadway/Cornell Avenue to Prospect Way – eastbound (PM)	200	<i>C</i>	<i>16</i>	77	277
Total	336			163	499

While the additional 86 AM trips is unlikely to increase the delay from 12.8 to over 25 seconds<sup>5</sup> (an increase in of 12.3 seconds), there is the potential for intersection LOS to exceed level “C” in the PM at Broadway/Cornell Avenue. This potential is reduced, as traffic is more likely to disperse between Cornell Avenue and Harvard Avenue (drivers will shift their route to maintain the shortest delay), rather than concentrate on Cornell Avenue as originally analyzed in the DEIR. This is shown in Figure D of the Final EIR. In addition, implementation of Mitigation Measures TRANS-1 proposed off-site parking agreement and shuttle to accommodate a minimum of 50 cars and their drivers, would reduce project impact to cumulative peak-hour traffic volumes and intersection LOS to a less-than-significant level.

<sup>5</sup> LOS C includes delays of 15.1 to 25 seconds for unsignalized intersections.

**H. AIRPORT ROAD AT STANFORD AVENUE/CORNELL AVENUE  
(STUDY INTERSECTION 3)**

As illustrated in the table below, the alternate traffic route would result in an additional 86 AM trips onto the estimated 135 AM trips (LOS “B” with 11 seconds of delay) estimated under original “cumulative with project” conditions as shown in Figure 15 of the Hexagon Traffic Report, for a total of 221 AM trips. The alternate traffic route would result in an additional 77 PM trips onto the estimated 111 PM trips (LOS “B” with 11.9 seconds of delay) estimated under original “cumulative with project” conditions, for a total of 188 PM trips.

<i>Airport Road at Stanford Avenue/Cornell Avenue</i>	<i>Cumulative With Original Project</i>			Additional Revised Project Trips	Cumulative with Optional Project Traffic Volume
	Trips	Worst Case LOS	Delay (in seconds)		
1. Stanford Avenue/Cornell Avenue to Airport Road – northbound (AM)	135	<i>B</i>	<i>11</i>	86	221
2. Airport Road at Stanford Avenue/Cornell Avenue - eastbound (PM)	111	<i>B</i>	<i>11.9</i>	77	188
Total	246			163	409

While the additional AM and PM trips are unlikely to increase the delay to over 25 seconds, there is a small potential for AM and PM intersection LOS to exceed level “C”. This potential is reduced, as traffic is more likely to disperse between Cornell Avenue and Harvard Avenue (drivers will shift their route to maintain the shortest delay), rather than concentrate on Cornell Avenue as originally analyzed in the DEIR. In addition, implementation of Mitigation Measure TRANS-1 proposed off-site parking agreement and shuttle to accommodate a minimum of 50 cars and their drivers, would reduce project impact to cumulative peak-hour traffic volumes and intersection LOS to a less-than-significant level.

## **CONCLUSION**

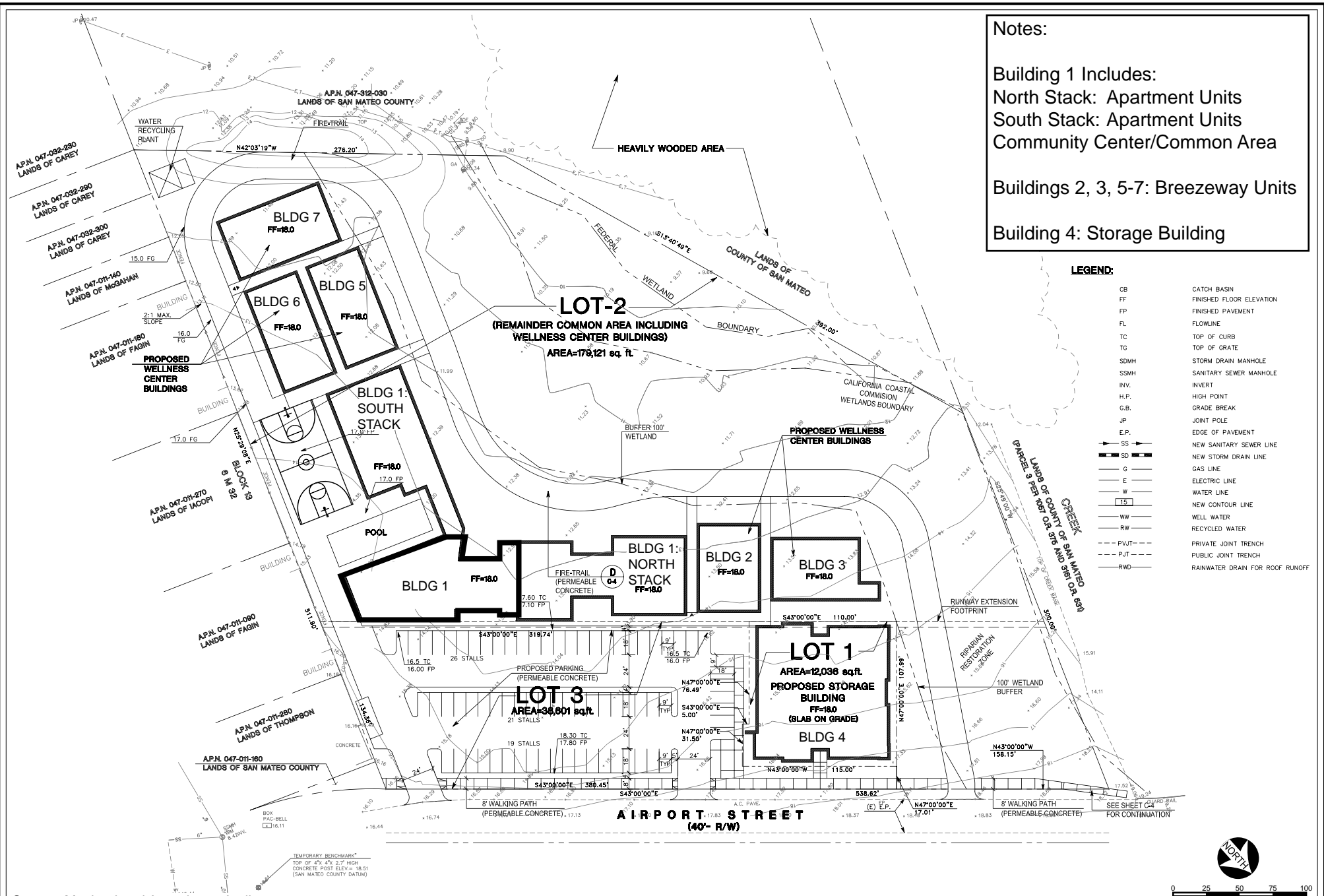
In summary, the alternate traffic route would result in reduced project impacts to local intersections which are largely residential, these being Cypress Avenue at Cabrillo Highway (Study Intersection 6), Airport Road at Los Banos Avenue (Study Intersection 5), and Airport Road at La Granada Avenue (Study Intersection 4), but may increase potential project impacts (under cumulative and non-cumulative scenarios) to non-residential intersections. Non-residential intersections potentially impacted by the revised traffic circulation are Cabrillo Highway at North Capistrano Road (Study Intersection 8), Prospect Way at Capistrano Road (Study Intersection 1), Prospect Way at Broadway/Cornell Avenue (Study Intersection 2), and Airport Road at Stanford Avenue/Cornell Avenue (Study Intersection 3). However, with implementation of Mitigation Measures TRANS-1, proposed off-site parking agreement and shuttle to accommodate a minimum of 50 cars and their drivers, and proposed improvements to Airport Street to prohibit project traffic north of the project site on Airport Street, intersection LOS for the above intersections would be maintained at a level of "C" or better under project and cumulative scenarios. Therefore, potential traffic impact of the alternate traffic route would be less-than-significant.

**Notes:**

Building 1 Includes:  
 North Stack: Apartment Units  
 South Stack: Apartment Units  
 Community Center/Common Area

Buildings 2, 3, 5-7: Breezeway Units

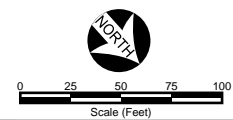
Building 4: Storage Building



**LEGEND:**

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

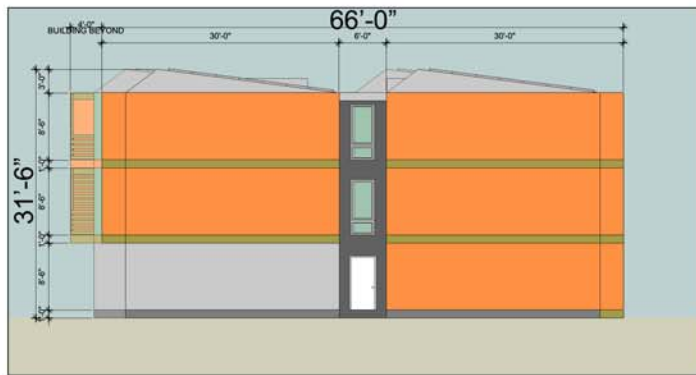
Source: Macleod and Associates, April 7, 2009.





NORTH STACK - SOUTHWEST ELEVATION

3



NORTH STACK - NORTHWEST ELEVATION

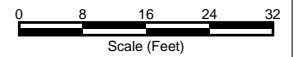
2



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.





NORTHEAST ELEVATION

③



SOUTH ELEVATION

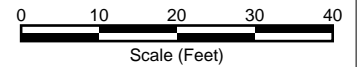
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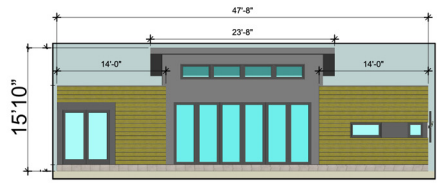
EAST ELEVATION

①

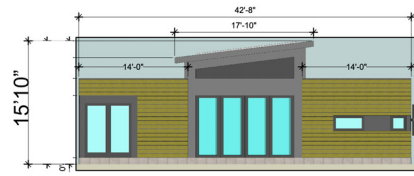
Source: Michelle Kaufman Designs, June 20, 2008.



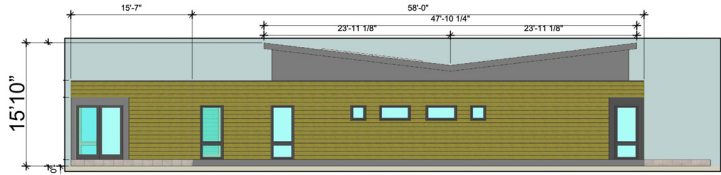




(A)



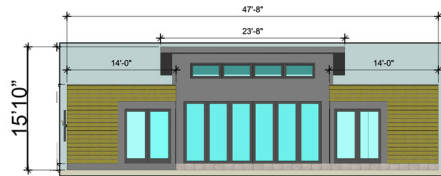
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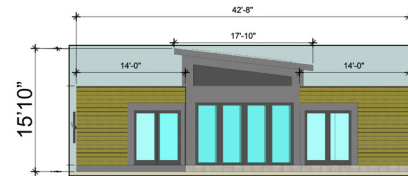
(B)



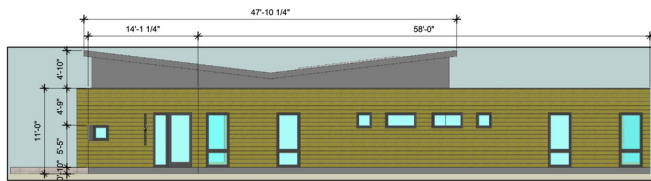
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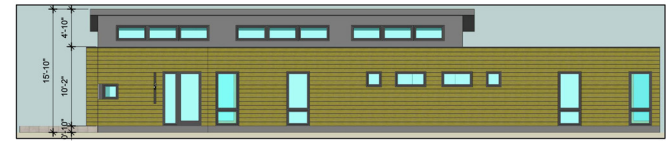
(C)



(C)



(D)

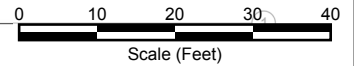


(D)

TYPICAL BREEZEWAY UNIT ELEVATIONS

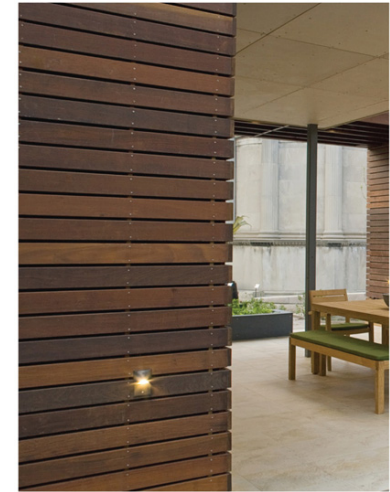
TYPICAL NARROW BREEZEWAY UNIT ELEVATIONS

Source: Michelle Kaufman Designs, June 20, 2008.





1. standing seam roofing



4. ipe

1. standing seam roofing



4. ipe



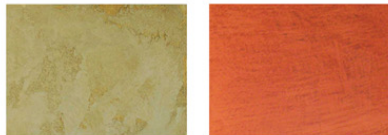
2. cedar siding



5. cement board



3. stucco



6. grasscrete



2. cedar siding



3. stucco



5. cement board

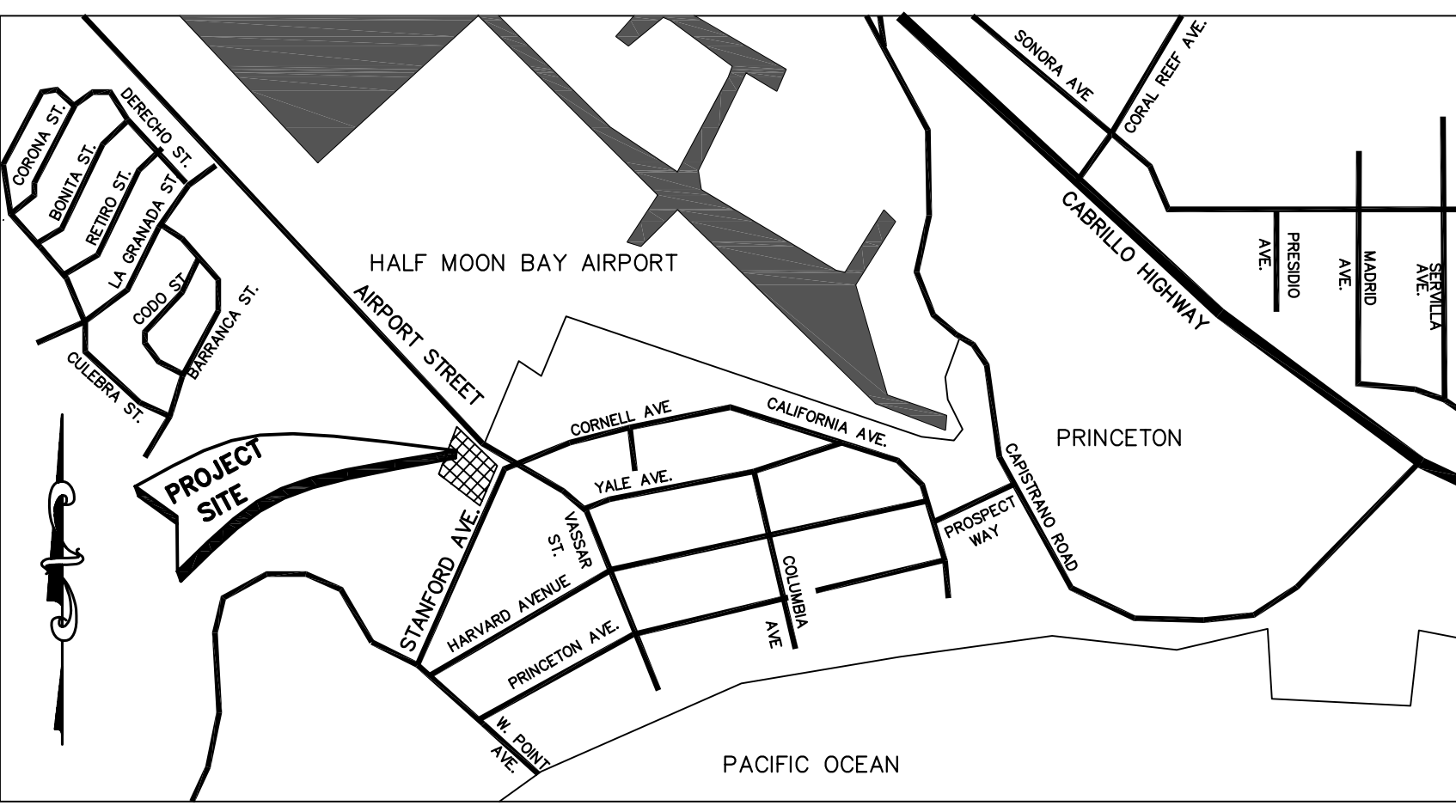
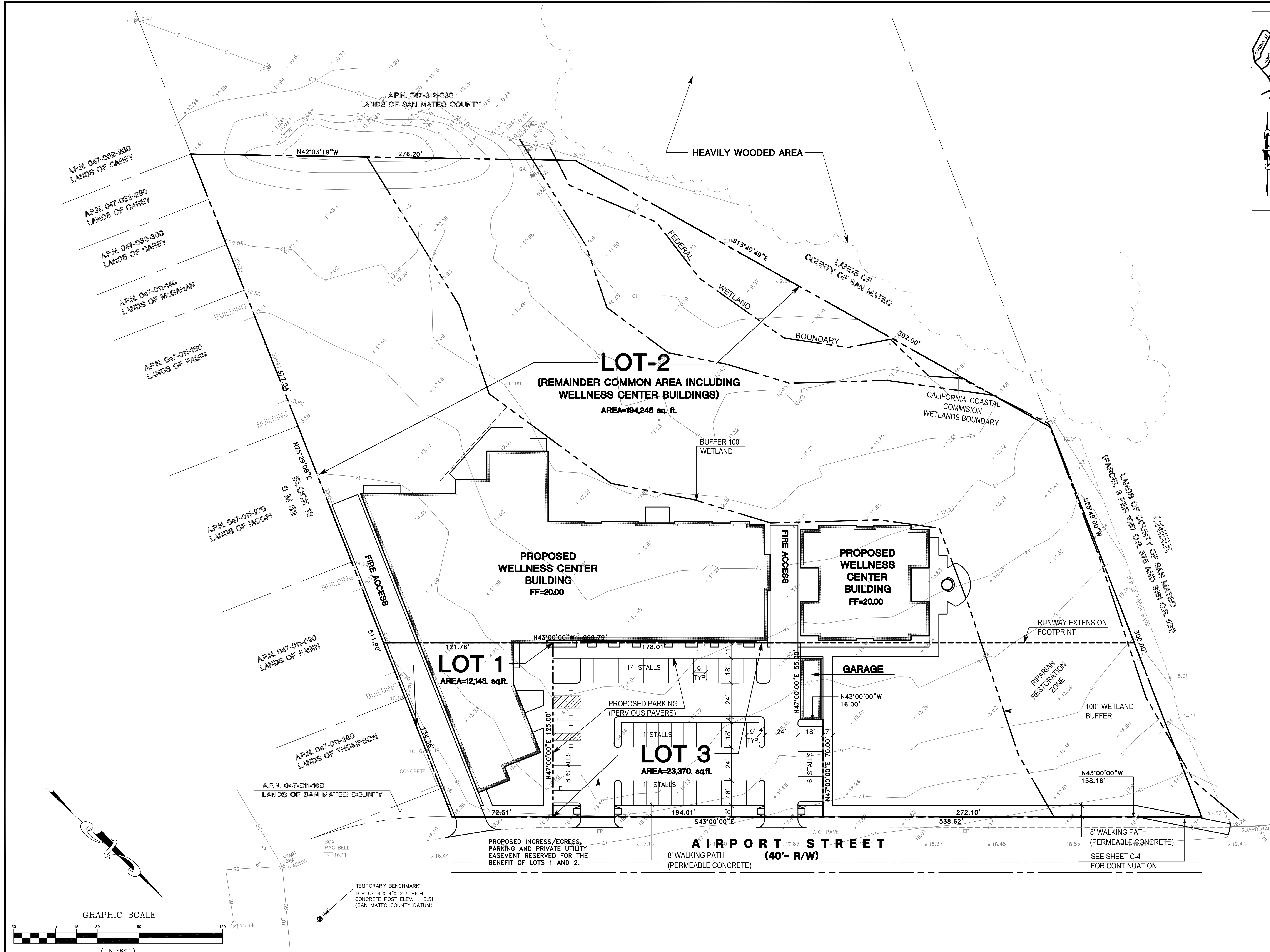


6. grasscrete

Source: Michelle Kaufman Designs, 2008.







**LOCATION MAP**  
SCALE: NOT TO SCALE

**RECORD OWNER AND SUBDIVIDER:**

BIG WAVE LLC  
P.O. BOX 700  
BELMONT CA. 94002

**LAND SURVEYOR AND CIVIL ENGINEER:**

MacLEOD & ASSOCIATES  
965 CENTER STREET  
SAN CARLOS, CA 94070  
(650) 593-8580

**ASSESSOR'S PARCEL NUMBER:**

047-312-040

**EXISTING ZONING:**

W/DR - LIGHT INDUSTRIAL WITH DESIGN REVIEW

**UTILITIES:**

GAS AND ELECTRICITY: PACIFIC GAS AND ELECTRIC COMPANY  
SANITARY SEWER: GRANADA SANITARY DISTRICT  
WATER: COASTSIDE WATER DISTRICT  
TELEPHONE: A.T. & T  
FIRE PROTECTION: HALF MOON BAY

**FLOOD ZONE:**

" C "

**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	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 POLE
E.P.	EDGE OF PAVEMENT
SS	NEW SANITARY SEWER LINE
SD	NEW STORM DRAIN LINE
G	GAS LINE
E	ELECTRIC LINE
W	WATER LINE
TS	NEW CONTOUR LINE
WW	WELL WATER
RW	RECYCLED WATER
PVJT	PRIVATE JOINT TRENCH
PJT	PUBLIC JOINT TRENCH
RWD	RAINWATER DRAIN FOR ROOF RUNOFF

**PARKING NOTE:**

TYPICAL PARKING STALL DIMENSIONS = 9' X 18'

**TREE NOTE:**

THERE ARE NO EXISTING TREES ON THE SUBJECT PROPERTY.

**EASEMENT NOTE:**

PRIVATE UTILITY EASEMENTS WILL BE RESERVED OVER EACH PARCEL FOR THE BENEFIT OF THE OTHER PARCELS, WHERE APPROPRIATE. THE DELINEATION OF THOSE EASEMENTS IS NOT SHOWN ON THESE PLANS, BUT WILL BE CONFIGURED AND DELINEATED DURING THE BUILDING PERMIT PROCESS.

NO.	REVISION	DATE

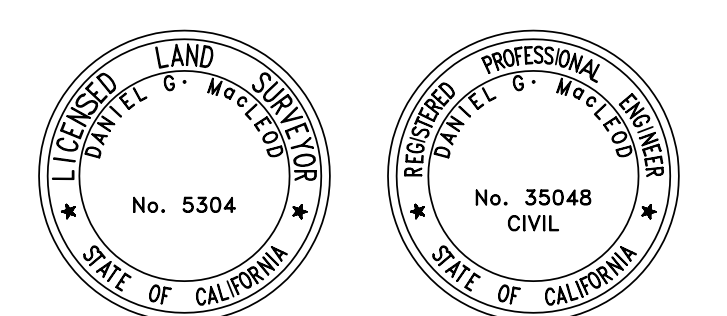
**MACLEOD AND ASSOCIATES**  
CIVIL ENGINEERING • LAND SURVEYING  
965 CENTER STREET • SAN CARLOS • CA 94070 • (650) 593-8580

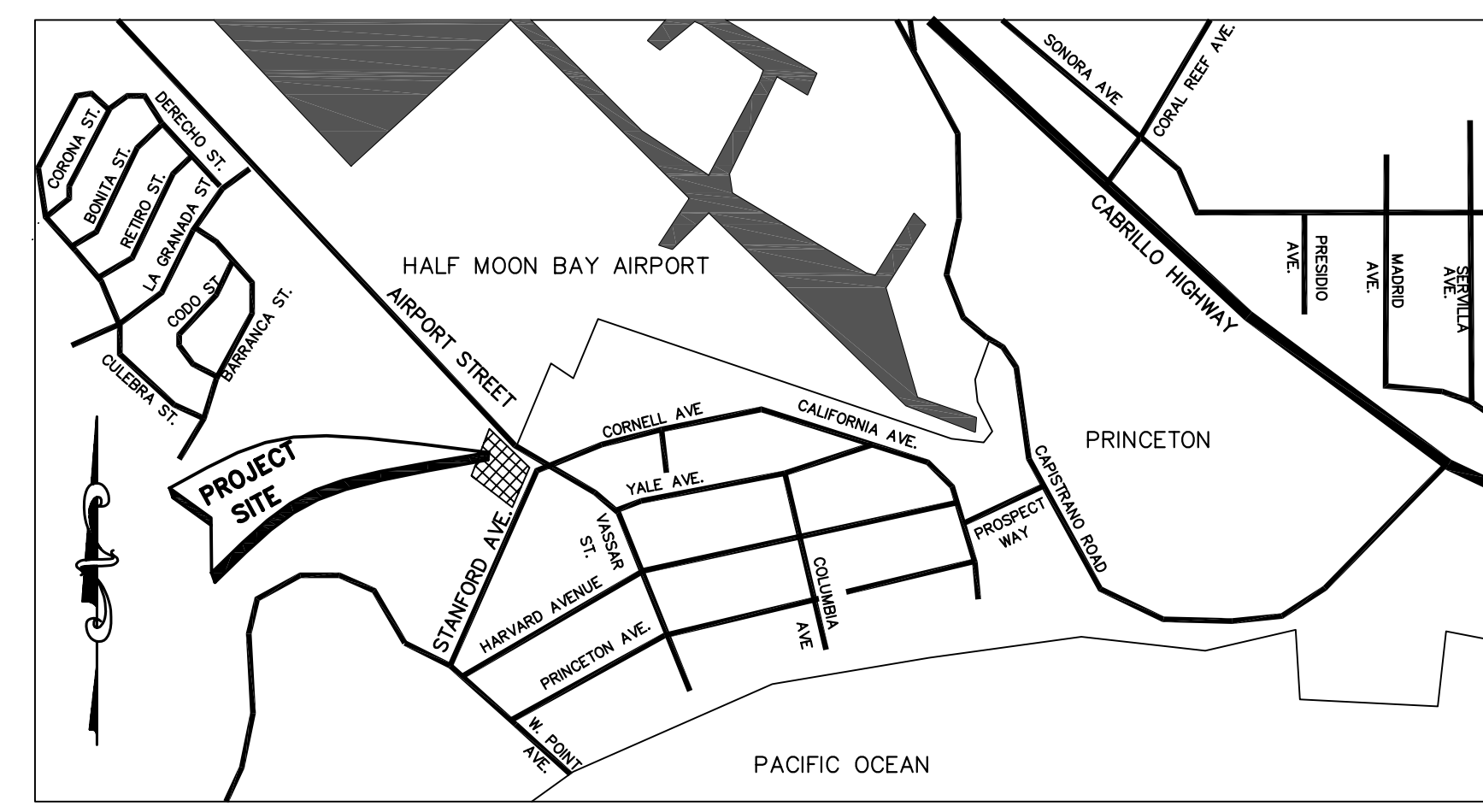
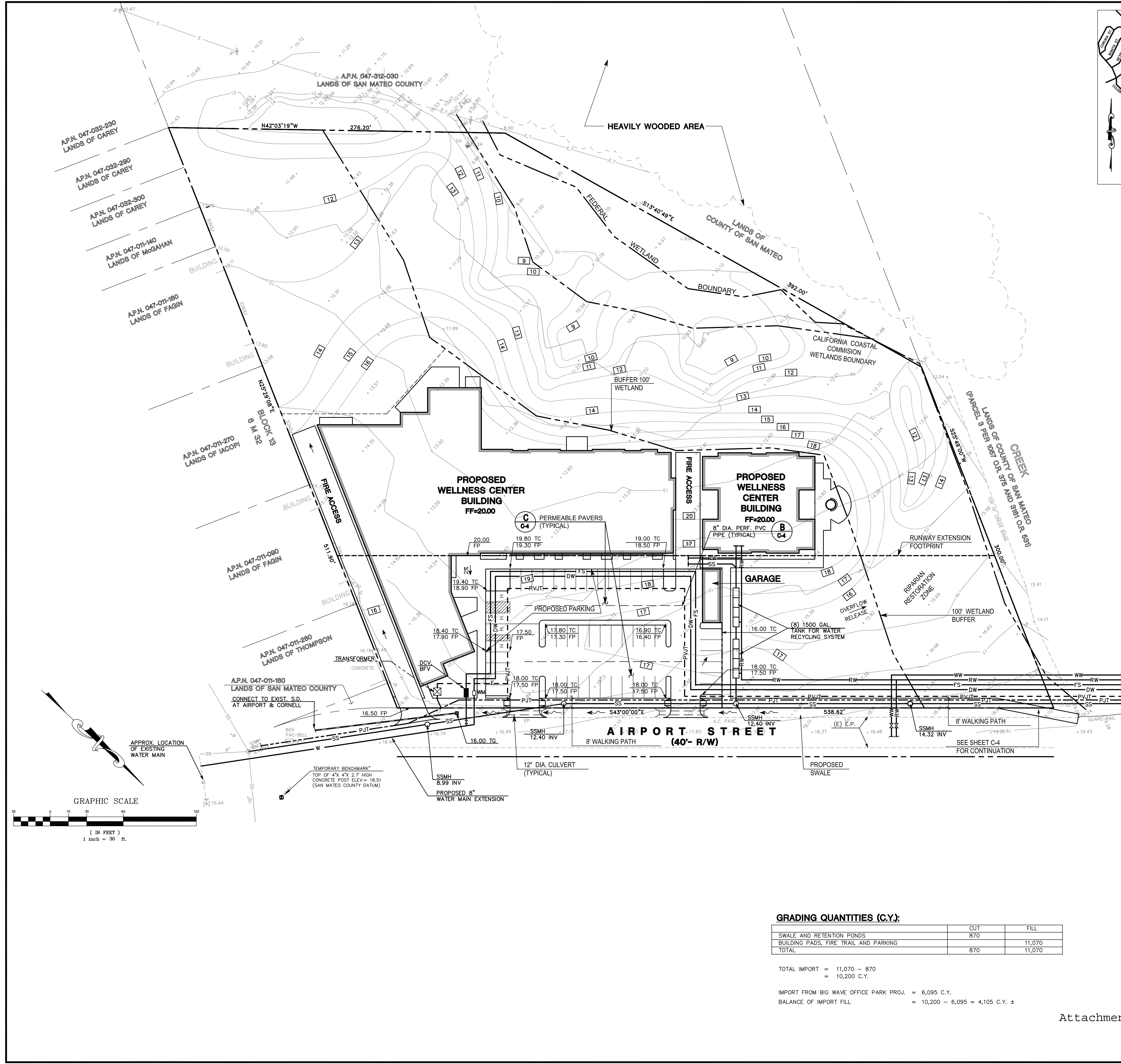
PREPARED FOR:  
BIG WAVE LLC

VESTING TENTATIVE PARCEL MAP  
BEING A SUBDIVISION OF A.P.N. 047-312-040  
BIG WAVE WELLNESS CENTER  
AIRPORT STREET  
SAN MATEO COUNTY  
CALIFORNIA

PRINCETON BY THE SEA

DRAWN BY:	AAP
DESIGNED BY:	VPG
CHECKED BY:	DGM
SCALE:	1" = 30'
DATE:	05/17/10
DRAWING NO.:	1584-00
SHEET:	C-1





**LOCATION MAP**  
SCALE: NOT TO SCALE

**GENERAL NOTES:**

- ELEVATIONS AND LOCATIONS OF ALL UTILITY CROSSINGS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF ANY CONSTRUCTION AFFECTING SAID LINES. CONTACT USA AT (800) 642-2444 AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATION.
- ALL APPLICABLE WORK SHALL BE DONE IN ACCORDANCE WITH THE COUNTY OF SAN MATEO STANDARD TECHNICAL SPECIFICATIONS AND DETAILS, PREPARED IN THE OFFICE OF THE ENGINEERING DIVISION, INCLUDING MODIFICATIONS CONTAINED HEREIN.
- THE CONTRACTOR SHALL RESTORE ALL DAMAGED, REMOVED OR OTHERWISE DISTURBED WALLS, FENCES, SERVICES, UTILITIES, IMPROVEMENTS OR FEATURES OF WHATEVER NATURE, DUE TO CONTRACTORS WORK.
- THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE INSTALLATION OF FACILITIES BY PG&E, PACIFIC BELL, AND CABLE TV INSTALLATION. VALVE BOXES AND STRUCTURES TO BE SET TO GRADE IN CONCRETE AFTER PAVING.
- THE CONTRACTOR SHALL GIVE THE COUNTY ENGINEER AT LEAST TWO WORKING DAYS ADVANCE NOTICE FOR INSPECTION. (650) 363-4100.
- FOR LANE CLOSURES, THE CONTRACTOR SHALL PREPARE A TRAFFIC CONTROL PLAN AND SHALL OBTAIN APPROVAL OF THE COUNTY ENGINEER BEFORE COMMENCING WORK. THE CONTRACTOR SHALL PROVIDE FLAGMEN, CONES AND BARRICADES, AS NECESSARY TO CONTROL TRAFFIC AND PREVENT HAZARDOUS CONDITIONS.
- PEDESTRIAN AND PUBLIC ACCESSES SHALL BE MAINTAINED DURING CONSTRUCTION TO THE SATISFACTION OF THE COUNTY ENGINEER.
- NO TRENCHES OR HOLES SHALL BE LEFT OPEN OVERNIGHT; USE STEEL PLATING OR HOT MIX ASPHALT AS REQUIRED TO PROTECT OPEN TRENCHES OVERNIGHT.
- THE CONTRACTOR SHALL CONTROL DUST AT ALL TIMES AND SWEEP STREETS AS OFTEN AS NECESSARY DURING CONSTRUCTION AS REQUIRED BY THE COUNTY ENGINEER.
- THE GEOTECHNICAL REPORT PREPARED BY BAY AREA GEOTECHNICAL GROUP, PROJECT NO. BIGWA-01-00, DATED MAY 7, 2002 SHALL BE MADE A PART OF THIS PLAN.

**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.

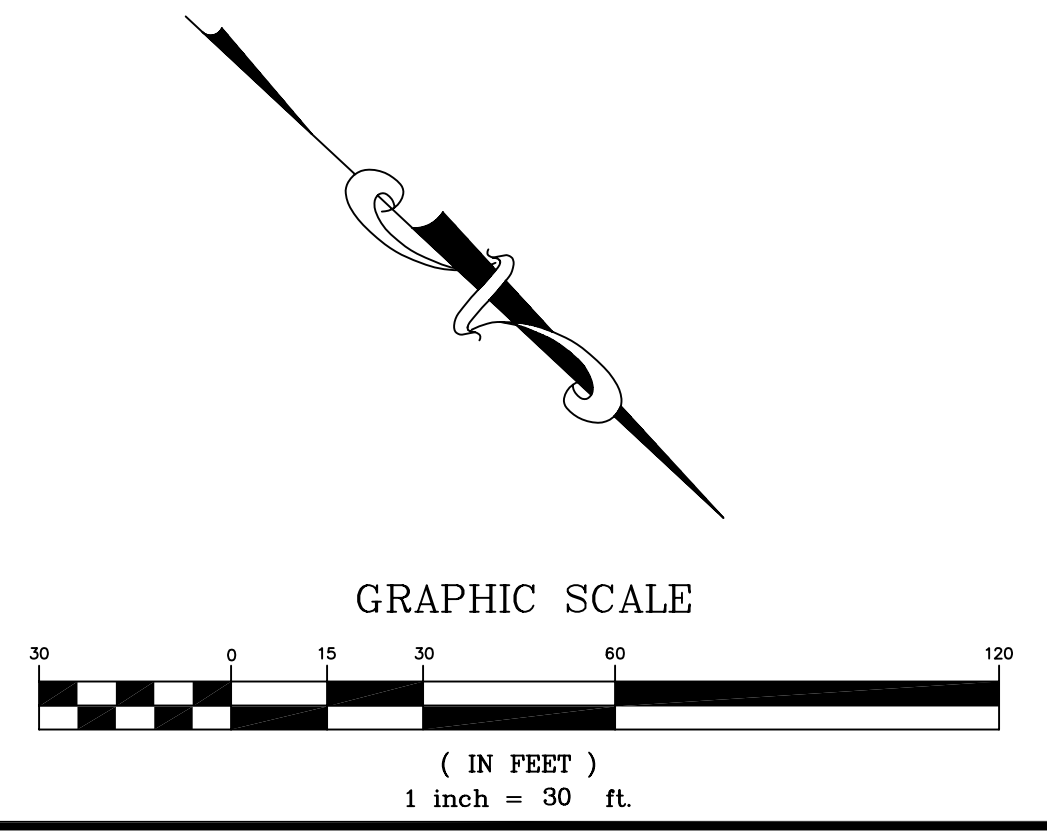
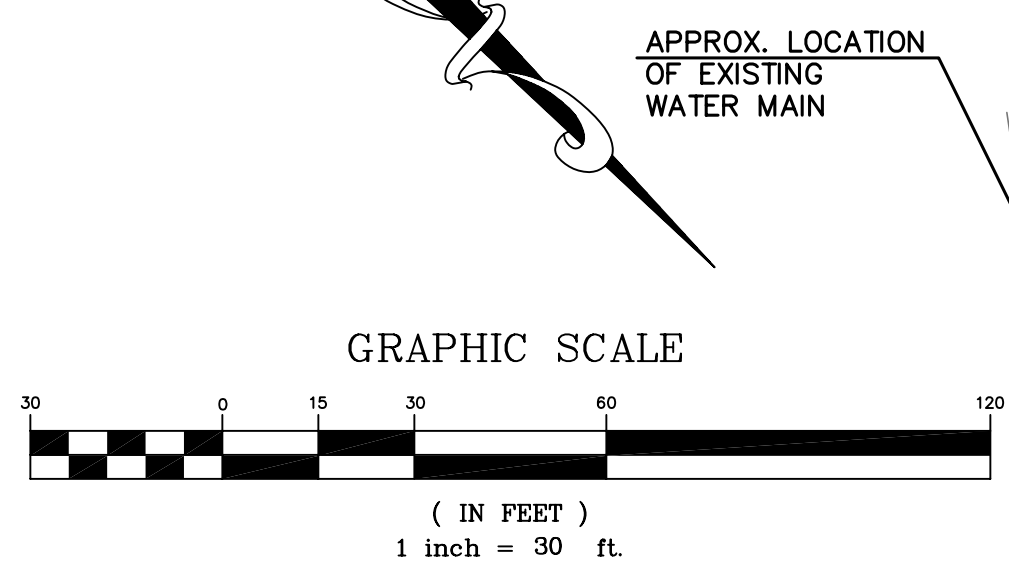
**LEGEND:**

CB	CATCH BASIN
FF	FINISHED FLOOR ELEVATION
FP	FINISHED PAVEMENT
FL	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 POLE
G.V.	GATE VALVE
SS	NEW SANITARY SEWER LINE
SD	NEW STORM DRAIN LINE
G	GAS LINE
E	ELECTRIC LINE
W	WATER LINE
15	NEW CONTOUR LINE
WW	WELL WATER
RW	RECYCLED WATER
---	PRIVATE JOINT TRENCH
-PJT-	PUBLIC JOINT TRENCH
RWD	RAINWATER DRAIN FOR ROOF RUNOFF

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

	CUT	FILL
SWALE AND RETENTION PONDS	870	
BUILDING PADS, FIRE TRAIL AND PARKING		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. ±



DATE: \_\_\_\_\_  
BY: \_\_\_\_\_

RECORDED  
No. 35048  
CIVIL  
DATE OF CALIFORNIA

**MACLEOD AND ASSOCIATES**  
CIVIL ENGINEERING • LAND SURVEYING  
965 CENTER STREET • SAN CARLOS, CA 94070 • (650) 593-8580

PREPARED FOR:  
BIG WAVE LLC

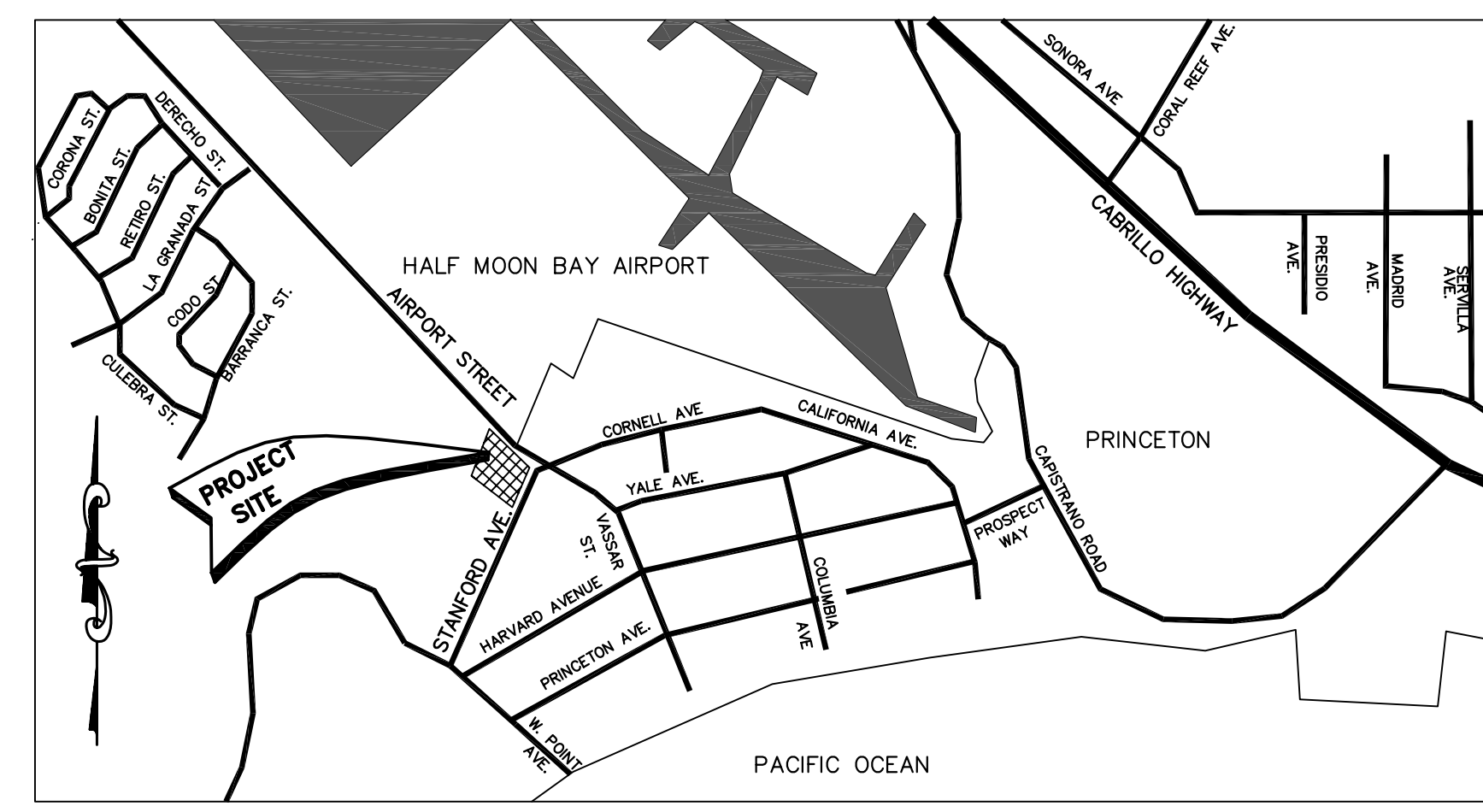
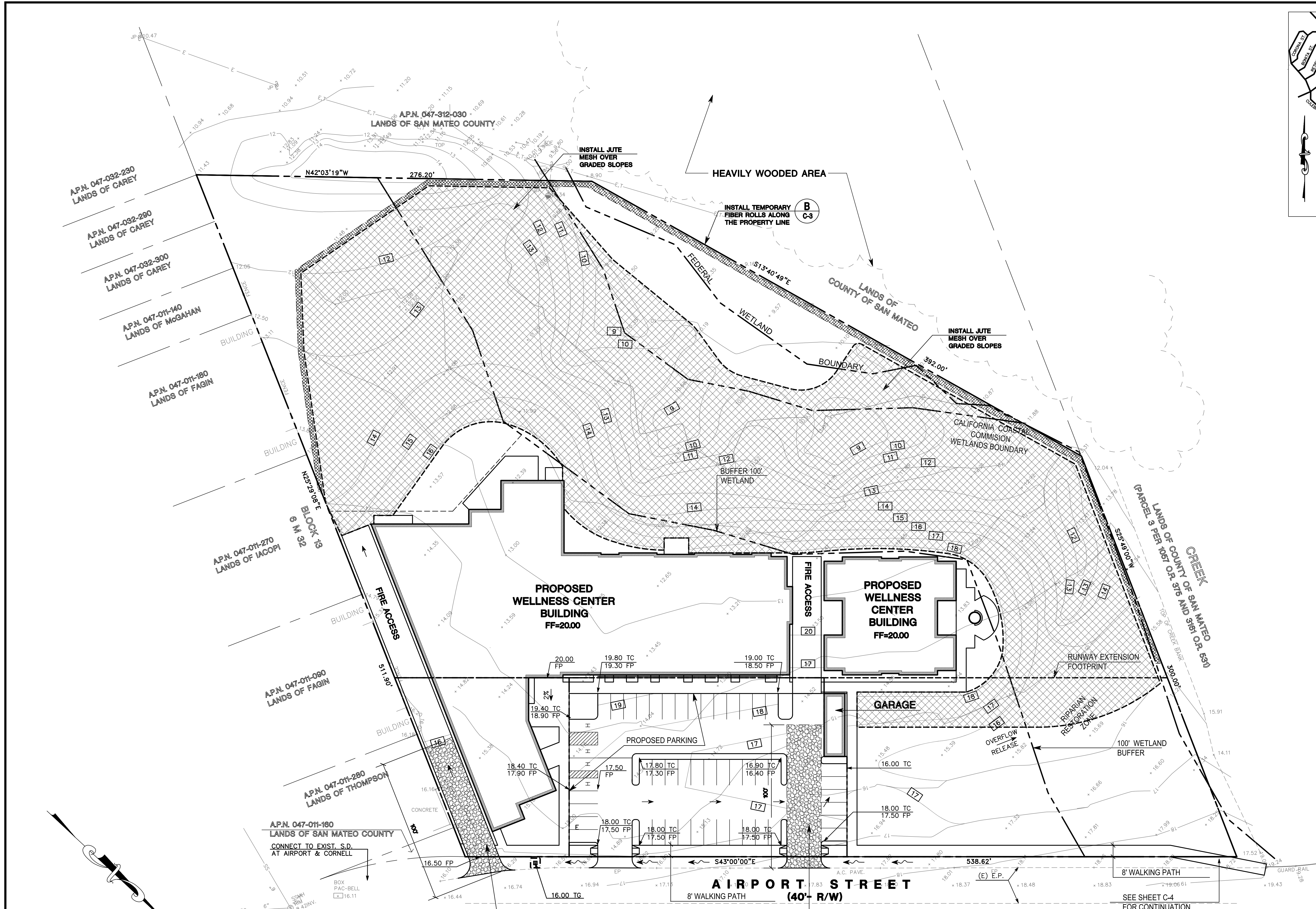
CALIFORNIA

PRELIMINARY GRADING / DRAINAGE & UTILITY PLAN WITH  
PERMANENT STORM WATER CONTROLS  
BIG WAVE WELLNESS CENTER  
AIRPORT STREET  
SAN MATEO COUNTY

DRAWN BY: AAP  
DESIGNED BY: VPG  
CHECKED BY: DGM  
SCALE: 1" = 30'  
DATE: 05/17/10  
DRAWING NO.: 1584-00  
SHEET **C-2**

PRINCETON BY THE SEA





**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
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G.B.	GRADE BREAK
JP	JOINT POLE
G.V.	GATE VALVE
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

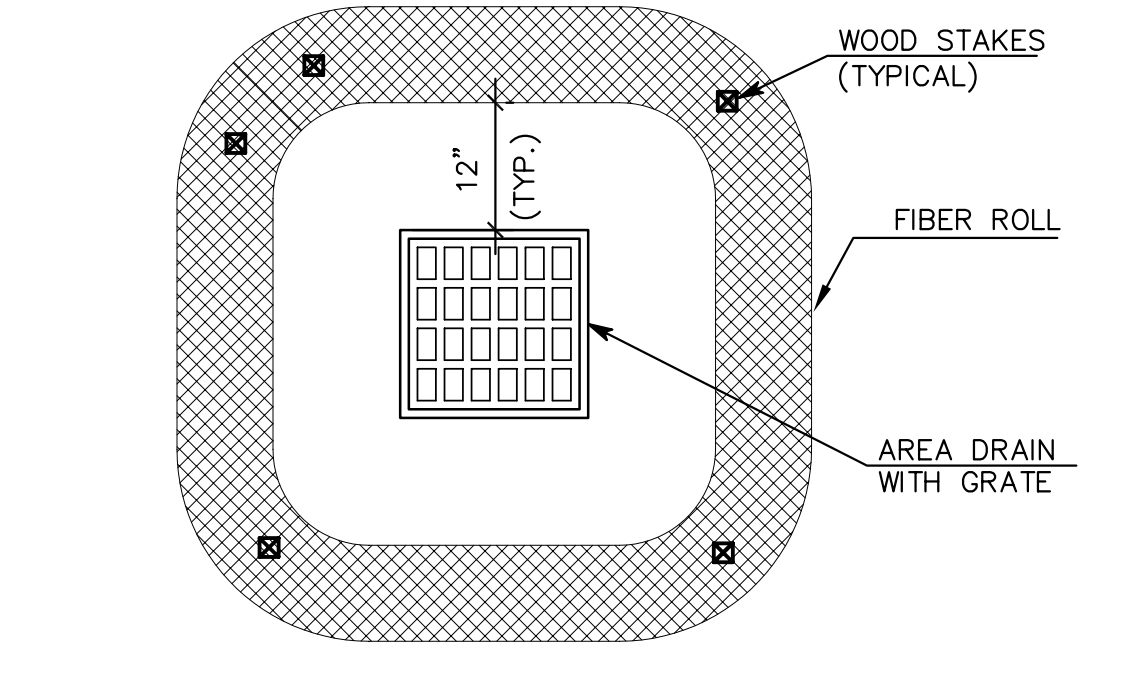
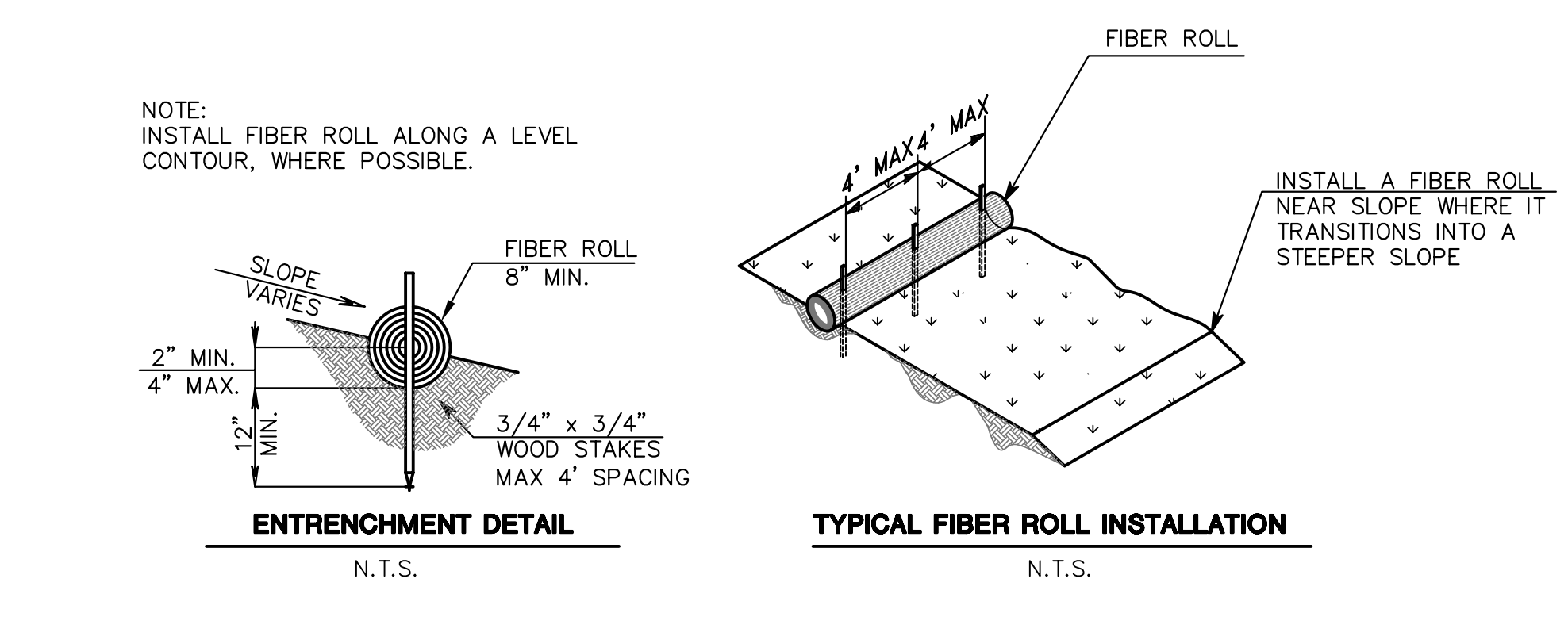
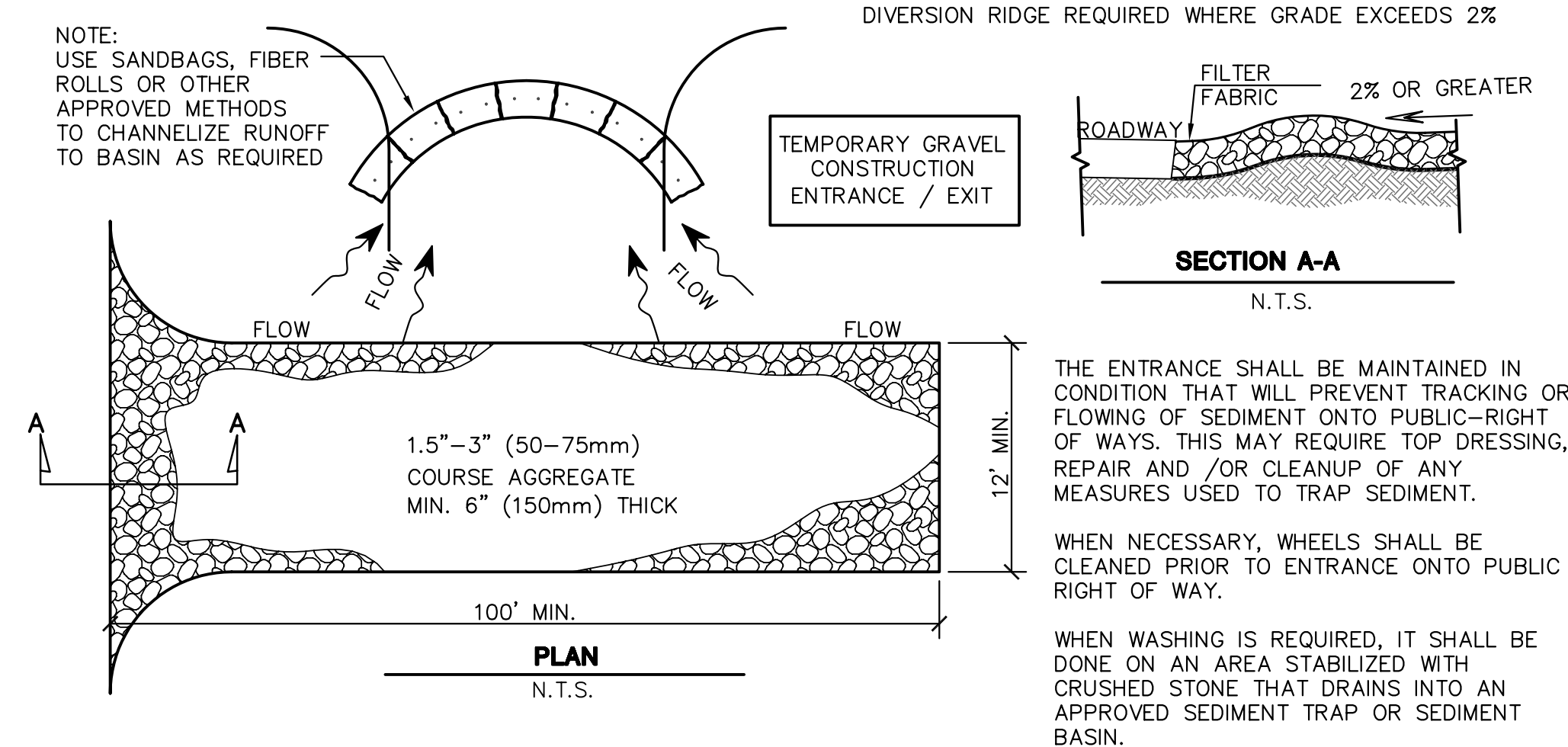
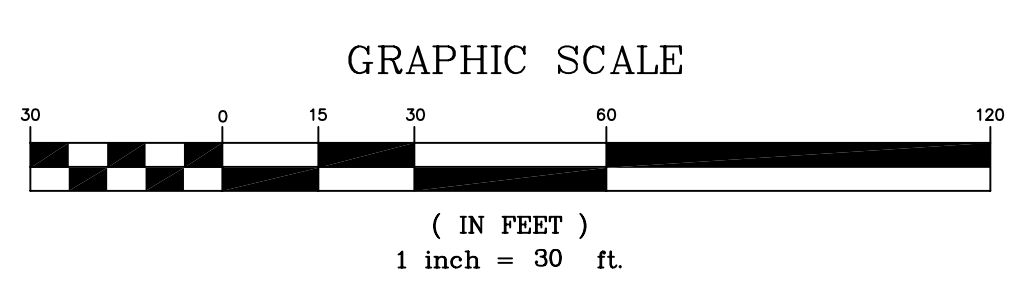
- GENERAL EROSION CONTROL NOTES:**
- THE INTENT OF THE EROSION CONTROL PLAN IS TO MINIMIZE ANY WATER QUALITY IMPACTS IN THE FORM OF SEDIMENT POLLUTION TO MAIN CREEK & TRIBUTARIES.
  - A CONSTRUCTION ENTRANCE WILL BE INSTALLED PRIOR TO START OF GRADING. LOCATION OF THE ENTRANCE MAY BE ADJUSTED BY THE CONTRACTOR TO FACILITATE GRADING OPERATIONS. ALL CONSTRUCTION TRAFFIC ENTERING THE PAVED ROAD MUST CROSS THE CONSTRUCTION ENTRANCE. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITION DEMAND, AND REPAIR OF ANY MEASURES USED TO TRAP SEDIMENTS.
  - WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE THROUGH THE USE OF SAND BAGS, GRAVEL BOARDS OR OTHER APPROVED METHODS.
  - THE EROSION AND SEDIMENT CONTROL MEASURES WILL BE OPERABLE DURING THE RAINY SEASON, OCTOBER 1 TO APRIL 15. BY OCTOBER 1, GRADING AND INSTALLATION OF STORM DRAINAGE AND EROSION AND SEDIMENT CONTROL FACILITIES WILL BE COMPLETED. NO GRADING WILL OCCUR BETWEEN OCTOBER 1 AND APRIL 15 UNLESS AUTHORIZED BY THE COUNTY REPRESENTATIVE.
  - DURING THE RAINY SEASON, ALL PAVED AREAS WILL BE KEPT CLEAR OF EARTH MATERIAL AND DEBRIS. THE SITE WILL BE MAINTAINED SO THAT A MINIMUM OF SEDIMENT-LADEN RUNOFF ENTERS THE STORM DRAINAGE SYSTEM.
  - ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL FIELD MANUAL OF THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, 4TH EDITION, DATED AUGUST 2002, OR LATER EDITION.

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**DUST CONTROL NOTE:**

- THE CONTRACTOR SHALL CONTROL DUST AT ALL TIMES AND SWEEP STREETS AS OFTEN AS NECESSARY DURING CONSTRUCTION AS REQUIRED BY THE COUNTY INSPECTOR.
- DURING WINDY CONDITIONS, EXPOSED SOIL SURFACES SHALL BE MOISTENED PERIODICALLY WITH ADEQUATE WATER TO CONTROL DUST.
- KEEP PAVED AREAS CLEAN OF SOIL IN CONJUNCTION WITH EROSION CONTROL MEASURES.



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STATE OF CALIFORNIA

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PREPARED FOR:  
BIG WAVE LLC

EROSION / SEDIMENTATION CONTROL AND DUST CONTROL PLAN

BIG WAVE WELLNESS CENTER  
AIRPORT STREET  
SAN MATEO COUNTY  
CALIFORNIA

DRAWN BY: AAP  
DESIGNED BY: VPG  
CHECKED BY: DGM  
SCALE: 1" = 30'  
DATE: 05/17/10  
DRAWING NO: 1584-00  
SHEET C-3

Figure J of the FEIR







*Draft (90%) Basis of Design Report*

**Riparian & Waters/Wetlands  
Ecosystem Restoration for  
Big Wave Wellness Center and Office Park  
San Mateo County, California**



**August 4, 2008**

*Prepared for:*



**Big Wave LLC**  
1333 Jones Street  
Suite 307  
San Francisco, CA 94109

*Prepared by:*



**Ecosystem Science & Natural Resources  
Management Services**  
160 Franklin Street, Suite 300  
Oakland, CA 94607

## DISCLAIMER

WSP Environment & Energy has prepared this basis of design report for use by Big Wave LLC. Waters of the U.S., including wetlands (waters/wetlands) boundaries presented in this report are described in a previous report by WSP (2008a). These waters/wetlands boundaries have been approved by the U.S. Army Corps of Engineers, San Francisco District (File No. 2008-001025; Regulatory Division, U.S. Army Corps of Engineers, San Francisco District, June 5, 2008). Wetland boundaries under California Coastal Commission jurisdiction have not received formal approval.

*Lyndon C. Lee*

**August 4, 2008**

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Lyndon C. Lee, Ph.D.

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Date

*Principal Ecologist & Vice President*

*Ecosystem Science and Natural Resources Management Services*

*WSP Environment and Energy*



# TABLE OF CONTENTS

<b>I. INTRODUCTION</b> .....	<b>1</b>
A. PROJECT SITE .....	1
B. EXISTING CONDITIONS AT THE BIG WAVE PROJECT SITE.....	2
1. <i>Soils and Geomorphic Context</i> .....	2
2. <i>Climate</i> .....	2
3. <i>Hydrology</i> .....	2
4. <i>Plant Communities</i> .....	2
5. <i>Protected Species</i> .....	3
6. <i>Extent of Jurisdictional Waters/Wetlands and their Buffers</i> .....	3
<b>II. OBJECTIVES</b> .....	<b>4</b>
<b>III. DRAFT (90%) RIVERINE WETLAND ECOSYSTEM DESIGN</b> .....	<b>5</b>
A. GUIDING PRINCIPLES.....	5
B. U.S. ARMY CORPS AND EPA GUIDANCE ON WETLANDS COMPENSATORY MITIGATION.....	5
C. GENERAL DESCRIPTION AND DESIGN RATIONALE.....	5
1. <i>Earthwork</i> .....	6
2. <i>Installation of large wood and log structures</i> .....	7
3. <i>Planting and Irrigation</i> .....	7
4. <i>Weed Management Strategy</i> .....	7
5. <i>Maintenance, Monitoring and Adaptive Management</i> .....	8
D. CONSTRUCTION SEQUENCING .....	8
1. <i>Earthwork (mass and finish grading)</i> .....	8
2. <i>Log Structures</i> .....	8
3. <i>Planting and Irrigation</i> .....	8
4. <i>Weed Control</i> .....	9
5. <i>Monitoring Maintenance and Adaptive Management</i> .....	9
E. SEDIMENT AND EROSION CONTROL.....	9
F. PROPOSED DESIGN SUCCESS CRITERIA .....	10
1. <i>Hydrologic Functions</i> .....	11
2. <i>Biogeochemical Functions</i> .....	12
3. <i>Plant Functions</i> .....	13
4. <i>Faunal Support Habitat Functions</i> .....	13
<b>VII. BEST MANAGEMENT PRACTICES FOR STORMWATER TREATMENT</b> .....	<b>15</b>
<b>VIII. CONCLUSIONS</b> .....	<b>16</b>
<b>IX. BIBLIOGRAPHY</b> .....	<b>17</b>

**LIST OF FIGURES**

- Figure 1. Regional Project Site overview
- Figure 2. Big Wave Project Site location
- Figure 3. Geographic extent of waters of the U.S., including wetlands
- Figure 4. Draft planting plan for Big Wave Wellness Center
- Figure 5. Draft planting plan for Big Wave Office Park
- Figure 6. Restoration plant take-offs
- Figure 7. Plant community development of restoration plantings
- Figure 8. Large storm water basin (rain garden) typical
- Figure 9. Small storm water basin (rain garden) typical
- Figure 10. Stormwater swale typical
- Figure 11. Large wood installation typical

## ***EXECUTIVE SUMMARY***

The Big Wave Wellness Center and Office Park Project (hereafter, “Project”) consists of the construction of a residential village and an adjacent commercial property/office park complex. The residential village is designed to provide affordable housing and independent living for a developmentally disabled community, and the office park is designed similarly to provide a state-of-the-art “green”, LEED-certified working environment. The primary objective of the project is to construct innovative living and work environments that foster independent and meaningful living/work experiences for disabled young adults. The proposed Project also includes restoration of the waters of the U.S., including wetlands (*i.e.*, waters/wetlands) and California Coastal Commission (state) wetlands on the property that are currently used in agricultural production.

This basis of design report outlines a restoration plan for the riparian/wetland ecosystem that encompasses the federal and state waters/wetlands and their buffer that lie within the project area. This 90% restoration design describes a suite of activities that would increase waters/wetlands ecosystem functions, and to develop a native, diverse, and aesthetically pleasing landscape. Best management practices for stormwater treatment are designed to incorporate retention/detention microdepressions (rain gardens) and swales planted with native species.

The riparian/wetland ecosystem restoration plan includes five elements:

1. Earthwork, including mass and fine grading,
2. Installation of large wood,
3. Planting and irrigation,
4. Weed management, and
5. Monitoring and adaptive management.

The riparian/wetland ecosystem restoration design integrates the built environment with natural communities through utilization of native species for landscaping, locally adapted plant stock, and when possible, use of propagules obtained from the Project Site and adjacent landscape. Additionally, the Project design encourages community involvement by offering educational opportunities for village residents in the restoration process as well as via an informal foot path within the restored buffer. If implemented as designed, the riparian/wetland ecosystem will result an increase in the hydrologic, biogeochemical, native plant community, and faunal support/habitat functions of the currently farmed wetlands. A monitoring and adaptive management program will be implemented to ensure success of the restoration efforts.

## ***I. INTRODUCTION***

The Big Wave Wellness Center and Office Park Project (hereafter, “Project”) consists of the construction of a residential village and an adjacent commercial property/office park complex. The residential village is designed to provide affordable housing and independent living for a developmentally disabled community, and the office park is designed similarly to provide a state-of-the-art “green”, LEED-certified working environment. The primary objective of the project is to construct innovative living and work environments that foster independent and meaningful living/work experiences for disabled young adults.

The proposed Project also incorporates a restoration plan for the riparian/wetland ecosystem which for the purposes of this project includes (a) the waters of the U.S., including wetlands (hereafter, waters/wetlands), (b) California Coastal Commission (state) wetlands, and (c) a 100 foot wide buffer around these waters/wetlands. The majority of all three areas is currently are used in agricultural production. For the purposes of this Project, a “riparian/wetland ecosystem” is defined as upland, transitional, and waters/wetland habitats, all of which will be restored in a complex mosaic within a 100 ft buffer adjacent to existing federal and state waters/wetlands. Restoration of the buffer will provide significant benefits to waters/wetlands ecosystem functions, relative to existing conditions, particularly with respect to the native plant and animal communities. Of particular importance is the restoration of potential breeding habitat for the California red-legged frog (*Rana aurora draytonii*) and potential foraging habitat for the San Francisco garter snake (*Thamnophis sirtalis tetrataenia*). The restoration design integrates the built environment with natural communities through utilization of native species for landscaping, locally adapted plant stock, and when possible, use of propagules obtained from the Project Site and adjacent landscape. Additionally, the Project design encourages community involvement by offering educational opportunities for village residents in the restoration process as well as via an informal foot path within the restored buffer.

### ***A. Project Site***

The Big Wave Project Site (hereafter, “Project Site”) is located in unincorporated San Mateo County, adjacent to Princeton-by-the-Sea, California (Figure 1). The Project Site consists of two agricultural fields totaling 19.5 ac. These fields are separated by a small, county-owned, unnamed intermittent stream that is an extension of San Mateo County’s Pillar Point Marsh. As such, it drains directly to the Pacific Ocean, entering the Pacific Ocean via Pillar Point Harbor immediately north of the mouth of Denniston Creek.

The Project Site is bordered to the northeast by the Half Moon Bay Municipal Airport (Figure 2) and to the south by Pillar Point Marsh, a nature reserve that is part of the County of San Mateo Fitzgerald Marine Reserve complex managed by the County’s Parks and Recreation Division. A public trailer park is immediately north of the Project Site along Airport Road. Elevations at the Project Site range from 9.0 to 27.7 feet NGVD, although the agricultural fields are generally flat but slope gently to the south and west.

## ***B. Existing Conditions at the Big Wave Project Site***

### 1. Soils and Geomorphic Context

The Project Site is situated on the uplifted Half Moon Bay marine terrace formation within a partially filled coastal basin. The coastal basin consists of Pleistocene coarse-grained, alluvial fan and stream terrace deposits. Underlying sediments include poorly consolidated sand, gravel, and silt comprising the headward-most extent of old alluvial fans (Brabb and Pampeyan 1983). Montara Mountain, a northern spur of the Santa Cruz Mountain sequence of the Outer Coast Ranges, separates this low-lying coastal area from San Francisco Bay to the north and east.

Soils within the Project Site are mapped by the Natural Resources Conservation Service (NRCS, formerly U.S. Department of Agriculture Soil Conservation Service) as Denison clay loam on nearly level slopes (DcA) and Denison clay loam on nearly level slopes that are imperfectly drained (DdA) (NRCS 1961). These soils are derived from granitic alluvium, and have formed on low coastal terraces under the influence of herbaceous vegetation (grass). Denison clay loam soils occur on 0 to 2 percent slopes and the mapping unit has approximately 1 percent hydric inclusions, which typically are found in depressions across the mapping unit. Denison clay loam soils are generally highly fertile. Overall, Denison soils are classified as fine, smectitic (*i.e.*, clay derived from the alteration of the minute glass in volcanic ash, formerly known as bentonite), isomesic (*i.e.*, summer and winter temperatures differ by less than 6°C at 50 cm depth) pachic argixerolls (see Soil Survey Staff 2006).

### 2. Climate

The Project Site has a mild Mediterranean type climate maintained by persistent sea breezes. Temperatures rarely exceed 90°F and seldom drop below 32°F. Average daily temperatures (by month) range from 51°F to 59°F (NRCS 2007). Cloud coverage and fog are common during the evening and early morning hours, but typically dissipate during mid-day. Total average annual precipitation is 28 inches (NRCS 2007).

### 3. Hydrology

Hydrologic inputs to the project site are dominated by precipitation and surface runoff. The majority of surface runoff comes to the Project Site via the Half Moon Bay Airport storm water runoff collection system. Within the airport property, runoff is consolidated in a series of channels, culverts, and pipes leading to a pair of concrete culverts (44" diameter) that run southwest under Airport Street. The 44" culverts form the headward-most extent of a stream reach of an unnamed intermittent tributary that bisects the Project Site. This tributary passes through two culverts under West Point Avenue and connects with the tidally influenced Pillar Point Marsh, eventually flowing into Pillar Point Harbor (WSP 2008a).

### 4. Plant Communities

The Project Site, consisting of two more or less adjacent agricultural fields, currently is under active cultivation. The site is annually plowed, disked, and planted in one or more rotations; therefore, little to no adventive (uncultivated) vegetation persists or has the opportunity to

colonize across the great majority of the Project Site. In those areas where agricultural clearing had not occurred recently (*e.g.*, along Airport Street verge and in very small, scattered patches within agricultural fields), non-native annual grasses and forbs occur. Dominant species along the main verge include wild oats (*Avena* spp.), bristly oxtongue (*Picris echioides*), and common vetch (*Vicia sativa*).

Along the unnamed intermittent tributary that bisects the property and the southern perimeter of the property adjacent to Pillar Point Marsh, riparian (palustrine scrub shrub) and seasonal freshwater wetland plant communities persist (palustrine persistent and non-persistent emergent) (Cowardin *et al.* 1979). Dominant species within the unnamed drainage include willows (*Salix lasiolepis*, *S. scouleriana*, *S. sitchensis*), California blackberry (*Rubus ursinus*), and poison hemlock (*Conium maculatum*). Dominant species along the southern edge of the property included slough sedge (*Carex obnupta*), soft rush (*Juncus effusus*), silverweed (*Potentilla anserina* var. *pacifica*), field mint (*Mentha arvensis*), arroyo willow (*Salix lasiolepis*), and California blackberry. Overall, the vegetation on the proposed project site has been significantly altered and reflects a long history of regular disturbance and agricultural cultivation.

#### 5. Protected Species

No rare plants of conservation concern have been observed on the project site (WSP 2008b). Four rare plant species have been documented by the California Natural Diversity Database (CNDDDB) within two miles of the Project Site, but they are unlikely to occur on the Project Site due to lack of suitable habitat.

No rare, threatened or endangered animal species have been observed on the Project Site (WSP 2008b). The WSP field team observed 29 wildlife species on the property during a field survey in early Spring 2008. One species on the watch list of the California Department of Fish and Game, the sharp-shinned hawk, was observed flying above the property. Two special status animal species, *Rana aurora draytonii* (California red legged frog) and *Geothlypis trichas sinuosa* (saltmarsh common yellowthroat) have been recorded in the past on adjacent property (CNDDDB 2008). The California red legged frog, including one adult and one sub-adult, were observed in a wetland near the Project Site near West Point Road on May 7, 1999 (CNDDDB 2008). The saltmarsh common yellowthroat has been observed near the site in the past; specifically, observations of individuals or breeding pairs were recorded in 1985, 1988, 1989, and 1990, but have not been document since then (CNDDDB 2008). During the 2008 field effort, the WSP team observed one common yellowthroat perched in willows in the wetlands adjacent to and to the southwest of the Project Site. These protected species are not expected to occur on the Project Site as no suitable breeding or foraging habitat currently exists.

#### 6. Extent of Jurisdictional Waters/Wetlands and their Buffers

Approximately 0.45 acres of wetlands of “other waters” (Type 3 waters of the U.S.), 0.74 acres (32,180 ft<sup>2</sup>) of California Coastal Commission waters/wetlands, and 4.26 acres of buffer are delineated at the Big Wave Project Site (WSP 2008a, Figure 3). The great majority of these waters/wetlands are found along the southern margin of the property. The proposed development will avoid all direct impacts to waters/wetlands and the 100 foot buffer set back.

## ***II. OBJECTIVES***

WSP Environment & Energy (WSP) was retained by Big Wave LLC to assist in the restoration of the native coastal ecosystems at the Project Site. The purpose of the restoration effort is to increase the functioning of the native coastal ecosystems at the Project Site. Specifically, in this report, WSP was asked to assist with the following tasks:

1. Prepare a restoration plan for riparian waters/wetland ecosystem within the buffer area of the Project Site.
2. Design a natural landscaping plan of native species for the residential and commercial areas.
3. Assist in the design of natural storm water management/rain garden system using native plant species genetically adapted to the central coast of California.

Sections III, IV and V of this report describe designs developed for the riparian buffer restoration, native landscaping, and natural storm water management, respectively.

### **III. DRAFT (90%) RIVERINE WETLAND ECOSYSTEM DESIGN**

#### ***A. Guiding Principles***

WSP used the following set of principles to guide design of the riverine/riparian waters/wetland ecosystem restoration:

1. Give due diligence to federal, state and local regulatory requirements.
2. Target no net loss of waters/wetlands area and/or ecosystem functioning.
3. Base the restoration design on attainable regional reference conditions.
4. Aim to restore the native hydrological, biogeochemical, plant community, and faunal support/habitat functioning.
5. Target restoration of riverine ecosystem functions (*e.g.*, through maintaining hydrological connectivity within the landscape and restoring microtopography).
6. Integrate the form and function of the natural and the constructed landscapes.

#### ***B. U.S. Army Corps and EPA Guidance on Wetlands Compensatory Mitigation***

In April 2008, the U.S. Army Corps of Engineers along with the U.S. Environmental Protection Agency issued new standards to improve wetland restoration and protection policies (Federal Register 2008). The new “wetlands compensatory mitigation standards” were offered to promote the use of best available science, promote innovative approaches to the “no net loss of area and/or function” national policy, and to focus on the results of restoration and protection.

Relevant to the Big Wave Wellness Center and Office Park Project, these new Corps/EPA mitigation standards reaffirm the mitigation sequence of avoid, minimize, and mitigate (compensate). The Big Wave Project is avoiding all impacts to existing waters/wetlands (including both waters of the U.S. and Coastal Commission wetlands) and therefore is in line with the new guidance on mitigation sequencing. As described in this basis of design, the proposed restoration of riparian areas adjacent to waters/wetlands will likely result in expansion of at minimum 5.3 acres of state wetlands.

#### ***C. General Description and Design Rationale***

The riparian waters/wetlands ecosystem buffer design includes ten plant community types that support approximately 75 native California taxa (Figures 4-10). The community types are based upon the U.S. Fish & Wildlife Service’s hierarchical classification system (Cowardin *et al.* 1979) of five wetland systems – marine, estuarine, riverine, lacustrine, and palustrine. Only wetlands within the palustrine system are appropriate to the Project Site. As such, three palustrine forest communities, two palustrine scrub-shrub communities, three palustrine (persistent) emergent communities are proposed. Additionally, an upland community that supports native coastal scrub species and similarly a plan for the storm water swales also is included.



A total of 54 polygons at the Wellness Center and Office Park (inclusive) will be restored, representing a total 5.3 acres of riparian and waters/wetlands within the buffer and across the built landscape. Specifically, a total of 1.89 acres of palustrine forest, 2.47 acres of palustrine scrub shrub, 0.51 acres of palustrine emergent wetlands will be restored, in addition to 0.26 acres of upland coastal scrub and 0.18 acres of stormwater wetland swales (Figures 4-10).

In the design process of the riparian buffer along the adjacent waters/wetlands of Wellness Center and Office Park, WSP focused on achieving the highest level of ecosystem functioning possible. Design elements relative to ecosystem function were developed based on site history and landscape context and will be monitored over a minimum of ten years post restoration. Importantly, an increased level of function has to be achieved while also achieving a natural, unbroken, visually attractive transition between the restored ecosystem and the residential/commercial landscape. To achieve this target, WSP relied upon:

1. A reference database and draft hydrogeomorphic guidebook for 3<sup>rd</sup> and 4<sup>th</sup> order riverine waters/wetlands of the central California coast (NWSTC 1996) developed to assist in the design, permitting and monitoring of riverine restorations within this reference domain (biogeographic province),
2. Relevant literature, reports, flora documentation, and
3. Cumulative 60+ years of professional experience of the lead WSP scientists working in waters/wetlands ecosystems along the central coast of California.

This 90% restoration design is based upon a suite of activities that would increase waters/wetlands ecosystem functions and develop a native, diverse, and aesthetically pleasing landscape. Elements of the restoration design are focused around five phases of work, including earthwork, (mass and fine grading), installation of large wood, planting and irrigation, weed management, and monitoring and adaptive management.

Our rationale for implementation of each technique is described in the following text.

### 1. Earthwork

Natural transitions within the landscape will need to be restored as a result of historic land uses and the integration of wild and urban environments. Mass grading can restore landscape hydrologic connectivity creating smooth transitions within and between wetland and upland habitat. In addition, mass grading is extremely effective at removing weeds through eliminating standing biomass and elimination of a viable seed bank in the upper soil horizon(s). Earthwork also decreases competition from well-established weeds and, with standard grading techniques such as ripping and/or disking, helps loft soil, blend top and sub-soil horizons, and prepare a successful planting environment.

Fine grading involves the use of directed time to grade microtopographic features within the riverine and riparian environments. Finish grading also involves the placement of large wood structures, and will thus provide an essential element of an ecosystem (detritus). These wood structures will mimic dead and decomposing features of a woody riparian ecosystem, including

snags (standing dead), decadent/decaying logs, and log jam features of floodplains and fluvial systems, as described in the following paragraph.

## 2. Installation of large wood and log structures

Prior to agriculture, grazing, clearing, industrial uses, and intense water management in California, large wood was a part of natural ecosystems. Log structures can be placed above and/or below ground. Large wood provides numerous ecosystem functions, for example log structures create roughness (*i.e.*, increase Manning's  $n$ ) that slows water flow and spreads it out to promote maximum contact of water with the floodplain surface. Log structures can be strategically placed in order to deflect flood waters away from civil structures including roadways, bridges, *etc.* Large wood creates hydraulic complexity within a reach through dissipation, focusing, and/or adding complexity to the riverine ecosystem and thereby provide habitat for aquatic invertebrates and vertebrates, including fish. Placement of large wood and log structures creates microtopographic variation with abrupt gradients in site water balance which allows for increased plant diversity and variety of habitat microsites.

## 3. Planting and Irrigation

Planting will be conducted to maintain fidelity to native plant community structure, function, and composition for the Project Site. A native plant nursery will be established on site for the project to provide nursery stock, to hold for planting, and to generate replacement stock should replacement planting become necessary after the project is completed. Collection of seed will be conducted as close to the project site as possible to ensure reestablishment of a suite of locally adapted native plants. An irrigation system will be installed to increase likelihood for planting success. Restoring native plants also will increase the detrital pool (in this case, primarily quickly decomposing carbon sources) that has been removed due to intensive farming. Native plant community restoration improves hydrologic and biogeochemical functioning on the site and provides habitat for native fauna by offering hiding, resting, escape, breeding, and foraging habitats. Establishment of native plants will lead to relative exclusion of non-native and invasive weeds and will provide vertical and horizontal structure within the landscape.

## 4. Weed Management Strategy

Several aggressive, non-native plant species are present at or near the Project Site, including Himalayan blackberry (*Rubus discolor*) and German ivy (*Delairea odorata*). Invasive weed species not only degrade the plant community functions, but also threaten the success of a restoration project. Therefore, an integrated weed/pest management strategy should be developed and implemented in tandem with the restoration project. The weed management strategy begins with control of existing weeds adjacent to the restoration area through hand pulling, approved localized chemical application, and/or mowing. Installing native plants species with rapid growth rates and/or at high densities will help to quickly develop a canopy which excludes weed recruitment. Continued maintenance including hand weeding and replanting of plants which suffer mortality should be conducted following restoration.

## 5. Maintenance, Monitoring and Adaptive Management

To ensure that restoration is a success and that appropriate adaptive management/contingency measures are used, the Project Site will be monitored following restoration for a minimum of 5 years. Project targets and standards articulated in the monitoring plan will be established at the beginning of the restoration project and based on the assessment of the path that will achieve stated goals. The monitoring design will include methods to quantify and document each project target and standard and will identify criteria for success. Monitoring protocols will include some combination of photo points, topographic surveys, soil profiles, invertebrate surveys, and/or assessment of vegetation cover and composition. In case project standards and/or success criteria are not met, an adaptive management strategy with contingency measures will be included as part of the monitoring plan. In the event of failure to achieve a project standard, recommended contingency measure(s) will be outlined (*e.g.*, weeding, grading, planting) and implemented as soon as possible.

### ***D. Construction Sequencing***

The various tasks associated with the Project Site restoration plan are described in general terms in the following text, which will be used to guide the development of construction plans and specifications.

#### 1. Earthwork (mass and finish grading)

- a) Grade to create a smooth transition to the surrounding landscape
- b) Grade surrounding landscape to increase rugosity in the surrounding landscape. Rugosity is a measure of small-scale variations and complexity or surface roughness. Increased rugosity offers a relatively more diverse array of sites for planting.
- c) Using directed time, construct and link microtopographic depressions and small scale swales, rain gardens, and storm water features.

#### 2. Log Structures

Large wood on and within the active channel and on the adjacent floodplain and associated stream terraces is an integral structural variable of fluvial systems, and an equally important link for plant and animal support ecosystem functions. As such, large wood structures will be constructed across the wetland/riparian buffer.

- a) Using directed time, install large wood structures as articulated in the planting plan and other construction documents. These structures shall consist of single logs or piles of log on and beneath final grade (Figure 11).

#### 3. Planting and Irrigation

- a) Through mass grading remove all existing weeds and where possible, seed source in the upper 6 inches of soil.
- b) Lay out (*i.e.*, stake) planting plan as designed (see Figure 4, 5, 8-10)

- c) Install native nursery stock according to planting plan using a suite of plant community types suited to microsite conditions and with fidelity to reference system conditions (Figure 6).
- d) Mulch entire planted and seeded areas with minimum 4" lift of sterile (weed-free) straw
- e) Install temporary irrigation system. Following grading activities, install a temporary irrigation system to provide irrigation water to all planted areas across the wetland and riparian buffer. A temporary irrigation plan will be designed prior to project implementation.

#### 4. Weed Control

After initial establishment of restored riparian/wetland ecosystem area and functioning, management of weeds/invasive species will become a high priority. Implementation of weed management must address (i) re-emergence of weeds from onsite seed banks, (ii) establishment of existing populations of weeds that were not removed in the initial clearing effort, and (iii) colonization of restored area from offsite exotic seeds sources. Weed control efforts should be adapted with an integrated program which includes mowing, hand weeding, and re-planting or interplanting additional plants as necessary. Weed control will be required as part of the monitoring, maintenance and adaptive management activities.

#### 5. Monitoring Maintenance and Adaptive Management

- a) Assume a ten year monitoring interval with monitoring reports completed at Year 0 (baseline), 1, 2, 5, and 10.
- b) Conduct two site visits per monitoring year, wet and dry season. During each visit, characterize the site through the collection of site data referencing project standards including hydrologic, biogeochemical, plant community and faunal support/habitat functions.
- c) Prepare annual monitoring report due by December 15 each monitoring year. Based on observations, recommend any necessary maintenance and/or adaptive management measures.
- d) Implement maintenance and adaptive management measures, including weeding, as necessary.

#### ***E. Sediment and Erosion Control***

Restoration construction should be initiated and completed during the dry season (May to November). All construction activities must adhere to the project-specific Storm Water Pollution and Prevention Plan (SWPPP) and associated Temporary Erosion and Sediment Control (TESC) plan, both of which must be prepared and submitted by the Big Wave LLC or its consultants to the regulatory community prior to project implementation.

The first step will be to install sediment and erosion control measures according to the SWPPP and TESC. Upon completion of earthwork and log structure installation (*e.g.*, creating

microdepressions, creating windthrow mounds, installing log jams, *etc.*), temporary irrigation must be installed to ensure successful post-construction planting. In addition, Big Wave Group or its consultants may be required to prepare and submit a water quality monitoring plan to regulatory agencies, as part of the monitoring agreement with regulatory agencies.

#### ***F. Proposed Design Success Criteria***

Specific project standards and associated success criteria (*i.e.*, field indicators/measurements) have been developed for this riparian/wetland ecosystem restoration project. The proposed restoration design places emphasis on the following four project targets.

#### ***Project Target 1: Increase waters/wetlands habitat patch size for native wetland and riparian animal species typical of the central California coast.***

##### Project Standard: Success Criteria

1. Increase Patch Size: One hundred percent coverage by native plant communities in the 100 foot buffer.

#### ***Project Target 2: Establish and maintain diverse native plant communities, with nursery stock genetically adapted to the restored wetland and riparian ecosystem restoration project site.***

##### Project Standard: Success Criteria

1. Percent cover of native tree species in riparian forest communities: Greater than or equal to 95%.
2. Percent cover of native shrub species in riparian forest and scrub-shrub communities: Greater than or equal to 40% and less than or equal to 75%.
3. Percent cover of native shrub species in riparian scrub-shrub communities: Greater than or equal to 95%.
4. Percent cover of native forbs, graminoids, ferns, and fern allies in palustrine persistent and non-persistent emergent community types: Greater than or equal to 80%.
5. Percent cover of native forbs, graminoids, ferns, and fern allies in forest and scrub shrub communities: Greater than or equal to 20% and less than or equal to 75%.
6. Percent of native species cover in each stratum: Greater than or equal to 85%.
7. Vigor of planted stock: Greater than or equal to 80% survival.

#### ***Project Target 3: Increase microtopographic complexity (i.e., microdepressions, windthrow mounds) within the restored riparian and waters/wetlands ecosystem restoration project site***

##### Project Standard: Success Criteria

1. Structural features: Large wood (windthrow mounds) remain structurally stable.
2. Microtopographic roughness: Constructed microtopographic features remain intact.

**Project Target 4: Increase the faunal support/habitat function for native species within the restored riparian and waters/wetlands ecosystem restoration project site**

Project Standard: Success Criteria

1. *Vegetative strata*: Forest communities- three or more strata (*i.e.*, trees, shrubs, herbs, with sapling/seedling and/or vines as additional stratum); Scrub-shrub communities - greater than or equal to two strata (*i.e.*, shrubs, herbs, with sapling/seedling and/or vines as additional stratum)
2. *Faunal diversity*: Restoration site continues to attract a diversity of native wildlife
3. *Canopy cover*: Greater than 80% cover by two or three strata in forest and scrub-shrub communities.

**G. Expected Changes in Ecosystem Functions Following Restoration**

The proposed riparian/wetland ecosystem restoration plan is expected to result in the increase in ecosystem functioning as considered by four types of wetland functions: (1) hydrologic, (2) biogeochemical, (3) plant community, and (4) faunal support/habitat functions. Comparisons between current (existing) conditions on the site and wetland conditions expected five years after restoration were assessed using best professional judgment. It should be noted that the riparian restoration will result in an increase of approximately 5.3 acres of wetlands under jurisdiction of the California Coastal Commission, but is not expected to add any increase in federal jurisdiction.

Factors affecting the ability of the wetlands at the Project Site to perform ecosystem functions include, but are not limited to (1) degradation from historical land use, (2) intensity of cropping practices, (3) historic modifications to hydrologic features of the site, (4) non-native species, and (5) urbanization in surrounding landscape.

1. Hydrologic Functions

Energy Dissipation. Energy dissipation is defined as *the transformation and/or reduction of the kinetic energy of water as a function of the roughness of the landscape and channel morphology, and vegetation.*

Existing conditions at the Project Site do not allow for significant energy dissipation because the site is cleared and farmed. However, installation of large wood, establishment of complex microtopography, and a diverse plant community including trees will promote an increase in this function.

Surface & Subsurface Storage of Water. Surface & Subsurface Storage of Water is defined as *the presence of soil and/or geologic materials within the creek ecosystem, including the hyporheic zone, that have physical characteristics suitable for detention, retention, and transmission of water.*

The Project Site currently is leveled and degraded by agricultural activities. However, this wetland function is recoverable with the proposed restoration through establishment of sinuous storm water swales hydrologically linked to microtopographic depressions, installation of large wood above and below ground, and development of a native plant community with complex vertical structure.

Landscape Hydrologic Connections. Landscape Hydrologic Connections is defined as *the maintenance of the natural hydraulic connectivity among source areas of surface and subsurface flow to riverine waters/wetlands and other downgradient waters/wetlands.*

This hydrologic function at the Project Site is degraded due to ditching associated with road construction both upstream and downstream and the agricultural activities on the property. The down gradient connection is culverted under and interrupted by West Point Avenue. This function is only modestly recoverable with the proposed wetland and riparian ecosystem restoration.

## 2. Biogeochemical Functions

Cycling of Elements & Compounds. Cycling of Elements & Compounds is defined as *the short- and long-term transformation of elements and compounds through abiotic and biotic processes that convert chemical species (e.g., nutrients and metals) from one form, or valence, to another.*

The Project Site is not functioning at a high level in its existing conditions because the original slope wetlands and associated hyporheic zone have been filled, drained, and degraded by agricultural activities. However, this function is recoverable with the proposed restoration due to increased microtopographic variation, installation of large wood, and establishment of a diverse native plant community.

Removal of Imported Elements & Compounds. Removal of Imported Elements & Compounds is defined as *the removal of imported nutrients, contaminants, and other elements and compounds in surface and groundwater.*

The Project Site currently is functioning at a low level because the original riparian zone has been leveled and degraded as a result of agriculture and road building activities. This function is recoverable with the proposed restoration.

Retention and Detention of Particulates. Retention and Detention of Particulates is defined as *the deposition and retention of inorganic and organic particulates (>0.45 $\mu$ m) from the water column, primarily through physical processes.*

The Project Site currently is functioning at a low level because the original riparian zone has been leveled, degraded, and invaded by a large number of non-native species as a result of agriculture and road building activities. This function is recoverable with the proposed restoration.



Organic Matter Export. Organic Matter Export is defined as *the export of dissolved and particulate organic carbon from a wetland.*

The Project Site currently is functioning at a low level because the original riparian zone has been leveled and degraded as a result of agriculture and road building activities. This function is recoverable with the proposed restoration.

### 3. Plant Functions

Characteristic Native Plant Communities. Characteristic Plant Communities is defined as *the physical characteristics and ecological processes that maintain the indigenous living plant biomass.*

The Project Site currently is functioning at a low level because the original riparian zone has been leveled, degraded, and invaded by a large number of non-native species as a result of agriculture and road building activities. This function is recoverable with the proposed restoration. The Project Site should be expected to achieve a reference condition after a period of time that exceeds the expected five-year monitoring program.

Characteristic Detrital Biomass. Characteristic Detrital Biomass is defined as *the process of production, accumulation, and dispersal of dead plant biomass of all sizes.*

The Project Site currently is functioning at a low level because the original riparian zone has been leveled, degraded, and invaded by a large number of non-native species as a result of agriculture and road building activities. This function is recoverable with the proposed restoration and will likely achieve reference standard functioning after ten years or more, i.e., after the conclusion of the anticipated five-year monitoring program.

### 4. Faunal Support Habitat Functions

Spatial Structure of Habitat. Spatial Structure of Habitat is defined as *the capacity of waters/wetlands to support animal populations and guilds through the heterogeneity of structure of vegetative communities.*

The Project Site currently is functioning at a low level because the original riparian zone has been leveled, degraded, and invaded by a large number of non-native species as a result of agriculture and road building activities. This function is recoverable with the proposed restoration and will likely achieve reference standard functioning after ten years or more, i.e., after the conclusion of the anticipated five-year monitoring program.

Habitat Interspersion & Connectivity. Habitat Interspersion & Connectivity is defined as *the capacity of waters/wetlands to permit aquatic, semi-aquatic, and terrestrial organisms to enter and leave a riverine ecosystem via large, contiguous plant communities to meet life history requirements.*

The Project Site currently is functioning at a low level because the original characteristic physical complexity of an associated riparian community is not present nor is it juxtaposed in a mosaic of coastal scrub, sage scrub, perennial grasslands, vernal swales, and depressions characteristic of the central Coast Ranges. This function is recoverable with the proposed restoration, and possible reference standard functioning after ten years or more, largely through the restoration of the riverine vegetative structure and adjacent plant communities.

Distribution & Abundance of Vertebrates. Distribution & Abundance of Vertebrates is defined as *the capacity of waters/wetlands to maintain characteristic density and spatial distribution of vertebrates (aquatic, semi-aquatic and terrestrial).*

The Project Site currently is functioning at a low level because the original characteristic physical complexity of an associated riparian community is not present nor is it juxtaposed in a mosaic of perennial grasslands, vernal swales and depressions characteristic of the central Coast Ranges. This function is recoverable with the proposed restoration, and possible reference standard functioning after ten years or more, largely through the restoration of the wetland and riparian vegetative structure and adjacent plant communities.

Distribution & Abundance of Invertebrates. Distribution & Abundance of Invertebrates is defined as *the capacity of waters/ wetlands to maintain the density and spatial distribution of invertebrates (aquatic, semi-aquatic and terrestrial).*

The Project Site currently is functioning at a low level because the original characteristic physical complexity of an associated riparian community is not present nor is it juxtaposed in a mosaic of coastal scrub, sage scrub, perennial grasslands, vernal swales and depressions characteristic of the central Coast Ranges. This function is recoverable with the proposed restoration, and possible reference standard functioning after ten years or more, largely through the restoration of the wetland and riparian vegetative structure and adjacent plant communities.

## **VII. BEST MANAGEMENT PRACTICES FOR STORMWATER TREATMENT**

San Mateo County (County) has established best management procedures for the treatment of storm water because federal and state laws require municipalities to reduce pollution to waters of the United States by storm waters. According to the San Mateo County's website (<http://www.flowstobay.org/p2business/bestmanagementpractices.html>), cities within the County are governed under the *San Mateo Countywide Water Pollution Prevent Program* as part of the City/County Associate of Governments of San Mateo County. As such, the County has published procedures, guidelines, *etc.* to reduce and prevent pollution to the adjacent waters. The storm water treatment system proposed for the Big Wave Project incorporates the County's overall approach and practices for storm water management.

Design features for storm water pollution prevention by the Project include separate storm water retention and detention ponds for relatively dirty storm water (*e.g.*, water from parking lots) and relatively clean water (*e.g.*, roof water runoff). Separate water delivery systems for clean and dirty storm water will be constructed at each of the developments (*i.e.*, office park and wellness center). Comparatively dirty storm water will be filtered through a series of grit removal, oil/water separators, and then directed to a retention/detention "rain gardens" (Figures 8 and 9) within the riparian restoration zone. Stormwater will flow through a swale prior to overland flow into the existing wetlands. Similarly, clean storm water will be directed to a separate series of retention/detention microdepressions (rain gardens) via a similar storm water swales (Figure 10). A portion of the clean storm water will be directed to an infiltration basin (one at each development) to recharge ground water. In short, the bioswale/microdepression system will serve to improve water quality in the adjacent existing waters/wetlands ecosystems by treating storm water in a series of treatments as described above.

## **VIII. CONCLUSIONS**

As presented in this *90% Design Report*, the Big Wave Wellness Center and Office Park Project consists of the construction of a residential village and an adjacent commercial property/office park complex. The proposed wetland and riparian ecosystem restoration project also includes restoration of the waters of the U.S., including wetlands, California Coastal Commission wetlands that currently exist as agricultural land. Specifically the Project will restore a complex mosaic within a 100 ft buffer adjacent to existing federal and state waters/wetlands to provide significant benefits to waters/wetlands ecosystem functions, particularly the native plant and animal communities relative to existing conditions. A total of ten plant community types, primarily native forest, scrub shrub, and perennial sedge/rush meadows, composed over approximately 75 native plant species arrayed in 54 planting polygons represent the riparian/wetland ecosystem restoration design. Of particular importance is the restoration of potential breeding habitat for the California red-legged frog, and potential foraging habitat for the San Francisco garter snake, two native vertebrates not known to utilize the Project Site, but which may be able to establish viable populations as a result of the restoration effort.

If implemented as designed, the riparian/wetland ecosystem will result an increase in the hydrologic, biogeochemical, native plant community, and faunal support/habitat functions of the currently farmed wetlands. Equally importantly, the project represents a state-of-the art integration of the natural and built environments through the restoration of the immediate landscape immediately surrounding the Office Park and Wellness Center, and through the utilization of native species for landscaping, locally adapted plant stock, and propagules obtained from the Project Site and adjacent landscape.

## **IX. BIBLIOGRAPHY**

- Brabb, E. E. and E. H. Pampeyan. 1983, Geologic map of San Mateo County, California: U.S. Geological Survey, Miscellaneous Investigations Series Map I-1257-A, scale 1:62,500.
- California Natural Diversity Database. (CNDDDB). 2008. Rarefind. Biogeographic Data Branch, Department of Fish and Game. Version 3.1.1. Date: February 2, 2008.
- Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. FWS/OBS-79/31. US Fish and Wildlife Service, Washington DC.
- Federal Register. 2008. Compensatory Mitigation for Losses of Aquatic Resources; Final Rule. Department of the Army, Corps of Engineers 33 CFR Parts 325 and 332 and Environmental Protection Agency (EPA) 40 CFR Part 230
- Hickman, J., editor. 1993. *The Jepson Manual. Higher Plants of California*. University of California Press, Berkeley, CA.
- National Wetland Science Training Cooperative. 1996. Draft Guidebook to Functional Assessments in 3<sup>rd</sup> and 4<sup>th</sup> Order Riverine Waters/Wetlands of the Central California Coast. In cooperation with California Coastal Commission, U.S. EPA Region IX and City of Pacifica, CA.
- Natural Resources Conservation Service (NRCS). 1961. Soil Survey of San Mateo Area, California, Series 1954, No. 13, May 1961 U.S. Department of Agriculture, Soil Conservation Service, in cooperation with California Agricultural Experiment Station.
- NRCS. 2006. *Field Indicators of Hydric Soils in the United States*, Version 6.0. G.W. Hurt, L.M. Vasilas, editors. United States Department of Agriculture (USDA), NRCS, in cooperation with the National Technical Committee for Hydric Soils, Fort Worth, TX.
- NRCS. 2007. WETS Tables for Half Moon Bay, California. Accessed 12/27/07. Available at: <ftp.wcc.nrcs.usda.gov/support/climate/wetlands/ca/06081.txt>
- Soil Survey Staff. 2006. Keys to Soil Taxonomy, Tenth Edition. United States Department of Agriculture. Natural Resources Conservation Service.
- WSP Environment and Energy. (WSP) 2008a. An Analysis of the Geographic Extent of Waters of the United States, Including Wetlands, on the Big Wave Property, San Mateo County, California Prepared for Big Wave Group LLC. March 17, 2008.
- WSP. 2008b. *Draft Biological Resources of the Proposed Big Wave Wellness Center and Office Park Project Site, San Mateo County, California*. Prepared for Big Wave LLC. April 18, 2008.

## X. FIGURES

**Figure 1.** The Project Site is located along the central coast of California south of San Francisco and east of the city of Santa Cruz (Map Reference: <http://cwp.resources.ca.gov>)

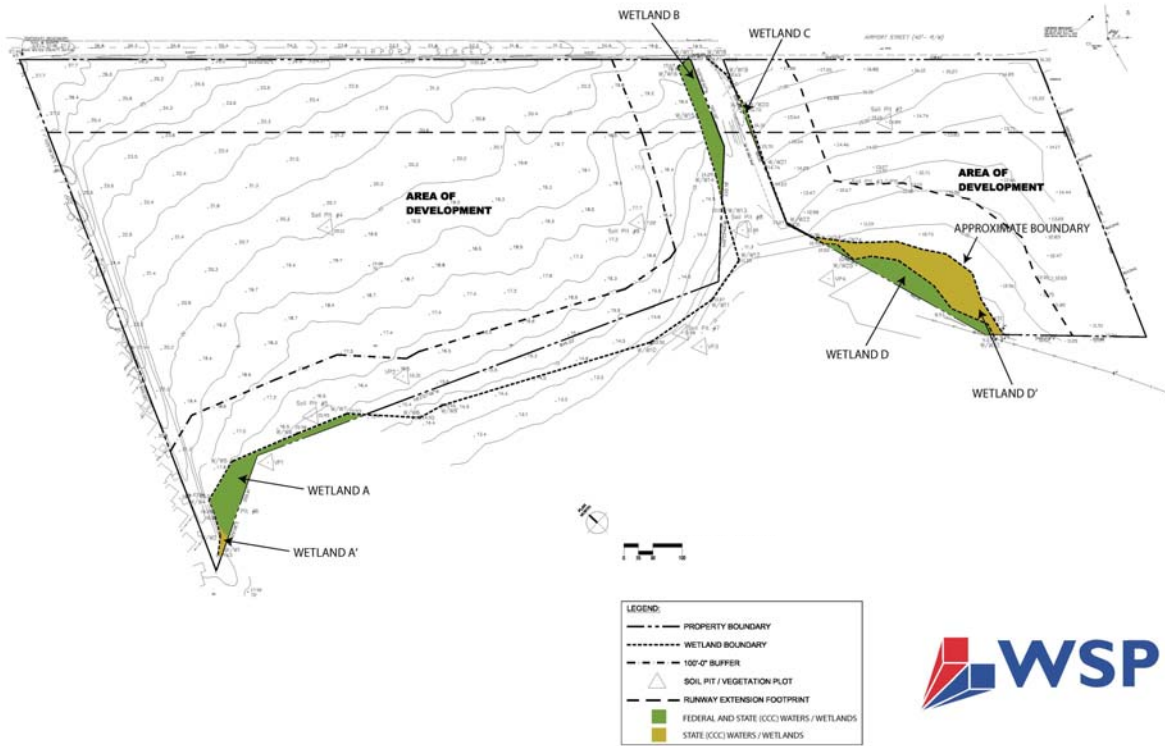


**Figure 2.** Approximate location of the Big Wave Project Site in unincorporated San Mateo County, California.

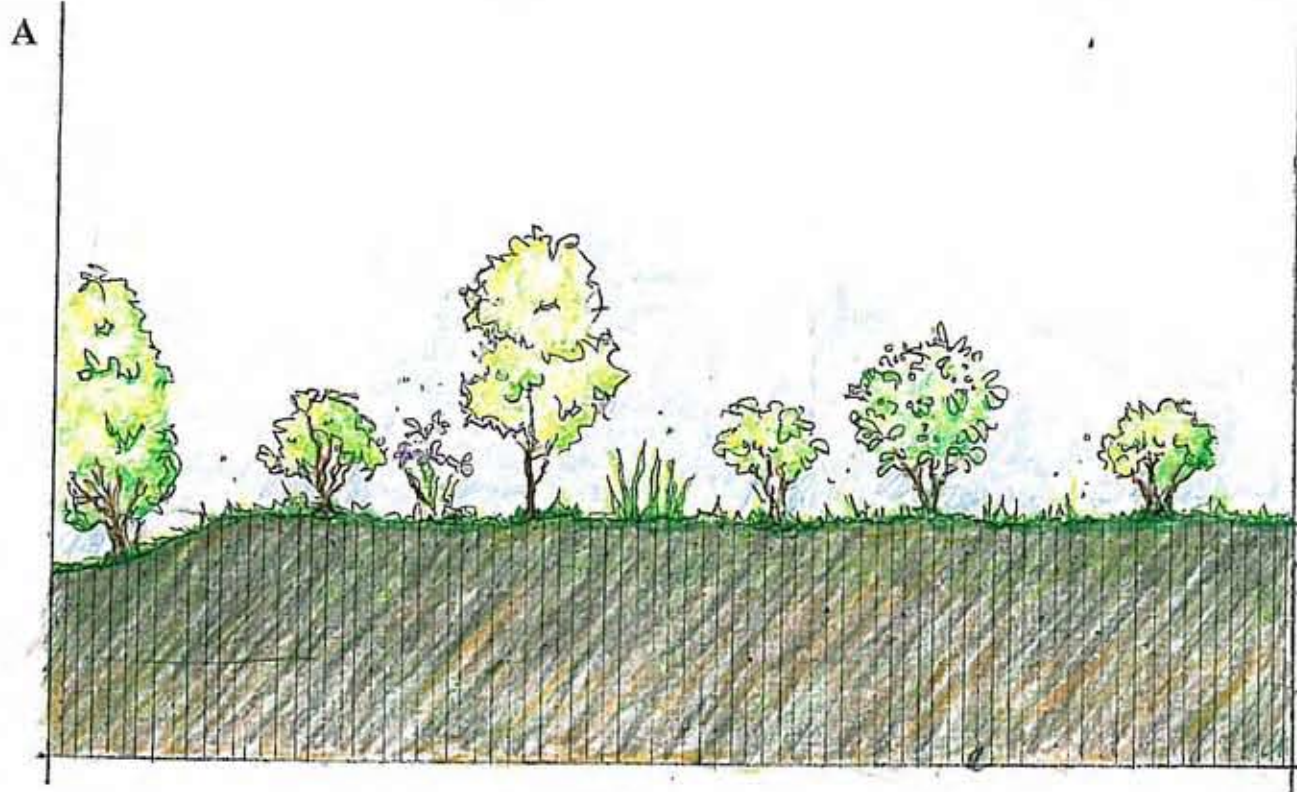




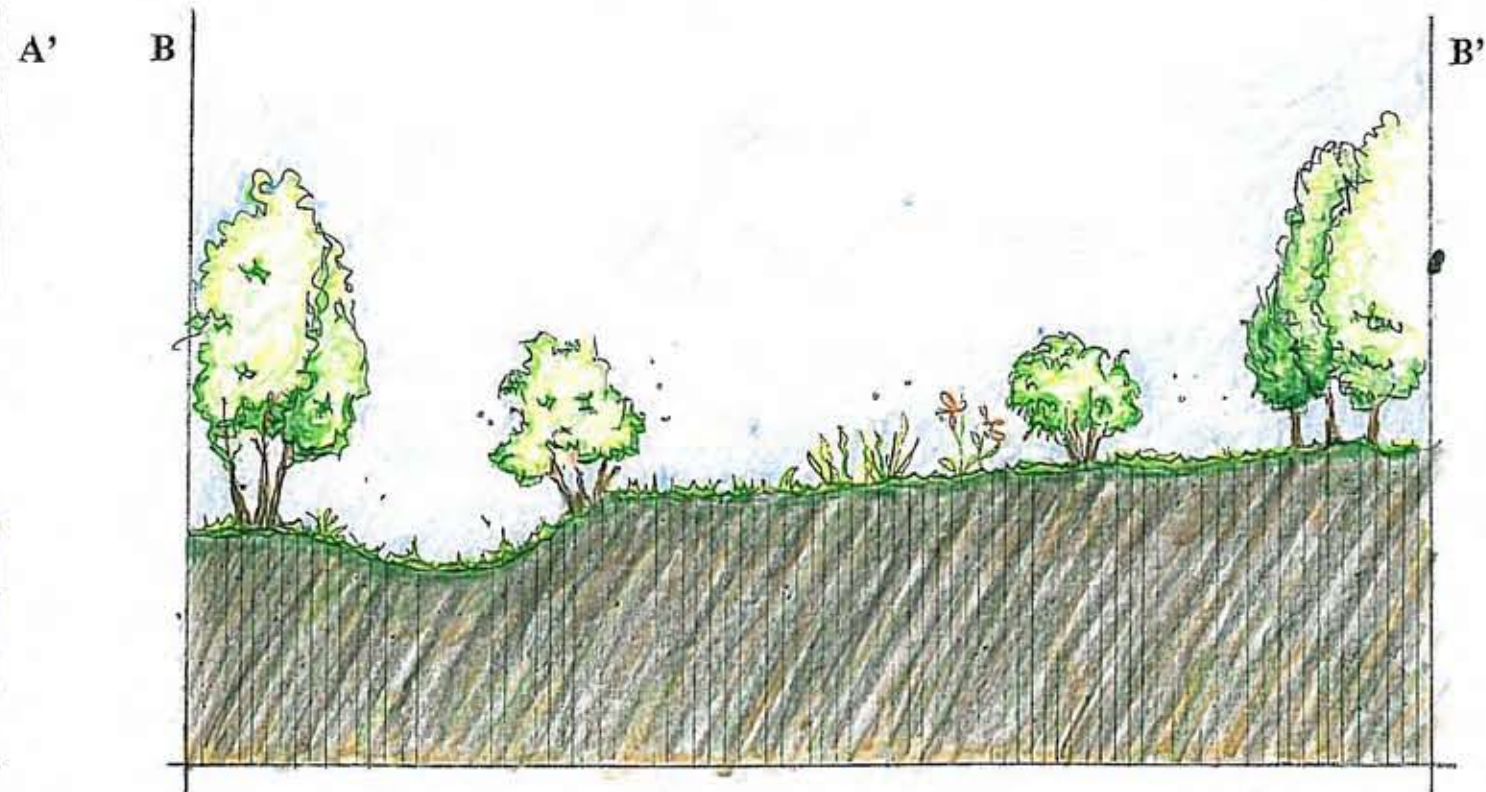
**Figure 3.** Geographic extent of waters of the U.S., including wetlands consistent with definitions provided at 33 CFR 328.3(a)(1-8), and of wetlands as defined by the California Coastal Act (Public Resources Code Division 20 California Coastal Act Section 30121).



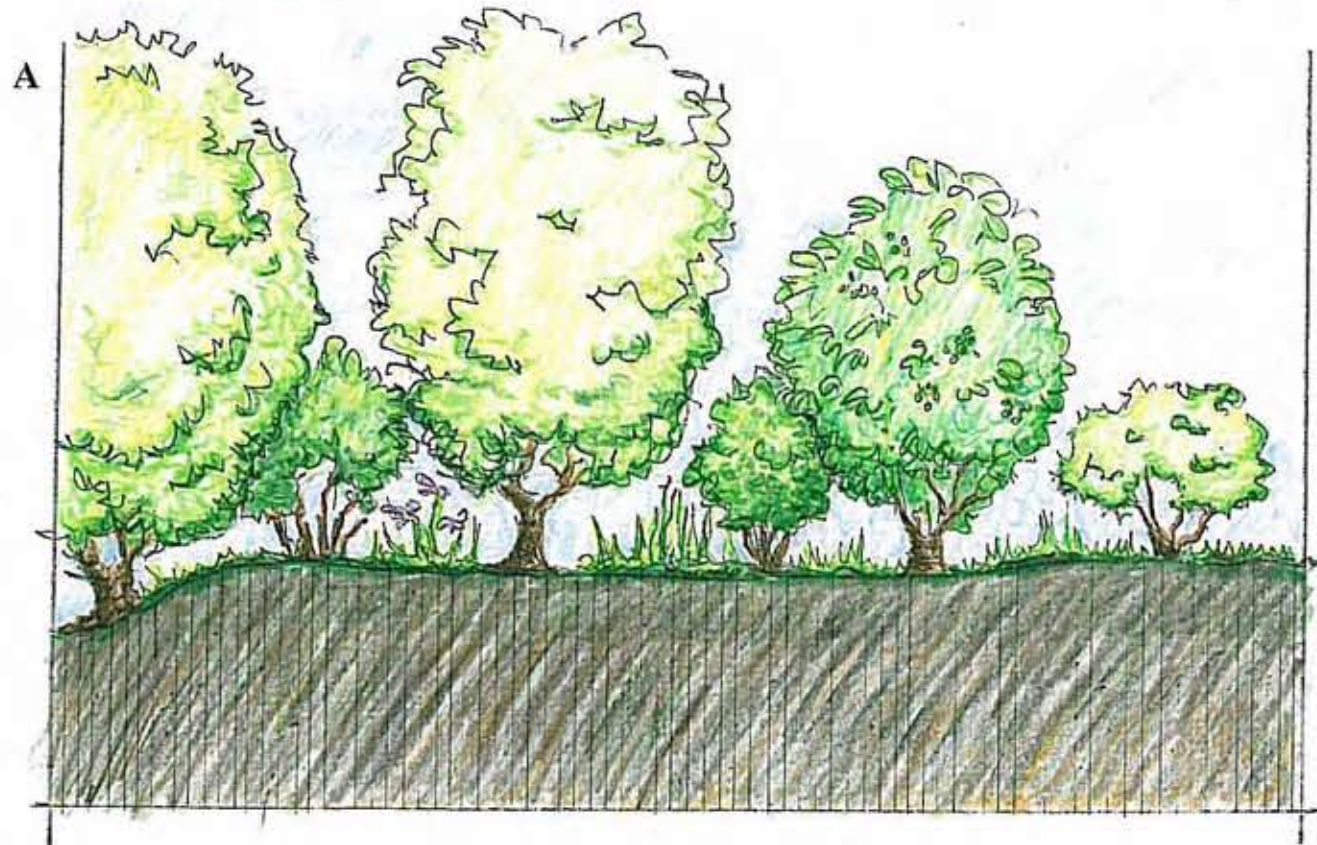




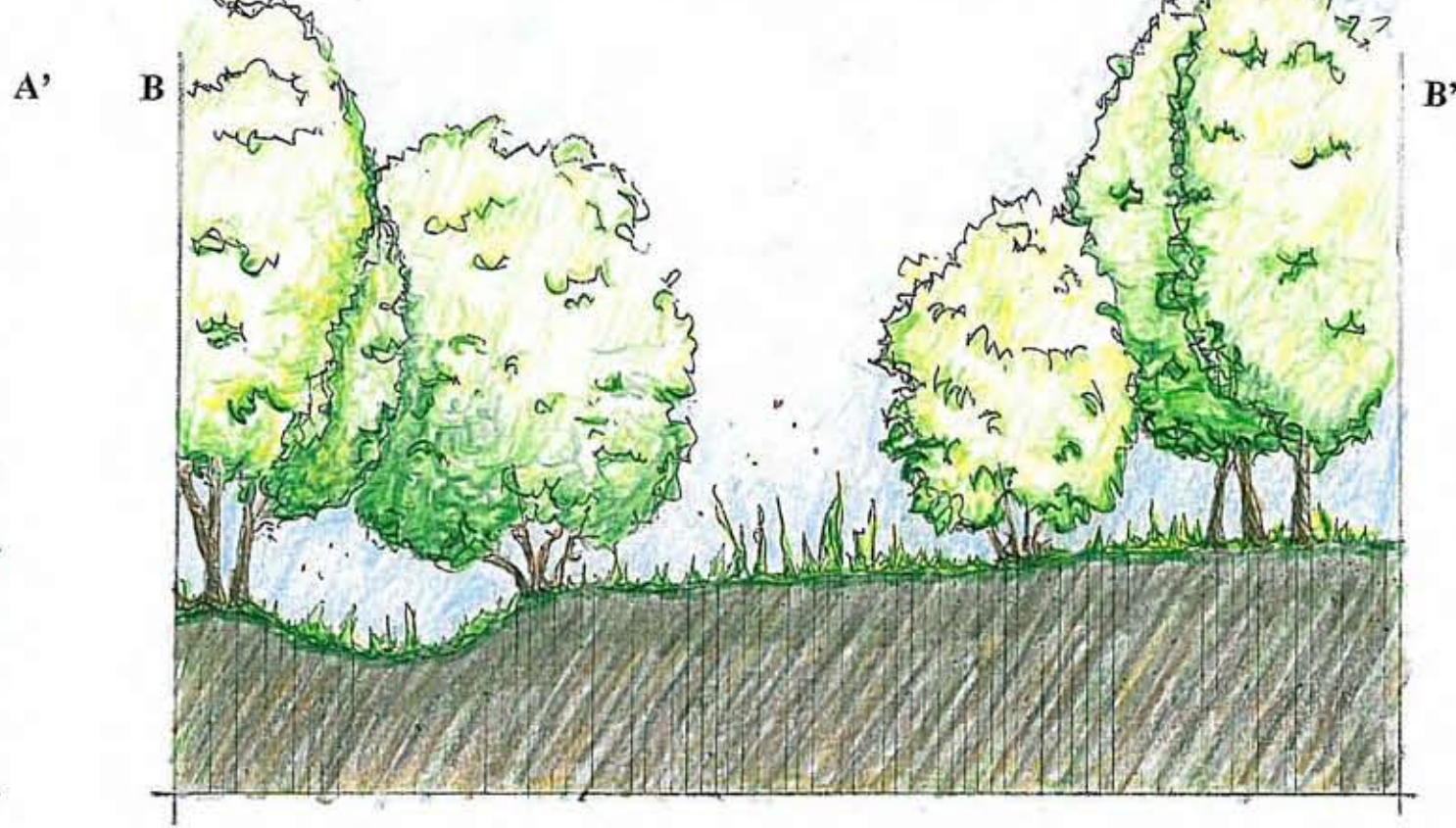
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Big Wave

**SHEET TITLE:**  
Buffer Restoration:  
Wellness Center Section

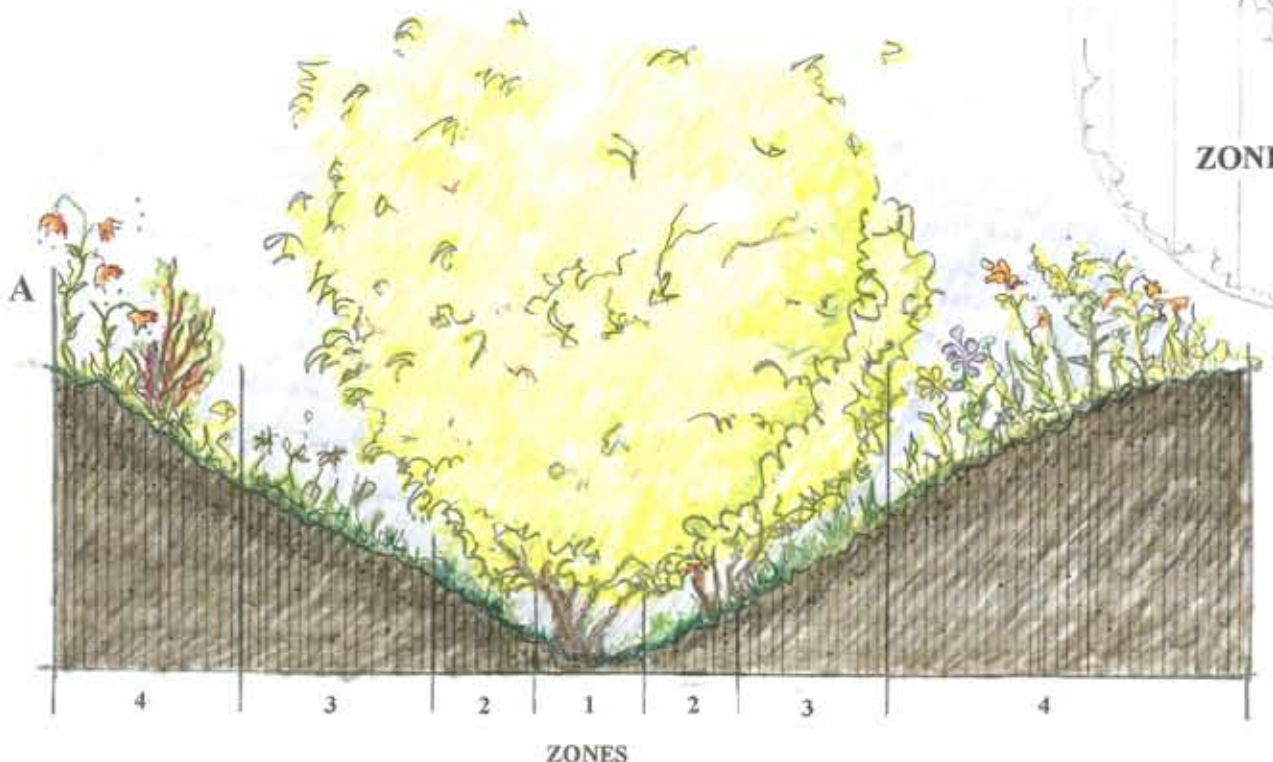
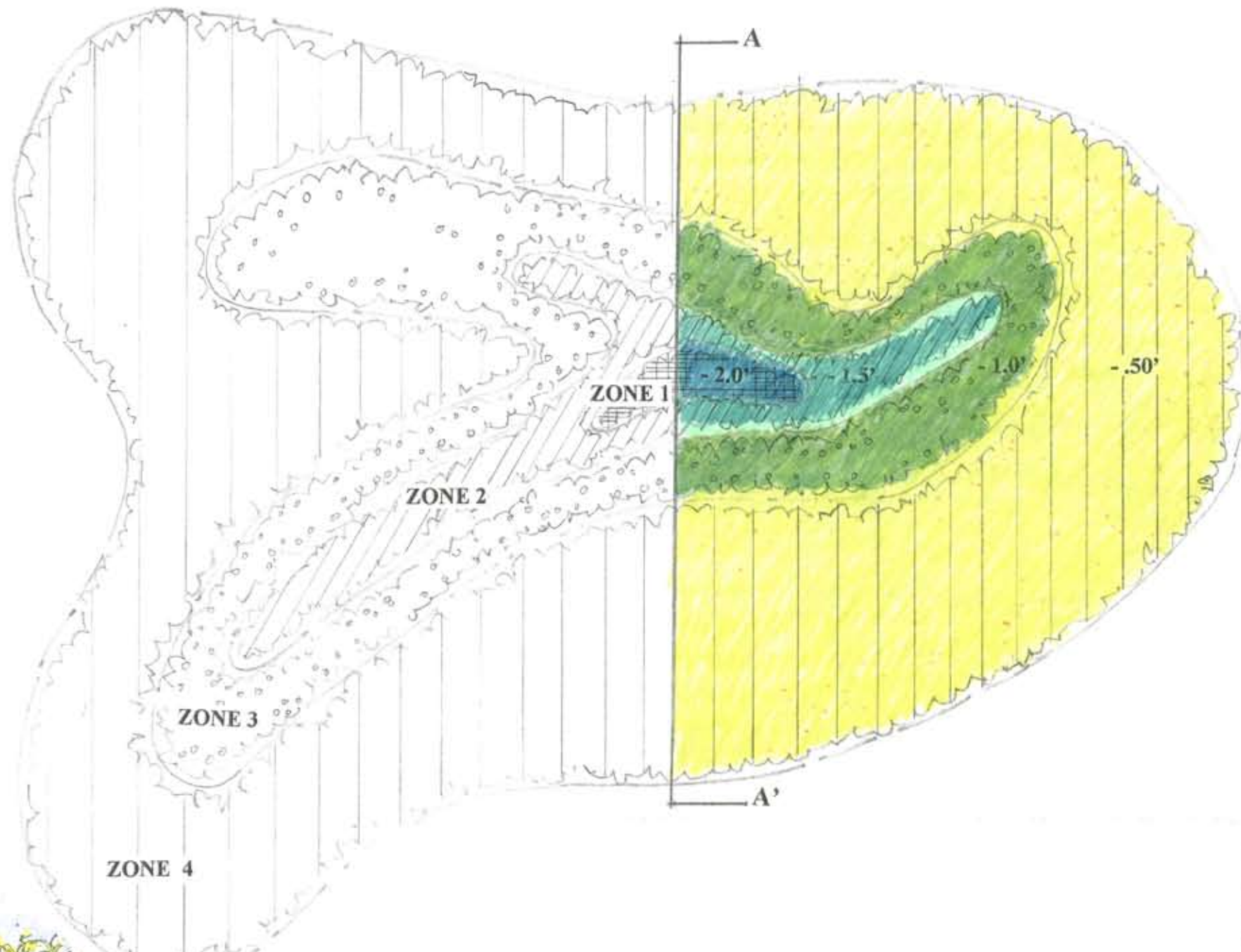
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**FIGURE 7**





**PLAN**  
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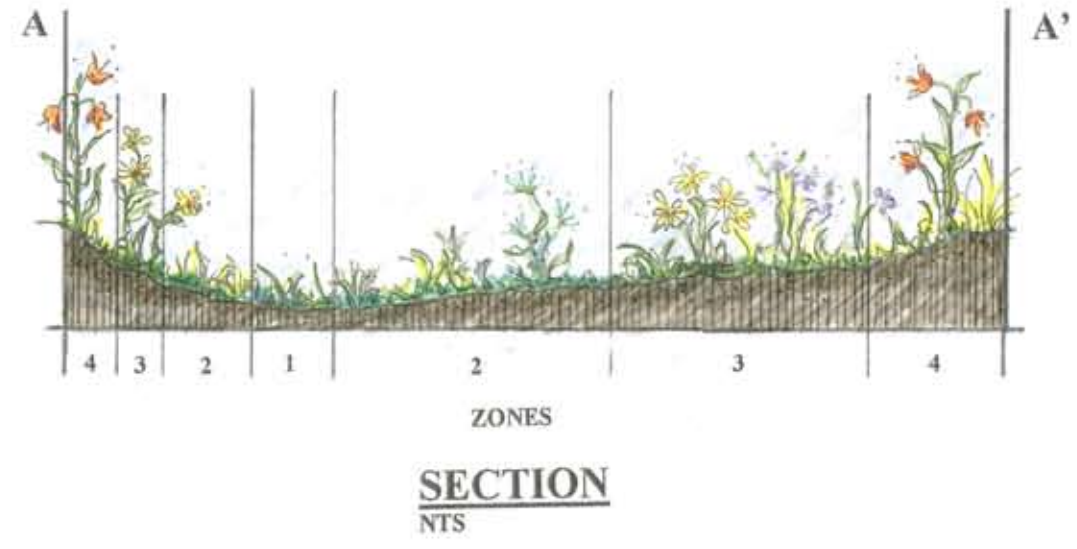
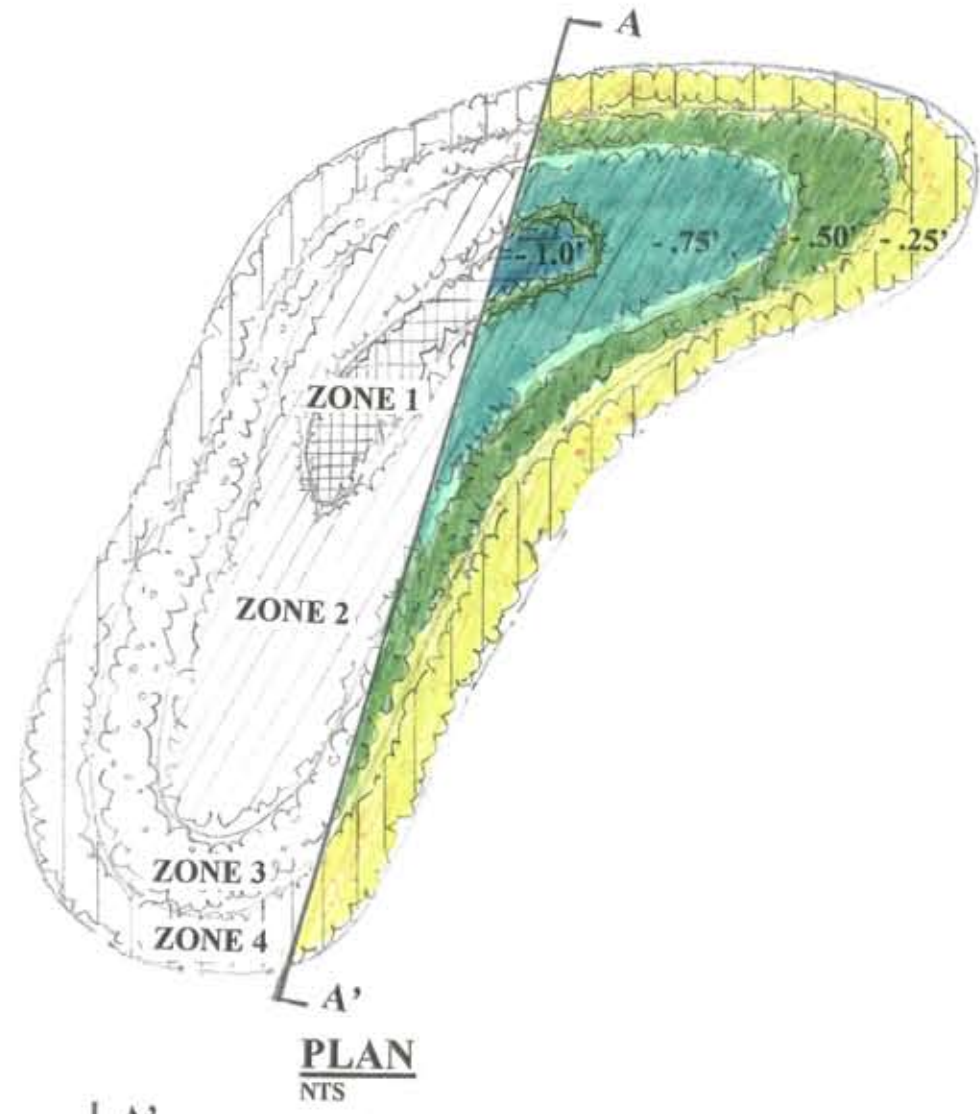
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**SHEET TITLE:**  
Stormwater R/D Basin- Large

**REVISIONS:**  
3 / 18 / 08

Date: 3 / 14 / 08  
Designer:  
Drawn By: FMD  
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FIGURE 8



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PROJECT TITLE:  
 Big Wave Office Park

SHEET TITLE:  
 Stormwater R/D Basin- Small

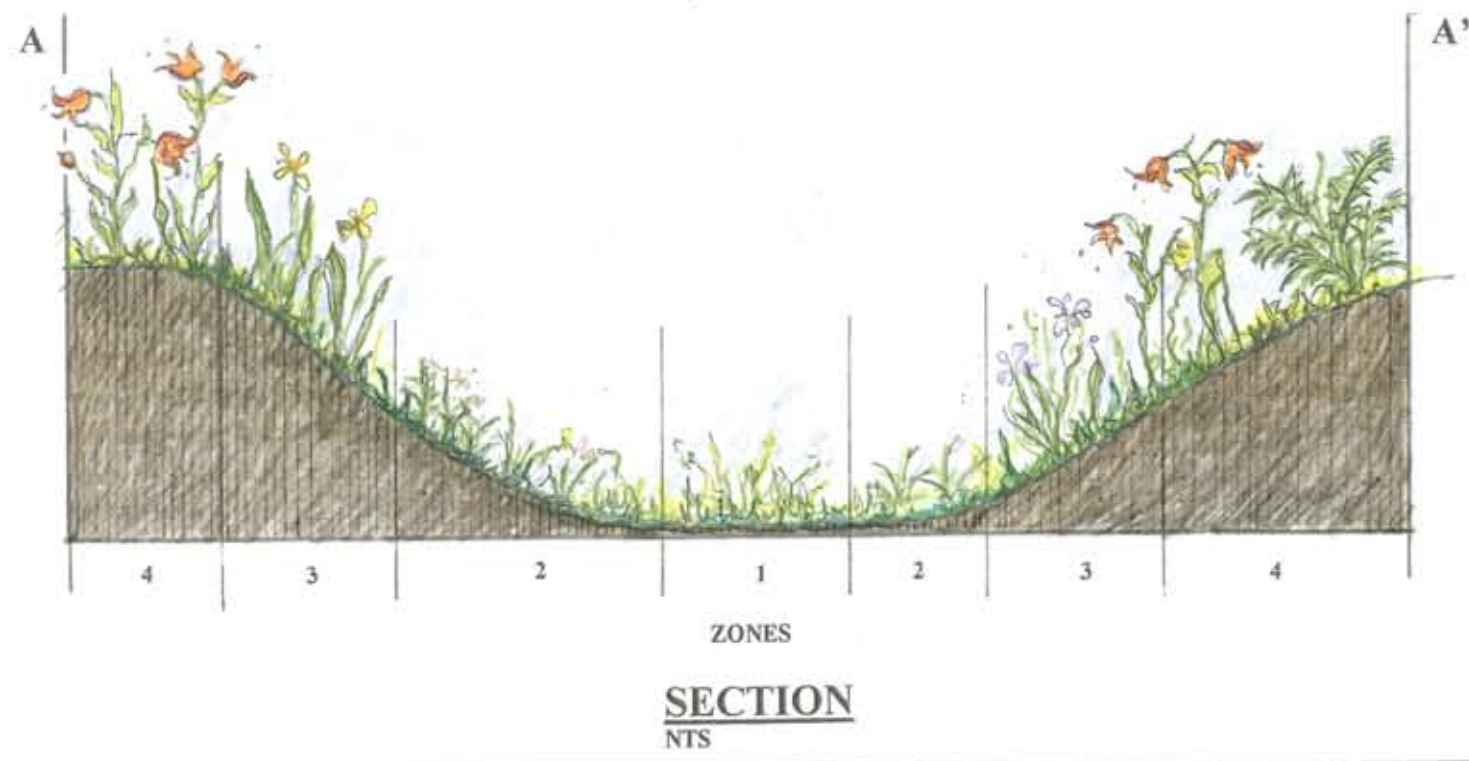
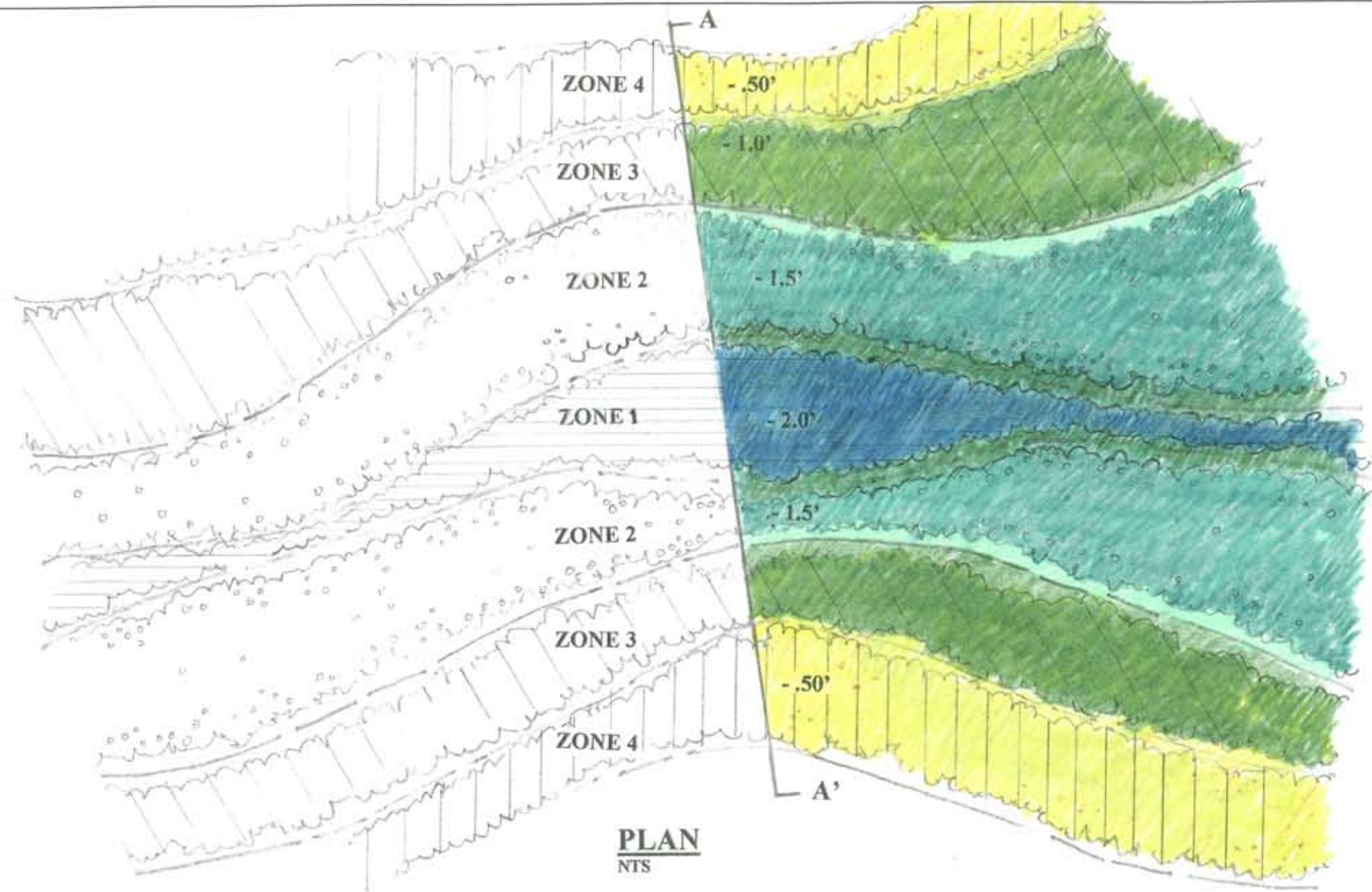
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FIGURE 9





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PROJECT TITLE:  
Big Wave Office Park

SHEET TITLE:  
Stormwater Swales

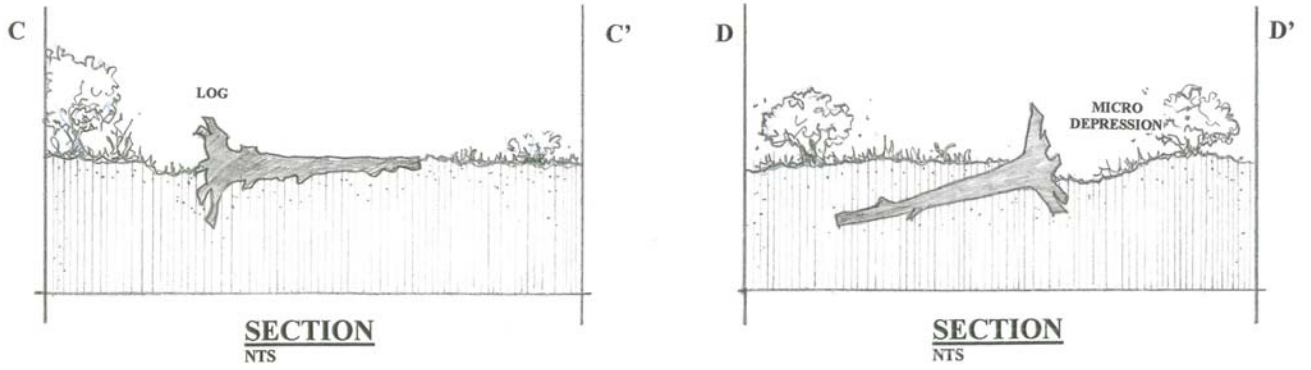
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FIGURE 10

**Figure 11.** Typical for installation of above and below ground wood.



## Development Agreement

THIS DEVELOPMENT AGREEMENT ("Agreement") is made and entered into on \_\_\_\_\_, by and between the COUNTY OF SAN MATEO, a political subdivision of the State of California ("County"), and BIG WAVE, LLC, a California Limited Liability Company ("Developer"), pursuant to the authority of California Government Code Section 65864 et seq.

### RECITALS

A. California Government Code Section 65864 et seq. authorizes the County to enter into an agreement for the development of real property with any person having a legal or equitable interest in such property in order to establish certain development rights in such property.

B. On October 18, 2005, Developer submitted an application to develop certain real property owned by Developer, which application includes a request for a Coastal Development Permit, Use Permit, Tentative Subdivision Map and Grading Permit to develop housing for Developmentally Disabled Adults ("Wellness Center") and an Office Park on property it owns identified as APN Nos. 047-311-060 and 047-312-040. Developer paid \$27,188.50 in fees at the time of the Application.

C. County has approved various land use approvals in connection with the development of the Project, including \_\_\_\_\_, by Resolution Nos. \_\_\_\_\_, adopted on \_\_\_\_\_ (collectively, together with any approvals or permits now or hereafter issued with respect to the Project, the "Project Approvals").

D. Pursuant to the California Environmental Quality Act ("CEQA") the County prepared an Environmental Impact Report ("EIR") for the Project. Developer paid \$369,000 to a third party to draft the EIR. The EIR was certified by the Board of Supervisors on \_\_\_\_\_. Pursuant to CEQA, a mitigation/monitoring program for the Project was approved by the Board of Supervisors. As to all environmental impacts identified in the EIR as not being capable of mitigation to an insignificant level, the County has determined that the benefits of the proposed Project outweigh these unmitigated environmental effects and the County accordingly adopted a Statement of Overriding Considerations on \_\_\_\_\_.

E. The purpose of this Agreement is to facilitate the implementation of the Project Approvals through the development of the Project, thereby realizing the public benefits to County and private benefits to Developer, including those described in these Recitals. The development of the Project will result in building the first truly affordable housing for Developmentally Disabled Adults ever constructed in the San Mateo County Coastside and will provide an environmentally green Office Park to correct the jobs/housing imbalance in the Coastside. The Developer will be unable to make and realize the benefits from such commitments of land and resources without the assurances of a realized Project provided by this Agreement.

F. The Board of Supervisors has found that, among other things, this Agreement is consistent with its General Plan; that this Agreement is compatible with the uses authorized in, and the regulations prescribed for, the Property; that this Agreement is in conformity with public convenience, general welfare, and good land use practice; that this Agreement will not be detrimental to the health, safety, or general welfare; and that this Agreement will not adversely affect the orderly development of property or the preservation of property values.

G. Developer is willing, pursuant to the terms of this Agreement, to make expenditures and provide benefits to the County including, without limitation, build a Class 1 multipurpose Coastal Trail and make improvements to Airport Street and Prospect Way, thus conferring a public benefit on the County.

H. Some or all of those expenditures and dedications of land by Developer are over and above those that County could require of Developer in the normal course of granting project approvals. Developer is willing to make such additional expenditures and/or grant such additional dedications in return for receiving the benefits conferred on Developer by this Agreement.

I. County desires the timely, efficient, orderly, and proper development of the Project, and believes it is in the public interest to accept the benefits conferred by the additional expenditures and additional dedications by Developer referred to above. County further believes it is in the public interest to provide for the vesting of Developer's rights to develop the Project in conformance with the Project Approvals and the terms and conditions contained herein so that such vested rights shall not be disturbed by changes in laws, rules, or regulations, including measures passed by initiative, that occur after the Effective Date (as defined below) of this Agreement.

J. County and Developer have reached agreement and desire to express herein a development agreement that will facilitate development of the Project subject to conditions set forth in this Agreement and set forth in the Project Approvals, as defined herein.

K. On \_\_\_\_\_, the Board of Supervisors adopted Ordinance No. \_\_\_\_\_ approving this Agreement.

NOW, THEREFORE, with reference to the above recitals and in consideration of the mutual promises, obligations and covenants herein contained, County and Developer agree as follows:

#### AGREEMENT

1. Description of Property. The Property which is the subject of this Agreement is described in Exhibit A attached to this agreement ("Property").

2. Interest of Developer. The Developer has a legal or equitable interest in the Property.

3. Relationship of County and Developer. This Agreement is a contract that has been negotiated and voluntarily entered into by County and Developer. The Developer is not an agent of County. The County and Developer hereby renounce the existence of any form of joint venture or partnership between them, and agree that nothing contained in this Agreement or in any document executed in connection with this Agreement shall be construed as making the County and Developer joint venturers or partners.

#### 4. Effective Date and Term.

4.1. Effective Date. The effective date of this Agreement ("Effective Date") shall be the date on which the ordinance approving this Agreement is adopted by County.

4.2. Term. The term of this Agreement ("Term") shall commence on the Effective Date and extend for twenty (20) years thereafter, unless this term is otherwise terminated or modified as set forth in this Agreement.

4.3. Term of Project Approvals, Pursuant to California Government Code Section 66452.6(a), the term of any tentative map and the other Project Approvals described in the Recital above shall automatically be extended for the Term of this Agreement.

#### 5. Use of the Property.

5.1. Right to Develop. Developer shall have the vested right to develop the Project on the Property in accordance with the terms and conditions of this Agreement, the Project Approvals (as and when issued), and any amendments to any of them as shall, from time to time, be approved pursuant to this Agreement.

5.2. Permitted Uses. The permitted uses of the Property, the maximum density and intensity of use, the maximum height, bulk and size of proposed buildings, provisions for reservation or dedication of land for public purposes and location and maintenance of on-site and off-site improvements, location of public utilities, and other terms and conditions of development applicable to the Property, shall be those set forth in this Agreement, the Project Approvals, and any amendments to this Agreement or the Project Approvals, and the "Applicable Rules" (as defined in this Agreement).

5.3. Phasing of Development. Developer intends to phase the development of the Project consistent with economic conditions.

Phase 1: Developer will rough grade and install main utilities for both parcels. Developer will construct the first eight, one story, breezway units and construct the sewer connection to Granada Sanitary District. Developer will construct the water system for both parcels. Developer will construct



the parking lot, wetlands, restoration, site access and encroachments for the Wellness Center.

Phase 2: Developer will construct the remaining 49 units of the Wellness Center.

Phase 3: Developer will construct the commercial building and the Communications Building on the Wellness Center parcel.

Phase 4: Developer will construct the site access and encroachments to Airport Street and other offsite street improvements required for the Office Park. Developer shall construct the first Office Park building. For each Office Park building Developer shall construct necessary parking, storm drainage and utilities. It is anticipated that the construction of one building would take less than one year.

Phase 5: Developer shall construct offsite improvements to Cypress Street, Capistrano or other intersections if required by the traffic study required for the first 60,000 square feet of commercial space.

Developer can do multiple phases in order simultaneously. Construction must be completed in twenty (20) years.

## 6. Applicable Rules, Regulations, and Official Policies.

6.1. Rules re Permitted Uses. For the term of this Agreement except as otherwise provided in this Agreement, the County's ordinances, resolutions, rules, regulations, and official policies, including, without limitation, the Project Approvals, governing the permitted uses of the Property, governing density, design, improvement and construction standards and specifications applicable to the Property, including but not limited to, all public improvements, shall be those in force and effect on the Effective Date of this Agreement (the "Applicable Rules").

6.2. Uniform Codes Applicable. The Project shall be constructed in accordance with the provisions of the 2007 California Building, Mechanical, Plumbing, Fire, and Electrical Codes and Title 24 of the California Code of Regulations, relating to Building Standards, in effect in County at the time a completed application is submitted for the appropriate building, grading, or other construction permits for the Project. The Project's goal is to build LEEDS Gold or Platinum standards to have an environmentally sustainable project.

## 7. Subsequently Enacted Rules and Regulations.

7.1. New Rules and Regulations. During the term of this Agreement, the County may, in subsequent actions applicable to the Property, apply new or modified ordinances, resolutions, rules,

regulations and official policies of the County which were not in force and effect on the Effective Date of this Agreement and which are not in conflict with the Applicable Rules, provided that (1) such new or modified ordinances, resolutions, rules, regulations or official policies do not affect the permitted uses of the Property, the maximum density and intensity of use, the maximum height, bulk and size of proposed buildings, provisions for reservations or dedication of land for public purposes and location and maintenance of on site and off site improvements, location of public utilities or any other terms and conditions set forth in this Agreement; and (2) such laws are applied on a County-wide basis and in a manner which does not discriminate against Developer.

7.2. Denial or Conditional Approval. Nothing in this Agreement shall prevent the County from denying or conditionally approving any subsequent land use permit or authorization for any subsequent development project application on the basis of any new or modified ordinances, resolutions, rules, regulations, or policies applicable to the Property pursuant to and subject to Section 7.1.

7.3. Moratorium Not Applicable. Notwithstanding anything to the contrary contained in this Agreement, in the event an ordinance, resolution, or other measure is enacted, whether by action of County, by initiative, referendum, or otherwise, that imposes a building moratorium which would otherwise affect the Project or all or any part of the Property or which would require a vote of the people as a condition to the grant of any approvals for the Project, County agrees that such ordinance, resolution, or other measure shall not apply to the Project, the Property, this Agreement, or the Project Approvals. If, however, it is determined by a court of competent jurisdiction that a building moratorium or voter approval referenced above is effective as to any portion of the Project, this Agreement shall remain unchanged and in full force and effect as to the portion of the Project not affected by such moratorium or voter requirement, unless Developer elects to terminate this Agreement within ninety (90) days after Developer receives written notice of such court determination.

8. Timing of Development. It is the parties' specific intent that this Agreement shall prevail over any later-adopted initiative that might otherwise have the effect of restricting or limiting the timing or sequencing of development of the Project. Therefore, subject to the terms of this Agreement, the Project Approvals, and the Applicable Rules, Developer shall have the right (without obligation) to develop the Property in such order and at such rate and at such times as Developer deems appropriate within the exercise of its subjective business judgment, and such order, rate, and time selected by Developer shall in no way affect or impair Developer's vested rights under this Agreement. The term of this Agreement is twenty (20) years and Developer shall have the right to build out the Project without additional requirements for those 20 years.

9. Infrastructure Capacity. County hereby acknowledges that it has sufficient capacity in its existing infrastructure, services, and utility systems, except for services not provided by and outside County's control, to accommodate the Project as provided in this Agreement. To the extent that County renders these services or provides such utilities, County hereby agrees that it will serve the Project and that there shall be no restriction

on hookups or service for the Project except for reasons beyond County's control.

## 10. Processing.

10.1. Further Approvals and Permits. On satisfactory completion by Developer of all required preliminary actions and payments of all required processing fees, if any, County shall, subject to all legal requirements, promptly initiate, commence, diligently process, complete at the earliest reasonable time, all required steps, and expeditiously consider any approvals and permits necessary for the development by Developer of the Property in accordance with this Agreement, including, but not limited to, the following:

10.1.1. The processing of applications for and issuing of all discretionary approvals requiring the exercise of judgment and deliberations by County ("Discretionary Approvals"); and

10.1.2. The processing of applications for and issuing of all ministerial approvals requiring the determination of conformance with the Applicable Rules, including, without limitation, site plans, development plans, land use plans, grading plans, improvement plans, building plans and specifications, and ministerial issuance of one or more final maps, zoning clearances, grading permits, improvement permits, wall permits, building permits, lot line adjustments, encroachment permits, certificates of use and occupancy and approvals, and entitlements and related matters as necessary for the completion of the development of the Project ("Ministerial Approvals").

10.2. No Abridgement of Density or Height. County acknowledges that notwithstanding its ability to issue Discretionary Approvals in relation to site and architectural review and design review, County may not refuse such approvals, or require changes in the Project, that would have the effect of restricting or preventing the ability of Developer to construct buildings at the maximum density and maximum height allowed in the Project Approvals as of the Effective Date of this Agreement.

10.3. Processing During Third Party Litigation. The filing of any third party lawsuit(s) against County or Developer relating to this Agreement or to other development issues affecting the Property shall not delay or stop the development, processing, or construction of the Project, or issuance of Discretionary Approvals or Ministerial Approvals, unless the third party obtains a court order preventing the activity. County shall not stipulate to the issuance of any such order.

## 11. Subsequently Enacted or Revised Fees, Assessments, and Taxes.

11.1. New Fees. No fees, dedications, or exactions imposed on new development adopted by the County after the Effective Date of this Agreement, and no fees, dedications, or exactions which result from any modification after the Effective Date of any existing ordinances, resolutions, rules, regulations, or official policies of the County (except as expressly provided in Section 11.2, below),

shall be applicable to the Project.

11.2. Revised Application Fees. Any existing application, processing, and inspection fees that are revised during the term of this Agreement shall apply to the Project provided that (1) such fees have general applicability on a city-wide basis and do not discriminate against Developer; (2) the application of such fees to the Property is prospective; and (3) the application of such fees would not prevent development in accordance with this Agreement.

11.3. New Taxes. Except for taxes solely imposed on new development, any subsequently enacted County-wide taxes shall apply to the Project provided that (1) such taxes have general applicability on a County-wide basis and do not discriminate against Developer; (2) the application of such taxes to the Property is prospective; and (3) the application of such taxes would not prevent development in accordance with this Agreement.

11.4. Assessments. Nothing in this Agreement shall be construed to relieve the Property from assessments levied against it by County pursuant to any statutory procedure for the assessment of property to pay for infrastructure and/or services which benefit the Property.

11.5. Right to Contest. Nothing contained in this Agreement shall prevent Developer from paying any such fee, tax, or assessment under protest, or otherwise asserting its legal rights to protest or contest a given fee, tax, or assessment assessed against the Project or the Property.

## 12. Amendment or Cancellation.

12.1. Modification Because of Conflict with State or Federal Laws. In the event that State or Federal laws or regulations enacted after the Effective Date of this Agreement prevent or preclude compliance with one or more provisions of this Agreement or require changes in plans, maps, or permits approved by the County, the parties shall meet and confer in good faith in a reasonable attempt to modify this Agreement to comply with such State or Federal laws or regulations. Any such amendment or suspension of the Agreement shall be approved by the Board of Supervisors. If such modification or suspension is infeasible in Developer's reasonable business judgment, then Developer may elect any one or more of the following in any sequence:

12.1.1. To terminate this Agreement by written notice to County;

12.1.2. To challenge the new law preventing compliance with the terms of this Agreement, and extend the Term of this Agreement for the period of time required to make such challenge. If such challenge is successful, this Agreement shall remain unmodified, except for the extension of the Term and shall remain in full force and effect.

12.2. Amendment by Mutual Consent. This Agreement may be amended in writing from time to time by mutual consent of the parties to this Agreement and in accordance with the procedures of State law.

12.3. Operating Memoranda. The provisions of this Agreement require a close degree of cooperation between County and Developer, and refinements and further development of the Project may demonstrate that clarifications with respect to the details of performance of County or Developer or minor revisions to the Project are appropriate. If and when, from time to time, during the term of this Agreement, County and Developer agree that such clarifications or minor modifications are necessary or appropriate, they shall effectuate such clarifications through operating memoranda approved by County and Developer, which, after execution, shall be attached to this Agreement. No such operating memoranda shall constitute an amendment to this Agreement requiring public notice or hearing. The County Counsel shall be authorized to make the determination whether a requested clarification may be effectuated pursuant to this Section or whether the requested clarification is of such a character to require an amendment hereof pursuant to Section 12.2 of this Agreement. The parties agree that modifications which would be categorized as exempt under CEQA, or which, after an initial study, the County determines do not require any further environmental review, or do not increase the density or intensity of use or the maximum height, bulk, size or architectural style of proposed buildings may be effectuated through operating memoranda pursuant to this Section. The County Manager may execute any operating memoranda hereunder without further Board of Supervisors action.

12.4. Cancellation by Mutual Consent. Except as otherwise permitted in this Agreement, this Agreement may be cancelled in whole or in part only by the mutual consent of the parties or their successors in interest, in accordance with the same procedure used when entering into this Agreement.

### 13. Annual Review.

13.1. Review Date. The annual review date for this Agreement (the "Review Date") shall be one year following the Effective Date and the annual anniversary of said date each year thereafter.

13.2. Annual Review Process. The Community Development Director shall initiate the annual review by giving to Developer no later than sixty (60) days following the Review Date written notice that the County intends to undertake such review for the annual period ending with the Review Date. Developer shall provide evidence of good faith compliance with the terms and conditions of this Agreement to the Community Development Director within thirty (30) days following receipt of the Community Development Director's notice. The Community Development Director shall review the evidence submitted by Developer and shall, within thirty (30) days following receipt of Developer's evidence, make a recommendation to the Board of Supervisors either (1) that the Board of Supervisors find that Developer has demonstrated good faith compliance with the terms and conditions of this

Agreement, or (2) that the Board of Supervisors find that Developer has not demonstrated good faith compliance with the terms and conditions of this Agreement, setting forth with specificity the basis on which the Community Development Director makes his/her recommendation of a finding of non-compliance. Developer shall provide additional evidence as and when reasonably determined necessary by the Community Development Director.

13.3. Hearing. The Community Development Director's recommendation shall be considered by the Board of Supervisors at a regularly scheduled meeting following the Council's receipt of the Community Development Director's recommendation. If the Community Development Director's recommendation is that the Board of Supervisors find that Developer has demonstrated good faith compliance with the terms and conditions of this Agreement, the matter shall be placed on the "Consent Calendar." If the matter is either removed from the Consent Calendar or the Community Development Director's recommendation is that the Board of Supervisors find that Developer has failed to demonstrate good faith compliance with the terms and conditions of this Agreement, the matter shall be heard by the Board of Supervisors. The burden of proof of good faith compliance with the terms of this Agreement shall be on the Developer.

13.4. Determination. If the Board of Supervisors finds and determines that the Developer has complied in good faith with the terms and conditions of this Agreement during the period under review, the review for that period shall be concluded. If the Board of Supervisors finds and determines, on the basis of substantial evidence, that the Developer has not complied in good faith with the terms and conditions of this Agreement during the period under review, and Developer has been notified and given an opportunity to cure in accordance with the provisions of Section 14.2, below, the Council may modify or terminate this Agreement in accordance with State law.

13.5. Fee for Annual Review. The fee for County's annual review shall be paid by Developer, and shall not exceed the costs of reimbursement of County staff time and expenses at the customary rates then in effect.

13.6. Failure to Hold Review. In the event that County does not initiate an annual review or that the Board of Supervisors does not make its determination within six months of the Review Date for a given year, then it shall be deemed conclusive that Developer has complied in good faith with the terms and conditions of this Agreement during the period under review.

#### 14. Default.

14.1. Other Remedies Available. On the occurrence of an event of default, the parties may pursue all other remedies at law or in equity which are not otherwise provided for in this Agreement expressly including the remedy of specific performance of this Agreement.

14.2. Notice and Cure. On the occurrence of an event of default by either party, the nondefaulting party shall serve written notice of such default on the defaulting party. If the default is not cured by the defaulting party within thirty (30) days after service of such notice of default, the nondefaulting party may then commence any legal or equitable action to enforce its rights under this Agreement; provided, however, that if the default cannot be cured within the thirty (30) day period, the nondefaulting party shall refrain from any such legal or equitable action so long as the defaulting party begins to cure such default within the thirty (30) day period and diligently pursues such cure to completion. Failure to give notice shall not constitute a waiver of any default.

14.3. Judicial Reference. Pursuant to Code of Civil Procedure Section 638 et seq., all legal actions shall be heard by a referee who shall be a retired judge from either the San Mateo County Superior Court, the California Court of Appeal, the United States District Court, or the United States Court of Appeals, provided that the selected referee shall have experience in resolving land use and real property disputes. Developer and County shall agree on a single referee who shall then try all issues, whether of fact or law, and report a finding and judgment thereon and issue all legal and equitable relief appropriate under the circumstances of the controversy before such referee. If Developer and County are unable to agree on a referee within ten (10) days of a written request to do so by either party to this Agreement, either party may seek to have one appointed pursuant to Code of Civil Procedure Section 640. The cost of such proceeding shall initially be borne equally by the parties. Any referee selected pursuant to this Paragraph shall be considered a temporary judge appointed pursuant to Article 6, Section 21 of the California Constitution.

14.4. Estoppel Certificate. Either party may, at any time, and from time to time, request written notice from the other party requesting such party to certify in writing that, to the knowledge of the certifying party, (1) this Agreement is in full force and effect and a binding obligation of the parties, (2) this Agreement has not been amended or modified either orally or in writing, or if so amended, identifying the amendments, and (3) the requesting party is not in default in the performance of its obligations under this Agreement, or if in default, to describe therein the nature and amount of any such defaults. A party receiving a written request under this Section shall execute and return such certificate within thirty (30) days following the receipt thereof, or such longer period as may reasonably be agreed to by the parties. County Manager shall be authorized to execute any certificate requested on behalf of County. The failure to deliver such certificate within such time shall be conclusive evidence on the party which fails to deliver such statement that this Agreement is in full force and effect without modification and that there are no uncured defaults in the performance of the requesting party. Failure to execute such an estoppel certificate shall not be deemed a default.

#### 15. Mortgagee Protection; Certain Rights of Cure.

15.1. Mortgagee Protection. This Agreement shall be superior and senior to any lien placed upon the Property, or any portion thereof after the date of recording this Agreement, including the lien



for any deed of trust or mortgage ("Mortgage"). Notwithstanding the foregoing, no breach hereof shall defeat, render invalid, diminish or impair the lien of any Mortgage made in good faith and for value, but all of the terms and conditions contained in this Agreement shall be binding upon and effective against any person or entity, including any deed of trust beneficiary or mortgagee ("Mortgagee") who acquires title to the Property, or any portion thereof, by foreclosure, trustee's sale, deed in lieu of foreclosure, or otherwise.

15.2. Mortgagee Not Obligated. Notwithstanding the provisions of Section 15.1, above, no Mortgagee shall have any obligation or duty under this Agreement to construct or complete the construction of improvements, or to guarantee such construction or completion of improvements; provided, however, that a Mortgagee shall not be entitled to devote the Property to any uses or to construct any improvements thereon other than those uses or improvements provided for or authorized by the Project Approvals and by this Agreement and only on payment to County of any delinquent and current fees and other mandatory obligations due under this Agreement.

15.3. Notice of Default to Mortgagee. If County receives notice from a Mortgagee requesting a copy of any notice of default given Developer hereunder and specifying the address for service thereof, then County shall deliver to such Mortgagee, concurrently with service thereon to Developer, any notice given to Developer with respect to any claim by County that Developer has committed an event of default. Each Mortgagee shall have the right during the same period available to Developer to cure or remedy, or to commence to cure or remedy, the event of claimed default set forth in the County's notice.

16. Severability. The unenforceability, invalidity, or illegality of any provision, covenant, condition, or term of this Agreement shall not render the other provisions unenforceable, invalid, or illegal, except that if it is determined in a final judgment by a court of competent jurisdiction that Developer's rights are not vested in the manner and to the extent agreed to in this Agreement, then the Parties shall meet and confer in a good faith attempt to agree on a modification to this Agreement that shall fully achieve the purposes hereof. If such a modification cannot be agreed on, then Developer or County may terminate this Agreement on 90-days' written notice to the other Party.

17. Attorneys' Fees and Costs. If County or Developer initiates any action at law or in equity to enforce or interpret the terms and conditions of this Agreement, the prevailing party shall be entitled to recover reasonable attorneys' fees and costs in addition to any other relief to which it may otherwise be entitled. In addition to the above award of attorneys' fees to the prevailing party, the prevailing party in any lawsuit shall be entitled to its attorneys' fees incurred in any post-judgment proceedings to collect or enforce the judgment. This provision is separate and several and shall survive the merger of this Agreement into any judgment on this Agreement. If any person or entity not a party to this Agreement initiates an action at law or in equity to challenge the validity of any provision of this Agreement or the Project Approvals, the parties shall cooperate in defending such action. Developer shall bear its own costs of defense as a real party in interest in any such

action, and County shall bear its own costs of defense.

## 18. Transfers and Assignments.

18.1. Right to Assign. Developer's rights under this Agreement may be transferred, sold, or assigned in conjunction with the transfer, sale, or assignment of all or a portion of the Property subject to this Agreement at any time during the term of this Agreement; provided that, except as provided in this Agreement, no transfer, sale, or assignment of Developer's rights hereunder shall occur without prior written notice to County and the consent of the Board of Supervisors, which consent shall not be unreasonably withheld or delayed.

18.2. Release Upon Transfer. Upon the transfer, sale, or assignment of Developer's rights and interests hereunder pursuant to the preceding subparagraph of this Agreement, Developer shall be released from the obligations under this Agreement with respect to the Property transferred, sold, or assigned, arising after the date of Board of Supervisors approval of such transfer, sale, or assignment; provided, however, that if any transferee, purchaser, or assignee approved by the Board of Supervisors expressly assumes the obligations of Developer under this Agreement, Developer shall be released with respect to all such assumed obligations. In any event, the transferee, purchaser, or assignee shall be subject to all the provisions of this Agreement and shall provide all necessary documents, certifications, and other necessary information before Board of Supervisors approval.

18.3. Pre-Approved Transfers. The following transfers shall not require approval by the Board of Supervisors, and shall automatically, on the satisfaction of the other conditions in Section 18.2, above, result in the release of Developer from its obligations under this Agreement as they may relate specifically to the specific property or asset sold or transferred: (1) sale or lease of a subdivided parcel of the Property or of one or more completed buildings or portions thereof by Developer; and (2) transfer of any interest in the Project or the Property by Developer to an affiliated or related company or entity.

18.4. Foreclosure. Nothing contained in this Section 18 shall prevent a transfer of the Property, or any portion of the Property, to a lender as a result of a foreclosure or deed in lieu of foreclosure, and any lender acquiring the Property, or any portion of the Property, as a result of foreclosure or a deed in lieu of foreclosure shall take such Property subject to the rights and obligations of Developer under this Agreement; provided, however, in no event shall such lender be liable for any defaults or monetary obligations of Developer arising before acquisition of title to the Property by such lender, and provided further, in no event shall any such lender or its successors or assigns be entitled to a building permit or occupancy certificate until all fees due under this Agreement (relating to the portion of the Property acquired by such lender) have been paid to County.

19. Agreement Runs with the Land. Except as otherwise provided in this Agreement, all of the

provisions, rights, terms, covenants, and obligations contained in this Agreement shall be binding on, and inure to the benefit of, the parties and their respective heirs, successors, and assignees, representatives, lessees, and all other persons acquiring the Property, or any portion of the Property, or any interest therein, whether by operation of law or in any manner whatsoever. All of the provisions of this Agreement shall be enforceable as equitable servitudes and shall constitute covenants running with the land pursuant to applicable laws, including, but not limited to, California Civil Code Section 1468. Each covenant to do, or refrain from doing, some act on the Property under this Agreement, or with respect to any owned property, (1) is for the benefit of such properties and is a burden on such properties, (2) runs with such properties, and (3) is binding on each party and each successive owner during its ownership of such properties or any portion thereof, and shall be a benefit to and a burden on each party and its property hereunder and each other person succeeding to an interest in such properties.

20. Bankruptcy. The obligations of this Agreement shall not be dischargeable in bankruptcy.

21. Indemnification. Developer agrees to indemnify and hold harmless County, and its elected and appointed councils, boards, commissions, officers, agents, employees, and representatives from any and all claims, costs, and liability for any personal injury or property damage which may arise directly or indirectly as a result of any actions or negligent omissions by the Developer, or any actions or negligent omissions of Developer's contractors, subcontractors, agents, or employees in connection with the construction, improvement, operation, or maintenance of the Project; provided, however, the provisions of this Paragraph 21 shall not apply to the extent the County or its elected and appointed councils, boards, commissions, officers, agents, employees, or representatives are found to have been negligent or to have committed willful misconduct.

22. Force Majeure. In addition to any specific provisions of this Agreement, performance of obligations under this Agreement shall be excused and the term of this Agreement shall be similarly extended during any period of delay caused at any time by reason of acts of God such as floods, earthquakes, fires, or similar catastrophes; wars, riots, or similar hostilities; strikes and other labor difficulties beyond the party's control; shortage of materials; the enactment of new laws or restrictions imposed or mandated by other governmental or quasi-governmental entities preventing this Agreement from being implemented; litigation involving this Agreement or the Project Approvals, which delays any activity contemplated under this Agreement; or other causes beyond a party's control. County and Developer shall promptly notify the other party of any delay under this Agreement as soon as possible after the delay has been ascertained.

23. Notices. All notices required or provided for under this Agreement shall be in writing and delivered in person or sent by certified mail, postage prepaid, by overnight delivery or by facsimile.

Notices required to be given to County shall be addressed as follows:

\_\_\_\_\_ [name, address, and fax number]

Notices required to be given to Developer shall be addressed as follows:

David J. Byers, Esq.  
McCracken, Byers & Richardson LLP  
870 Mitten Road  
Burlingame, CA 94010  
Facsimile: (650) 697-4895

A party may change its address for notices by giving notice in writing to the other party, and thereafter all notices shall be addressed and transmitted to the new address. Notices shall be deemed given and received on the earlier of personal delivery, or if mailed, on the expiration of 48 hours after being deposited in the United States Mail or on the delivery date or attempted delivery date shown on the return receipt, air bill, or facsimile.

24. Agreement Is Entire Understanding. This Agreement is executed in four duplicate originals, each of which is deemed to be an original. This Agreement constitutes the entire understanding and agreement of the parties.

25. Exhibits. The following documents are referred to in this Agreement and are attached to this Agreement and incorporated herein as though set forth in full:

Exhibit A: Legal Description of Property

Exhibit B: Project Approvals

26. Recordation of Development Agreement, Amendment, or Cancellation. Within ten (10) days after the Effective Date of this Agreement, the County Clerk shall submit a fully-executed original of this Agreement for recording with the County Recorder. If the parties to the Agreement or their successors-in-interest amend or cancel the Agreement or if the County terminates or modifies the Agreement for failure of the Developer to comply in good faith with the terms or conditions of the Agreement, the County Clerk shall submit for recording the notice of such action with the County Recorder.

///

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the date and year first above written.

County of San Mateo

Big Wave, LLC

By: \_\_\_\_\_

By: \_\_\_\_\_

APPROVED AS TO FORM:

\_\_\_\_\_  
County Counsel

NOTARIAL ACKNOWLEDGMENT ATTACHED

T:\Big Wave\Development\_Agr - 2010 form.wpd

EXHIBIT A

[Description of the Property]

EXHIBIT B

[Project approvals]

**RECEIVED**

AUG 31 2010

San Mateo County  
Planning Division

**Big Wave Tsunami Force and Run-up Report in Accordance with Zoning  
Ordinance 6326.2 (8-20-2010)**

Prepared by: Scott Holmes, Big Wave Project Engineer  
August 23, 2010

List of Attachments

1. Office Park Site Plan
2. Wellness Center Site Plan
3. Table A-1, List of Datums
4. San Mateo County Tsunami Inundation Map
5. Office of the Sheriff DEIR Comment Letter 162
6. NOAA National Geophysical Data Center, Tsunami Runups Search 2010 for Princeton
7. NOAA National Weather Service Tsunami West Coast and Alaska Warning Center (List of all recorded Tsunami's from 1737 to 2010)
8. Chile Tsunami (2/27/2010) NOAA Data Sheets
9. Japan Tsunami (4/9/2008) NOAA Data Sheets
10. 1964 Alaska Tsunami (3/28/1964) NOAA Data Sheets
11. 1960 South Central Chile Tsunami (5/22/1960) NOAA Data Sheets
12. 1946 Alaska Earthquake (4/1/1946) NOAA Data Sheets
13. 1906 San Francisco Earthquake (4/18/1906) NOAA Data Sheets



## **Big Wave Tsunami Force and Run-up Report in Accordance with Zoning Ordinance 6326.2 (8-20-2010)**

### Qualifications of Preparer

As required by the County Zoning Ordinance 6326.2, Big Wave must provide a report prepared by a competent and recognized authority that estimates the probable maximum wave height, wave force, run up angle and level of inundation in connection with the Big Wave Parcels. This report is prepared by Scott Holmes, the Big Wave Project Engineer. Scott Holmes is a licensed Civil Engineer (C28972). This license allows Scott Holmes to interpret and perform Surveying in the State of California, to perform geotechnical engineering including and seismic design in the State of California and to perform hydrological studies. Scott Holmes has consulting experience with the Geotechnical Engineering firm Dames and Moore (1972-1974), the structural engineering firm Sverdrup and Parcel (1974-1976), the water, wastewater and hydrology firm Montgomery Engineers (1978-1980), the general Civil Engineering Firm Harris and Associates (1980-1982) and over 25 years with the City of Pacifica working in coastal engineering and water and wastewater engineering as Wastewater Manager, City Engineer and Public Works Director. At Pacifica, Scott Holmes had the opportunity to design numerous shoreline protection systems including the design and construction of seawall and naturally restored tidally influenced systems. Scott Holmes served as the Flood Control Manager for the City of Pacifica and designed systems to protect the shoreline from wave run-up, wave impact, wave angle and tsunami impacts. Scott Holmes is thoroughly familiar with the geotechnical conditions of the Coastside and of the project site in particular.

### Primary Source of Information

The following report is based on published Tsunami data from NOAA (National Oceanic and Atmospheric Agency) that is attached to the body of the Report and data from the San Mateo County Sheriff's Department including a the DEIR comment letter and the latest (2009) Tsunami Inundation Map also attached to this report. Google maps were used for dimensions, distances and coastal orientation.

### Regulatory Requirements

The County Zoning Ordinance includes the following section:

**SECTION 6326.2. TSUNAMI INUNDATION AREA CRITERIA.** The following criteria shall apply within all areas defined as Tsunami Inundation Hazard Areas:

(a) The following uses, structures, and development shall not be permitted: publicly owned buildings intended for human occupancy other than park and recreational facilities; schools, hospitals, nursing homes, or other buildings or development used primarily by children or physically or mentally infirm persons.

(b) Residential structures and resort developments designed for transient or other residential use may be permitted under the following circumstances:

1. The applicant submits a report prepared by a competent and recognized authority estimating the probable maximum wave height, wave force, run-up angle, and level of inundation in connection with the parcel or lot upon which the proposed development is to be located.

2. No structure covered by this section shall be allowed within that portion of the lot or parcel where the projected wave height and force is fifty (50) percent or more of the projected maximum, unless: (a) the highest projected wave height above ground level at the location of the structure is less than six (6) feet, (b) no residential floor level is less than two (2) feet above that wave height, and (c) the structural support is sufficient to withstand the projected wave force.

3. No structure covered by this section shall be allowed within that portion of the lot or parcel where the projected wave height and force is less than fifty (50) percent of the projected maximum unless the requirements of subsection b, 2), (a), and (c) are satisfied and the residential flood level is at least one (1) foot above the highest projected level of inundation.

4. Permission under this subsection shall not be granted if the Planning Commission determines that sufficient data, upon which the report required by subsection 1) must be based, is unavailable and cannot feasibly be developed by the applicant.

The County Legal Council and the Big Wave Private legal counsel have agreed that the 6326.2 (a) does not prohibit physically or mentally infirm individuals to live within the tsunami evacuation zone because the ordinance would be a clear violation of the American Disabilities Act. The violation would occur if 6326.2 (a) is applied to "physically or mentally infirm persons" (Based on the County's approved evacuation map titled the 2009 Inundation Map), while in section (b) allows physically sound individuals without children to safely occupy the same area. This Section cannot be used to discriminate against the future residents (who will be occupants) of the Wellness Center.

#### Summary of Data From Sheriffs Letter

The 2009 Inundation Map utilized by the County Department of Sheriff OES is attached along with Comment letter 162 on the Project DEIR. The 2009 map includes the following statements listed in its legend for its use purpose:

"This tsunami inundation map was prepared to assist cities and counties in identifying their tsunami hazard. It is intended for local jurisdictional, coastal evacuation purposes only. This map and the information presented herein, is not a legal document and does not meet disclosure requirements for real estate transactions nor for any other regulatory purpose."

"The map does not represent inundation from a single scenario event. It was created by combining inundation results for an ensemble of source events affecting a given region (Table 1). For this reason, all of the inundation region in a particular area will not likely be inundated during a single tsunami event."

"The inundation map has been compiled with the best currently available scientific information. The inundation represents the maximum considered tsunami runup from a number of extreme, yet realistic sources. Tsunamis are rare events; due to the lack of known occurrences in the historical record, this map includes no information about the probability of any tsunami affecting any area with a specific period of time."

The 2009 map does not state an inundation elevation, however it can be interpreted from the map that the edge of the evacuation zone is at an elevation ranging from 30 to 35 feet NAVD. This report provides Table A-1 to clarify the different elevation datum used for development and flood control. Mean Lower Low Water (NOAA) is assumed to approximately zero elevation equals -0.29 feet NAVD (the County's accepted vertical datum) and -3.0 feet (NGVD, 1929). The USGS and historic FEMA maps

are based on NGDV. The newer maps are based on the 1988 standard NAVD. Based on the County Inundation map and datum review, it can be assumed that the evacuation zone is about elevation 35 NAVD. The map states that it is not a legal document to be used for zoning or regulatory purposes.

The 2009 inundation map clearly states that it is an evacuation map that cannot be used to determine a single event inundation but is based on the combining results from an ensemble of events listed in Table I on the Map. The map states that it cannot be used to determine the timing and recurrence intervals of events. These events where the impacts are combined together include the following actual and estimated events: Point Reyes thrust fault, Hayward Faults, San Gregorio Faults, Cascadia Subduction Zone (Full Rupture M9.0, Central Aleutians Subduction Zone (9.2M), Chile North Subduction Zone (M9.3), Alaska Earthquake, (M9.2). Japan Subduction Zone, Kuri Islands Subduction Zone(M8.8) and the Marianas Subduction Zone.

#### Maximum Inundation Based on Recurrence Intervals

Normal Design practice is based on the 100 year event or recurrence interval. Basic statistics state that the odds of two events occurring simultaneously are multiplied together. It should be noted that most recent earthquake on the San Gregorio fault occurred between 1735 and 1270 AD (Fitzgerald Marine Reserve Master Plan, page 143) and the second most recent occurred between 600 and 1400 AD. "Thus, 2 earthquakes have occurred at the site in the last 1400 years." The recurrence rate for the San Gregorio Fault is one earthquake every 700 hundred years (the odds of its occurrence is once every 700 years). The recurrence rate for major earthquakes at the San Andreas fault is approximately 150 years. Combining events and multiplying the probability of multiple events occurring simultaneously create a reasonable evacuation limit but creates probabilities that exceed the reasonable design events. The list of events in Table I (on the inundation map) include the largest earthquakes in recorded history that generated the largest tsunamis in recorded history (listed in NOAA's West Coast and Alaska Tsunami Warning System Website). Tables from this website are provided with this report.

The NOAA website and attached tables recorded 120 tsunami's that occurred on the West Coast and Alaska beginning in 1737. Only 2 generated recorded wave run-up in Princeton, the 1946 Alaskan Tsunami originating in the Eastern Aleutian Subduction Zone and the 1960 Chile Tsunami originating in the Central Chile Subduction Zone. The 1946 Alaskan Tsunami generated a wave amplitude of 2.6 (8.45 feet) meters in Princeton. The 1960 Chile Tsunami generated a wave amplitude of 2.2 meters. The 1960 Chile Earthquake was the largest earthquake in recorded history with 9.5 Mw (moment magnitude scale). The 1946 tsunami had a wave run-up in Princeton estimated to be 1000 feet from the shoreline. At mean higher high water (MHHW=5.9 feet NAVD, or high tide), the maximum recorded wave run-up elevation in 273 years has been 14.35 feet NAVD. The 1964 Alaska Earthquake was the second largest earthquake in history with a Mw of 9.2 Mw generated in the same subduction zone as the 1946 earthquake.

The 1964 Alaska Earthquake generated waves of considerable higher amplitude in California as compared to the 1946 Alaska Earthquake. The wave amplitude in Crescent City was 4.8 meters in 1964 as compared to 1 meter in 1946. The 1946 Earthquake in San Francisco was 0.3 meters as compared to 1.1 meters in 1964. There was an observed wave in Princeton Harbor for the 1964 Tsunami but no measured runup. It should be noted that this earthquake occurred after the construction of the Princeton Outer Seawall. The Seawall was constructed at an elevation of approximately a16 feet NAVD. It can be assumed that the Princeton outer sea wall may have provided some buffer for impact of the 1964 Tsunami.

The above NOAA data agrees with the assessment of the San Mateo Sheriffs Department in their attached letter that included the following comments:

- The likely source of tsunamis impacting Princeton are from Distant sources, similar to the 1964 Alaskan Earthquake and the 1960 Chilean earthquake.
- An area of concern is the Cascadia Subduction Zone off the Coast of Washington and Oregon. The recorded tsunami damage has generally occurred directly to the east and west with less energy traveling southward down the California coast.
- A less probable situation is a tsunami generated by a powerful local earthquake. The major faults in and around San Mateo County are strike-slip faults that typically do not create the vertical displacement necessary to generate a large tsunami.
- The Tsunami Inundation map in the letter was prepared by the University of Southern California Tsunami Research Center, the California Emergency Management Agency.
- The map is a planning tool and are not a legal document.
- The map document states "The inundation map has been compiled with the best currently available scientific information. The inundation line represents the maximum considered tsunami run-up from a number of extreme, yet realistic, tsunami sources. Tsunamis are rare events, due to lack of known occurrences in the historical record, this map includes no information about the probability of any tsunami affecting any area within a specific period of time."

Based on the above analyses it can be concluded that the largest Tsunami that can occur in Princeton within a 200 year recurrence interval will generate a wave that will reach elevation 14.35 feet NAVD and run-up 1000 feet inland from the harbor shoreline.

#### Potential for Local Sources for Tsunamis

The 1906 San Francisco Earthquake with an epicenter located 16 miles north of Princeton did not generate a measurable tsunami in Princeton. The San Gregorio fault has a recurrence interval of 700 years and is primarily a strike slip fault and in accordance with the above analyses by the Sheriff's Department will most likely not cause a tsunami in Princeton.

Landslides in small trapped bays and inlets have caused local tsunamis (primarily in Alaska). Landslides on the western side of the Pillar Point Bluffs would slide directly into the ocean. A slide into the open ocean and will not displace enough water to raise the ocean elevation because the volume of the slide is small relative to the volume of ocean. Princeton harbor is shallow and contains a relatively small volume of water. There are no large potential landslides that can enter the Bay. The approximate area of the bay is about 260 acres with an average depth of 6 feet. (Google Earth and NOAA Charts). This corresponds to a volume of 1575 acre feet. Complete displacement of the Bay would cover about 600 acres with a maximum of 2.5 feet of water. The impact of complete displacement of the Bay would fall short of the Big Wave Property by about 500 feet.

#### Maximum Tsunami Inundation on Big Wave Site

This inundation elevation of 14.5 feet NAVD reaches the base of the fill on the Final Grading Plan for the Wellness Center Buildings as shown in Figure C-2 for the Wellness Center (Attached). This drawing was prepared based on the licensed survey provided by McCloud Engineering. As shown on Figure C-2 of

the Office Park (Attached) illustrates that the entire office park site is above the maximum inundation level for the 200 year tsunami recurrence.

### Maximum Wave Energy and Run-up Angle

The project places all structures above the Tsunami run-up elevation. Wave energy to the Wellness Center site will be dampened by the dense planting of the Wetlands Restoration. Due to the elevation of the maximum inundation level, the elevation of the buildings and the surrounding wetlands restoration, the structures will not be required to dissipate wave energy.

The site is surrounded by the Pillar Point Bluffs to the West, the Airport with an elevation of 42 feet to the east and Moss Beach with an elevation exceeding 42 feet to the North. The Pillar Point outer harbor sea wall protects the project from the south. Tsunami waves must enter the harbor from the south east. Waves will have to clear the sea wall elevation of 16 feet or enter through the narrow harbor entrance. The harbor entrance is approximately 400 feet wide and positioned due east. Waves from the northern subduction zones travel south along the west coast and wrap around Point directing most of their energy and amplitude to the western beaches of Half Moon Bay. Waves generated from subductions zones to the south would be directed towards the outer harbor breakwater. Waves directed to the project would be parallel to the shoreline of the harbor. A raise in the harbor water surface elevation would cause the wave flow through the marsh and over West Point Street (elevation 9 feet) until it reached the maximum inundation level of 14.5 feet.

### Project Design to Tsunami Hazard, 100 year Flood and Sea Level Rise

The project has the following features:

1. The minimum residential and commercial floor elevation is proposed to be 20 feet NAVD. This is 5.5 feet above the maximum inundation level, 11.5 feet above the 100 year flood level and 6 feet above the maximum anticipated Sea Level Rise. The first floor elevation is above the maximum tsunami inundation level plus the maximum sea level rise. The pool and basketball courts will a minimum of 2 feet above the maximum inundation level, 4 feet above the 100 year flood level and 2 feet above the maximum ocean level rise.
2. The project includes a 4 foot raised concrete foundation wall to function as a wave deflector and habitat barrier that extends 5.5 feet above the maximum tsunami inundation level.
3. The project includes a dense forested wetlands restoration designed to absorb tsunami energy and trap flowing debris.

### Compliance with Tsunami Hazard Zone Ordinance 6326.2

The project complies with requirement 6326.2(b).2

*No structure covered by this section shall be allowed within that portion of the lot or parcel where the projected wave height and force is fifty (50) percent or more of the projected maximum, unless: (a) the highest projected wave height above ground level at the location of the structure is less than six (6) feet, (b) no residential floor level is less than two (2) feet above that wave height, and (c) the structural support is sufficient to withstand the projected wave force.*

The project does not have any structures that are within the wave height and force equaling 100 per cent or more and the highest projected wave height is 2 feet below the ground level at the location of the Wellness Center structures and 5.5 feet below the residential floor level.

The project complies with requirement 6326.2(b).3

*No structure covered by this section shall be allowed within that portion of the lot or parcel where the projected wave height and force is less than fifty (50) percent of the projected maximum unless the requirements of subsection b, 2), (a), and (c) are satisfied and the residential flood level is at least one (1) foot above the highest projected level of inundation.*

The project site elevation at the Center is 7.5 feet above the flood level and the first floor elevation is 11.5 feet above the flood elevation.



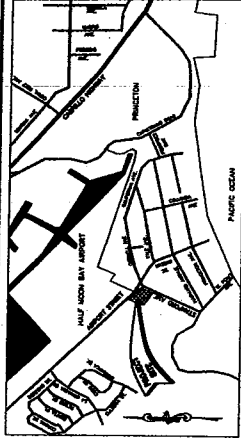


DATE: 11/17/78  
 DRAWN BY: JPM  
 CHECKED BY: JPM  
 SCALE: 1" = 20'  
 SHEET NO. 1188-00  
 SHEETS IN SET 2

PERMANENT GRADING/ DRAINAGE & UTILITY PLAN WITH  
 BIG WAVE WELLS CENTER  
 SAN MATEO COUNTY

PREPARED FOR:  
 BIG WAVE LLC

WALDRO AND ASSOCIATES  
 CIVIL ENGINEERING - LAND SURVEYING  
 965 CENTER STREET, SAN CARLOS, CA 94070 - (650) 593-8660



GENERAL NOTES:

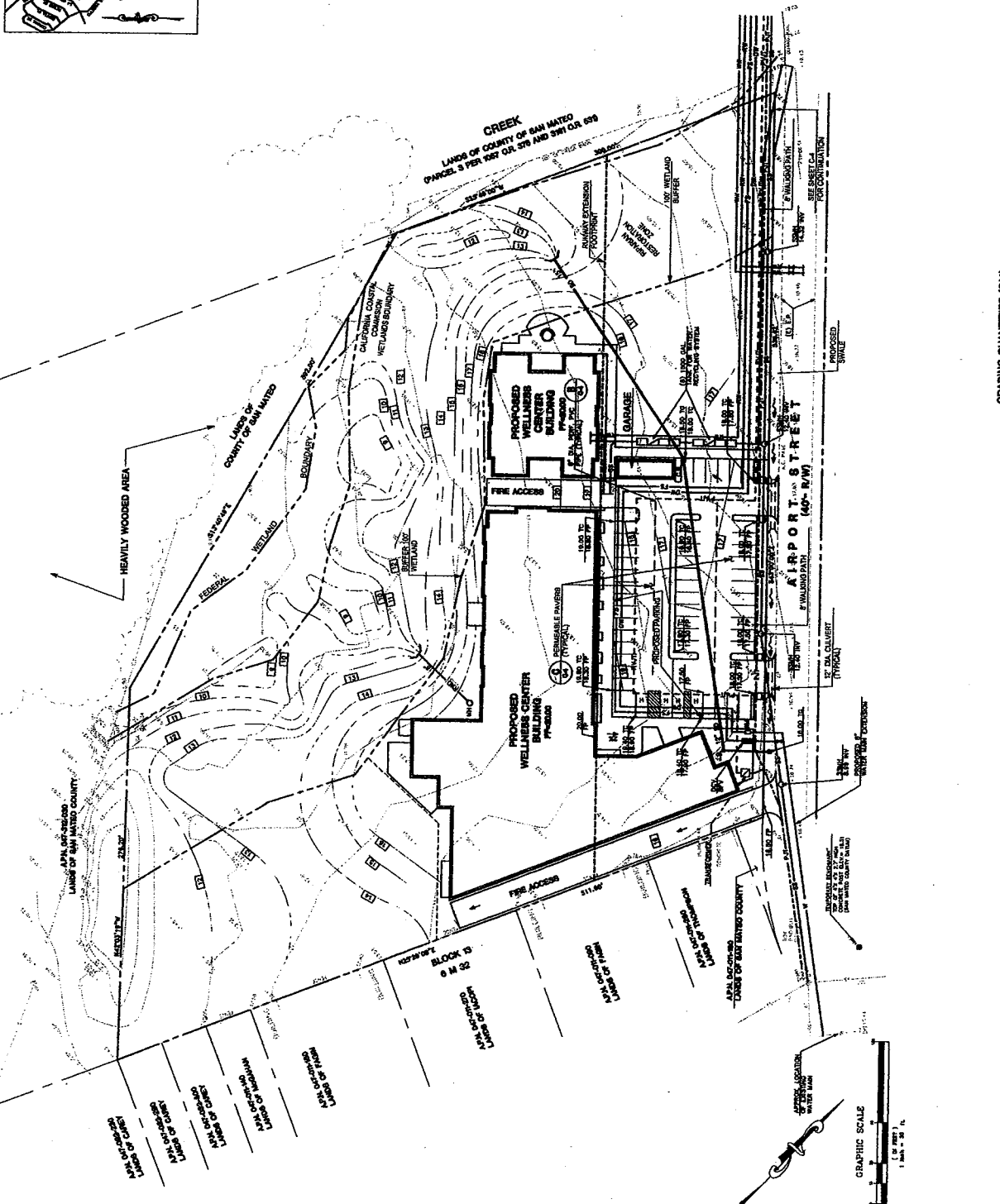
1. EXISTING AND PROPOSED GRADING AND UTILITY SHALL BE SHOWN ON THIS PLAN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. ALL UTILITIES SHALL BE PROTECTED AND DEPTH SHALL BE MAINTAINED AT ALL TIMES.
2. ALL UTILITIES SHALL BE DEEPENED TO A MINIMUM OF 48" BELOW FINISHED GRADE AT ALL TIMES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE COUNTY OF SAN MATEO AND THE CITY OF SAN CARLOS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE COUNTY OF SAN MATEO AND THE CITY OF SAN CARLOS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE COUNTY OF SAN MATEO AND THE CITY OF SAN CARLOS.
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10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE COUNTY OF SAN MATEO AND THE CITY OF SAN CARLOS.

UTILITY NOTE:

THE UTILITIES SHOWN ON THIS PLAN ARE BASED ON THE RECORD DRAWINGS AND FIELD SURVEY DATA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION. ALL UTILITIES SHALL BE PROTECTED AND DEPTH SHALL BE MAINTAINED AT ALL TIMES.

LEGEND:

- CS CATCH BASIN
- FF FINISHED FLOOR ELEVATION
- FL FLOWLINE
- TC TOP OF CURB
- TO TOP OF GRADE
- SD STONE DRAIN MANHOLE
- SS SANITARY SEWER MANHOLE
- INVERT
- CP CONCRETE PAVEMENT
- CA CEMENT ASPHALT
- GV GATE VALVE
- NS NEW SANITARY SEWER LINE
- NSD NEW STORM DRAIN LINE
- EL ELECTRIC LINE
- W WATER LINE
- WC WATER CLOSER
- WCW WATER CLOSER WITH VALVE
- WV WELL WATER
- WVW WELL WATER WITH VALVE
- PT PRIVATE JOINT TRENCH
- PJT PUBLIC JOINT TRENCH
- RS REINFORCED CONCRETE FOR ROOF RUMBLE



GRADING QUANTITIES (C.Y.):

ITEM	QUANTITY	UNIT
GRADE TO FINISH	10,200	C.Y.
GRADE TO EXISTING	6,000	C.Y.
TOTAL	16,200	C.Y.

TOTAL IMPORT = 10,200 - 870 = 9,330 C.Y.  
 IMPORT FROM BIG WAVE OFFICE PARK PHASE 1 = 6,000 C.Y.  
 BALANCE OF IMPORT FILL = 10,200 - 6,000 = 4,200 C.Y. ±

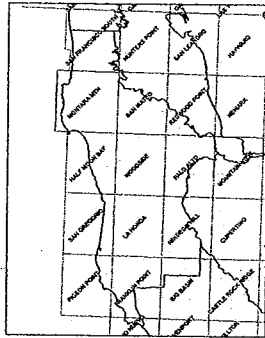
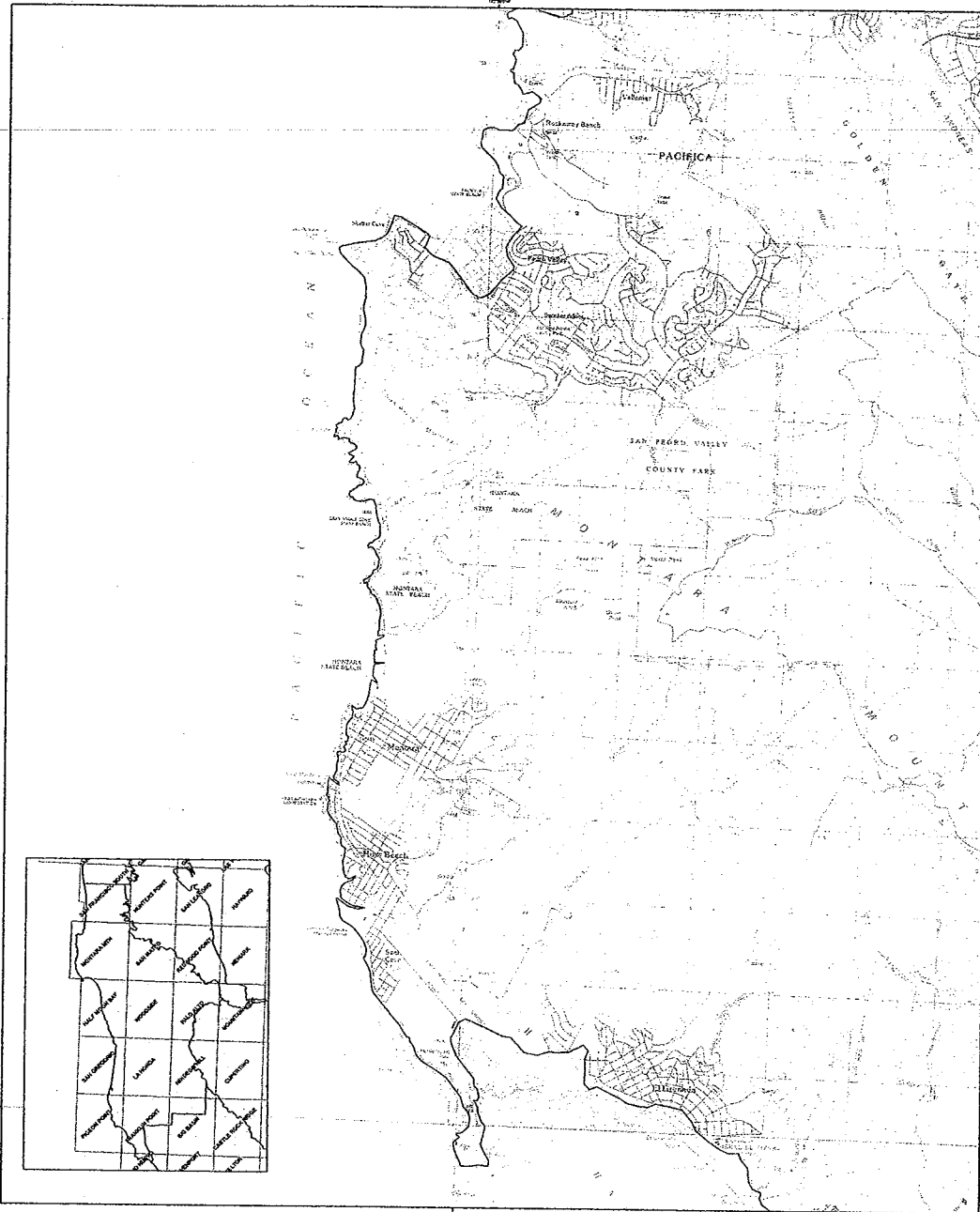


**Table A-1**  
**Vertical Datums**  
**Martin Luther King, Jr. Regional Shoreline Wetland Restoration**  
**Oakland, California**

Description	Elevation (ft)			
	Port Datum	MLLW	NAVD	NGVD
Mean Higher High Water (MHHW)	6.69	6.49	6.20	3.49
Mean High Water (MHW)	6.08	5.88	5.59	2.88
Mean Tide Level (MTL)	3.69	3.49	3.20	0.49
Mean Sea Level (MSL)	3.60	3.40	3.11	0.40
National Geodetic Vertical Datum of 1929 (NGVD)	3.20	3.00	2.71	0
Mean Low Water (MLW)	1.31	1.11	0.82	-1.89
North American Vertical Datum of 1988 (NAVD)	0.49	0.29	0	-2.71
Mean Lower Low Water (MLLW)	0.20	0	-0.29	-3.00
Port Datum	0	-0.20	-0.49	-3.20

**Notes:**

1. Primary source is National Ocean Service Station 941-4750, 10 May 2000.
2. Difference between NAVD and NGVD is 2.71 ft based on benchmark sheets for 941-4750.
3. Port of Oakland provided conversion of 3.2 ft from Port Datum to NGVD.



**METHOD OF PREPARATION**

Initial tsunami modeling was performed by the University of Southern California (USC) Tsunami Research Center funded through the California Emergency Management Agency (CEMA) by the National Tsunami Hazard Mitigation Program. The tsunami modeling process utilized the MOST (Method of Solving Tsunami) computational program (Ward et al., 2002) which allows for wave evolution over a variable bathymetry and topography used for the inundation mapping (Tibi and Gonzalez, 1997; Tibi and Gonzalez, 2004).

The bathymetographic data that were used in the tsunami models consist of a series of nested grids. The shallowest grid with a 3 arc-second (75 to 90 meters) resolution or higher, with equidistant "Mean High Water" sea level conditions representing a conservative sea level for the intended use of the tsunami modeling and mapping.

A suite of tsunami source events was selected for modeling, representing realistic local and distant earthquakes and hypothetical extreme scenarios, near-shore tsunamis (Table 1). Local tsunami sources that were considered include offshore events that burst, including tsunamis on strike-slip fault zones and large submarine landslides capable of significant seabed displacement and tsunami generation. Distant tsunami sources that were considered include great subduction zone events that are known to have occurred historically (1960 Chile and 1964 Alaska earthquakes) and others which can occur around the Pacific Ocean "Ring of Fire".

In order to enhance the result from the 75- to 90-meter inundation grid data, a method was developed utilizing higher-resolution digital topographic data (5- to 10-meter resolution) that better defines the location of the maximum inundation line (US Geological Survey, 1993; Internap, 2002; NOAA, 2004). The location of the enhanced inundation line was determined by using digital images and terrain data on a GIS platform with consideration given to historic inundation information (Lander, et al., 1995). This information was verified, where possible, by field work coordinated with local county personnel.

The accuracy of the inundation line shown on these maps is subject to limitations in the accuracy and completeness of available terrain and tsunami source information, and the current understanding of the wet penetration and propagation phenomena as expressed in the models. Thus, although an attempt has been made to identify a credible upper bound to inundation at any location along the coastline, it remains possible that actual inundation could be greater in a major tsunami event.

This map does not represent inundation from a single scenario event. It was created by combining inundation results for an ensemble of source events affecting a given region (Table 1). For this reason, all of the inundation regions in a particular area will not likely be inundated during a single tsunami event.

**References:**  
Internap Technologies, Inc., 2003. Internap product handbook and quick start guide. Internap MOSTing document on 6-meters resolution data, 112 p.  
Lander, J.F., Luchinger, P.A., and Rowland, M.J., 1995. Tsunami Affecting the West Coast of the United States 1806-1992. National Geophysical Data Center for the Geological Record Documentation No. 29. NOAA, NESOS, NSDC, 242 p.  
National Atmospheric and Oceanic Administration (NOAA), 2004. Interim Report: Synthetic Aperture Radar (SAR) Digital Elevation Models from GeoSat-3 platform (3-meter resolution data).

Tibi, M.V., and Gonzalez, F.I., 1997. Implementation and Testing of the Method of Solving Tsunami (MOST). NOAA Technical Memorandum DR, PMEL - 112, 11 p.  
Tibi, M.V. and Gonzalez, F.I., 2002. Numerical modeling of tsunamis using the Method of Solving Tsunami, Port, Coastal and Ocean Engineering, ASCE, 124(1), pp 157-171.  
US Geological Survey, 1989. Digital Elevation Model: National Mapping Program, Technical Instructions, Data Users Guide 5, 48 p.

**TSUNAMI INUNDATION MAP FOR EMERGENCY PLANNING**  
State of California ~ County of San Mateo  
MONTARA MOUNTAIN QUADRANGLE

June 15, 2009

SCALE 1:24,000

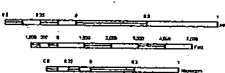


Table 1: Tsunami sources modeled for the San Mateo County coastline.

Sources (all = sources magnitude used in modeled events)	Area of Inundation Map Coverage and Source List	
	San Francisco Bay	Pescadero
Local Sources		
Port Rivers Thrust Fault	X	
Roberts Creek-Herman's Falls	X	
San Geronimo Fault	X	
Sancti Spiritus Subduction Zone #1 (MS 9)	X	X
Central Aleutians Subduction Zone #2 (MS 9)	X	X
Central Aleutians Subduction Zone #3 (MS 7)	X	X
Chile North Subduction Zone (MS 4)	X	X
1960 Chile Earthquake (MS 9)	X	X
1964 Alaska Earthquake (MS 9)	X	X
North Islands Subduction Zone #1 (MS 9)	X	X
North Islands Subduction Zone #2 (MS 9)	X	X
North Islands Subduction Zone #3 (MS 8)	X	X
Herman's Subduction Zone (MS 9)	X	X

**MAP EXPLANATION**

~ Tsunami Inundation Line  
Tsunami Inundation Area

**PURPOSE OF THIS MAP**

This tsunami inundation map was prepared to assist cities and counties in identifying their tsunami hazards. It is intended for local jurisdiction, coastal recreation planning uses only. This map, and the information presented herein, is not a legal document and does not meet disclosure requirements for real estate transactions nor for any other regulatory purpose.

The inundation map has been compiled with best currently available scientific information. The inundation line represents the maximum considered tsunami runup from a number of sources, not models, tsunami sources. Tsunamis are rare events due to a lack of known occurrences in the historical record. This map includes no information about the probability of any tsunami affecting any area within a specific period of time.

Please refer to the following website for additional information on the construction and intended use of the tsunami inundation map:  
State of California Emergency Management Agency, Earthquake and Tsunami Program: <http://www.cemag.ca.gov/earthquakeandtsunami/>  
515M210501750825741F0065060703p00document

University of Southern California - Tsunami Research Center  
<http://www.usc.edu/dept/earth/tsunami/index.php>

State of California Geological Survey Tsunami Information:  
[http://www.consrvision.ca.gov/geology/geology\\_hazard/Tsunami/index.htm](http://www.consrvision.ca.gov/geology/geology_hazard/Tsunami/index.htm)

National Oceanic and Atmospheric Administration (NOAA) Tsunami Research (MOST) model:  
<http://hazmat.pmel.noaa.gov/morebackground/models.html>

**MAP BASE**

Topographic base maps prepared by U.S. Geological Survey as part of the 7.5-minute Quadrangle Map Series (originally 1:24,000 scale). Tsunami inundation line boundaries may reflect updated digital orthophotographic and topographic data that can differ significantly from contours shown on the base map.

**DISCLAIMER**

The California Emergency Management Agency (CEMA), the University of Southern California (USC), and the California Geological Survey (CGS) make no representation or warranty regarding the accuracy of this inundation map nor the data from which the map was derived. Neither the State of California nor CGS shall be liable under any circumstances for any direct, indirect, special, incidental or consequential damages with respect to any claim by any user or any third party on account of or arising from the use of this map.





COUNTY OF SAN MATEO

Office of the Sheriff
Area Office of Emergency Services
and Homeland Security

GREG MUNKS
SHERIFF

CARLOS G. BOLANOS
UNDERSHERIFF

400 COUNTY CENTER • REDWOOD CITY • CALIFORNIA 94083-1662 TELEPHONE (650) 363-4790 www.smcsheriff.com

ADDRESS ALL COMMUNICATIONS TO THE SHERIFF

To: Planning Commission

Re: OES Comments on Big Wave Wellness Center and Office Park draft
Environmental Impact Report

From: Lt. Ed Barberini
Director
San Mateo County Sheriff's Area OES

Big Wave Wellness Center and Office Park draft Environmental Impact Report

Thank you for the opportunity to comment on the Big Wave Wellness Center and Office
Park draft Environmental Impact Report (EIR), (IV. Environmental Impact Analysis, H.
Hydrology & Water Quality). Specifically, we were asked to comment on the section
regarding tsunamis.

The Sheriff's Office of Emergency Services and Homeland Security is involved with
ongoing planning for natural disasters and emergencies, including tsunami events. Our
background is in preparedness and we do not claim to be geotechnical experts.

The historic tsunami events cited in the E.I.R. concur with the information that we have
available. Accordingly, the potential tsunami event that we are most concerned with is a
distant source tsunami caused by a "great" earthquake similar to the 1964 Alaskan or
1960 Chilean earthquakes discussed in the report. While distance source tsunamis
present the most likely situation, they also provide us with several hours of warning time
during which evacuation of low lying coastal areas could be undertaken.

An area of particular concern is a seismically active zone located off the coast of northern
California, Oregon and Washington that could potentially generate a damaging tsunami
along the San Mateo Coast. This particular fault system, known as the Cascadia
Subduction Zone, has spurred tsunamis in the past. The recorded tsunami damage has
generally been directly to the east and west, with less energy traveling southward down
the California coast. A tsunami generated in this area could still cause damage in our
area and reach the San Mateo County in less than two hours.

162-1

162-8

A JOINT POWERS REPRESENTING:

TOWN OF ATHERTON • CITY OF BELMONT • CITY OF BRISBANE • CITY OF BURLINGAME • CITY OF COLMA • CITY OF DALY CITY • CITY OF EAST PALO ALTO
CITY OF FOSTER CITY • CITY OF HALF MOON BAY • TOWN OF HILLSBOROUGH • CITY OF MENLO PARK • CITY OF MILLBRAE • CITY OF PACIFICA
TOWN OF PORTOLA VALLEY • CITY OF REDWOOD CITY • CITY OF SAN BRUNO • CITY OF SAN CARLOS • CITY OF SAN MATEO • COUNTY OF SAN MATEO
CITY OF SOUTH SAN FRANCISCO • TOWN OF WOODSIDE

A less probable situation, but one that must be considered nonetheless, is a tsunami generated by a powerful local earthquake. Although there are several active earthquake faults in and around San Mateo County, including the San Gregorio Fault which runs in close proximity to the project, these are "strike-slip" type faults that typically do not create the vertical displacement necessary to generate a large tsunami. Additionally, the San Gregorio Fault, although very close, is not expected to generate an earthquake of the magnitude needed to cause a damaging tsunami. However, tsunami precautions should always be taken following a strong local earthquake. People near the ocean, including those in the Princeton area, should immediately move to high ground until it is determined that no tsunami has been generated. If a tsunami is generated by a local earthquake, there will not be time to issue an official public warning before the waves arrive.

162-2

The inundation map included in the Environmental Impact Report shows the potential tsunami inundation area in Princeton. This map was produced in the mid 1990 by the University of Southern California and has just recently been updated. The new inundation maps were finalized in June of 2009. As with the old maps, these were produced by the University of Southern California Tsunami Research Center, the California Geological Survey and the California Emergency Management Agency. While the potential inundation area on the new maps is slightly less extensive, the Big Wave project remains in the hazard zone. (A copy of the map is included).

162-3

It should be noted that the tsunami inundation maps are planning tools only and are not legal documents as would be required for disclosure in real estate transactions. The maps do not indicate potential inundation from a single tsunami, but instead include the potential run-up from an ensemble of seismic events including the possible impact of three local source and 12 distance source tsunamis. Any single event would not likely inundate all areas shown on the map.

The map document states, "The inundation map has been compiled with best currently available scientific information. The inundation line represents the maximum considered tsunami run-up from a number of extreme, yet realistic, tsunami sources. Tsunamis are rare events, due to lack of known occurrences in the historical record, this map includes no information about the probability of any tsunami affecting any area within a specific period of time." The mapping methodology is explained on the maps.

#### Tsunami Warnings

Of primary importance in planning for a tsunami is the element of warning. The National Ocean and Atmospheric Administration (NOAA) staffs the West Coast Alaska Tsunami Warning Center (WCATWC) in Palmer, Alaska where all potential tsunami-generating seismic events are analyzed. Should an event occur that could affect the west coast, an alert would be transmitted to the state and our county through a variety of channels including the National Weather Service, the California Warning System (CalWAS) and the California Law Enforcement Teletype System (CLETS).

162-4

Depending upon the level of threat as determined by NOAA, the warning center will issue a Tsunami Warning, Watch, or Advisory. A "tsunami warning" is the most urgent message and indicates that a tsunami is probable for the warning area. A "tsunami advisory" is a much less serious alert and warns of the possibility of tidal surges along beaches or in harbors with no widespread inundation expected. A "tsunami watch" indicates that tsunami activity is expected elsewhere along the coast and might yet affect our area.

When a tsunami message is received in the county it is disseminated to public officials and the general public in several ways:

#### Emergency Alert System (EAS)

This system would be activated by the National Weather Service and would broadcast tsunami warning information over commercial radio and television stations. The National Weather Service would also activate their weather radio (all hazard) receivers. These special radio receivers sound an alarm when activated followed by official information. All-hazard weather radios have been provided to all schools in the county and are also in use at most fire stations and other public facilities. They are available for purchase by the general public. One or more all-hazard weather radios at the Big Wave Wellness Center could provide the center's timely notifications of tsunami alerts, severe weather and other regional emergencies.

#### Telephone Emergency Notification System (TENS)

This system is activated by city or county officials and would send specific emergency information to all landline telephones in a geographic region of the county, such as the coastal area. Additionally, this system can be used to send information to specific phone numbers, such as those of law enforcement, fire and other public agencies. The Big Wave Center could be added to this list to receive direct telephone notification of tsunami alerts.

#### SMC Alert

This system, again activated by county or city officials, sends a text message to cell phones, digital pagers and email accounts. Individuals must sign up for this free service. Users can receive messages for the entire county or specific areas such as the coastside. The system is frequently used for notifications of traffic problems and road closures, severe weather advisories, and would be used for tsunami notifications.

#### Sirens

A number of warning sirens are located on the San Mateo coast and will be sounded in an emergency to alert people who are out of doors and away from other means of notification. A siren located at 203 Cornell Avenue is in close proximity to the project and should be easily heard by anyone at the facility who is outdoors. A short, low

volume test of the sirens is conducted at 10:00 a.m. on the first Wednesday of each month and a full volume test is conducted once a year. Residents have been advised to tune their radios to the local Emergency Alert Station for official information and instructions should the sirens sound at any time other than during the monthly tests.

In addition to the above warning and notification systems, if an evacuation is called for, law enforcement and fire personnel will drive through the evacuation areas using vehicle sirens and public address systems to make sure that all people were aware of the evacuation order.

### Evacuations

As previously mentioned, most tsunami events will provide several hours warning prior to the arrival of tsunami waves in the county. During that time coastal areas will be evacuated with evacuees being asked to go inland until it is determined safe to return. In most cases, the east of State Highway 1 will generally be safe ground with the exception of lower El Granada and parts of Linda Mar in Pacifica.

It will be important for the staff and residents of the Big Wave project to have a pre-identified evacuation location and a means to get there as part of the center's emergency plan. *The plan should address both local source and distance source tsunami scenarios.*

As a response to a possible local source tsunami following a powerful local earthquake, staff and residents of the center can simply walk up Airport Road towards Cypress Avenue. According to the latest inundation maps, the area north of the mobile home park and will be safe ground. This movement would need to be undertaken immediately following a strong earthquake as a tsunami could arrive in a matter of just a few minutes.

In the event of a distance source tsunami the evacuation order could last for hours. Considering that the evacuation notice could occur at night or in inclement weather, it is highly recommended that the center population move temporarily to an alternate facility. Plans call for several public schools on the coast to be used as public evacuation shelters and an alternative might be to go to one of these. If the Big Wave staff decides on this option, arrangements should be made in advance with the evacuation shelter to ensure that it will be open and have room for the Big Wave population.

Another option would be to build a tsunami evacuation area into the Big Wave facility. Vertical evacuation is an accepted tsunami evacuation alternative in many coastal communities. A recent publication by FEMA, "Guidelines for Design of Structures for Vertical Evacuation from Tsunamis" FEMA P646/June 2008 is available for review from our office or may be downloaded at [www.fema.gov/library](http://www.fema.gov/library).

Further references includes "Designing for Tsunamis – Seven Principles for Planning and Designing for Tsunami Hazards", National Tsunami Hazard Mitigation Program, March 2001. A copy is included with this report.

162-4

162-5



**Summary**

Damaging tsunamis are very rare events but they have caused damage along the San Mateo coast, and specifically in the area of the proposed project, in years past. While these events cannot be avoided, effective warning and evacuation planning can minimize the potential for injuries and loss of life. Additionally, project design and construction techniques can lessen damage to the facility should inundation occur.

Again, thank you for the opportunity to comment on this project. Please let us know if we can be of further assistance.



**Table A-1  
Vertical Datums  
Martin Luther King, Jr. Regional Shoreline Wetland Restoration  
Oakland, California**

Description	Elevation (ft)			
	Port Datum	MLLW	NAVD	NGVD
Mean Higher High Water (MHHW)	6.69	6.49	6.20	3.49
Mean High Water (MHW)	6.08	5.88	5.59	2.88
Mean Tide Level (MTL)	3.69	3.49	3.20	0.49
Mean Sea Level (MSL)	3.60	3.40	3.11	0.40
National Geodetic Vertical Datum of 1929 (NGVD)	3.20	3.00	2.71	0
Mean Low Water (MLW)	1.31	1.11	0.82	-1.89
North American Vertical Datum of 1988 (NAVD)	0.49	0.29	0	-2.71
Mean Lower Low Water (MLLW)	0.20	0	-0.29	-3.00
Port Datum	0	-0.20	-0.49	-3.20

Notes:

1. Primary source is National Ocean Service Station 941-4750, 10 May 2000.
2. Difference between NAVD and NGVD is 2.71 ft based on benchmark sheets for 941-4750.
3. Port of Oakland provided conversion of 3.2 ft from Port Datum to NGVD.





NOAA > NESDIS > NGDC > Natural Hazards

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**Tsunami Runups Full Search, sort by Date, Country**

**Tsunami Runups where (Year <= 2010 and Year >= 1900) and Runup Country = USA and Runup\_Location\_Name includes Princeton and Runup Region Code = 88**

View parameter descriptions and access statistical information by clicking on column headings.  
 For additional information about the tsunamigenic earthquake, tsunami runup, or source event click on the links in the **Tsu Src**, **EQ Mag**, **Volcano**, or **Tsu Runup** columns.

Date		Tsunami Source			Addl Info		Tsunami Runup Location				Tsunami Runup Measurements				Tsunami Runup Location Effects															
Year	Mo	Day	Hr	Min	Sec	Val	Code	Tsu	EQ	Vol-	Doubt-	Country	State/Province/Prefecture	Name	Latitude	Longitude	Distance from Source	Travel Time Hrs	Min	Max	Water Height	Inundation Distance	Type	Per Mts	Deaths Num	Injuries Num	Damage \$Mill	Houses Destroyed Num	Houses Damaged Num	
1946	4	1	12	28	56	4	1	*	8.1			USA	CA	PRINCETON, CA	37.505	-122.486	3566	3566		3.96	1000.00	1					.025	1		
1946	4	1	12	28	56	4	1	*	8.1			USA	CA	PRINCETON, CA	37.505	-122.486	3566	3566		2.21		1					.020	1		
1960	5	22	19	11	17	4	1	*	9.5			USA	CA	PRINCETON, CA	37.505	-122.486	9867	9867				1							1	

**3 events returned.**

[Return to Historical Tsunami Database at NGDC](#)

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Questions: [haz.info@noaa.gov](mailto:haz.info@noaa.gov)

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NOAA's National Weather Service

**West Coast and Alaska**  
Tsunami Warning Center

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**WCATWC Tsunami Catalog**

**Tsunamis Observed at WCATWC from June 10, 1996 - Present**

- Recent Messages
- Products
- User Guide (PDF)
- Tsunami Catalogs
- Tsunamis
- Earthquakes
- WCATWC
- Tide Gauges
- TsunamiReady
- FAQs
- Links & References
- Send Info
- Emergency Services

- Tsunami of June 12, 2010 (Nicobar Islands, India)
- Tsunami of May 29, 2010 (Sarigan Volcano)
- Tsunami of April 6, 2010 (Indonesia)
- Tsunami of March 11, 2010 (Chile)
- Tsunami of February 27, 2010 (Chile)
- Tsunami of January 12, 2010 (Haiti)
- Tsunami of January 5, 2010 (Solomon Islands)
- Tsunami of January 3, 2010 (Solomon Islands)
- Tsunami of October 7, 2009 (Torres Islands, Vanuatu)
- Tsunami of September 30, 2009 (Indonesia)
- Tsunami of September 29, 2009 (Samoa Islands Region)
- Tsunami of March 19, 2009 (Tonga Island Region)
- Tsunami of February 11, 2009 (Talaud, Indonesia)
- Tsunami of January 15, 2009 (Kuril Islands)
- Tsunami of January 3-4, 2009 (Irian Jaya)
- Tsunami of August 7-8, 2008 (Kasatochi volcano)
- Tsunami of April 9, 2008 (Vanuatu Islands)
- Tsunami of December 09, 2007 (Fiji Islands)
- Tsunami of November 14, 2007 (Chile)
- Tsunami of August 15, 2007 (Peru)
- Tsunami of August 2, 2007 (Aleutian Islands)
- Tsunami of April 1, 2007 (Solomon Islands)
- Tsunami of March 25, 2007 (Vanuatu Islands)
- Tsunami of March 25, 2007 (Honshu, Japan)
- Tsunami of January 13, 2007
- Tsunami of November 15, 2006
- Tsunami of July 17, 2006
- Tsunami of May 3, 2006
- Tsunami of November 14, 2005
- Tsunami of June 15, 2005
- Tsunami of March 28, 2005
- Tsunami of December 26, 2004
- Tsunami of December 23, 2004
- Tsunami of November 28, 2004
- Tsunami of November 21, 2004
- Tsunami of November 11, 2004
- Tsunami of September 5, 2004
- Tsunami of September 5, 2004
- Tsunami of November 17, 2003
- Tsunami of September 25, 2003
- Tsunami of January 22, 2003
- Tsunami of January 20, 2003
- Tsunami of October 10, 2002
- Tsunami of September 13, 2002
- Tsunami of September 8, 2002
- Tsunami of January 2, 2002
- Tsunami of June 23, 2001
- Tsunami of November 26, 1999
- Tsunami of July 17, 1998
- Tsunami of May 3, 1998
- Tsunami of December 5, 1997
- Tsunami of April 21, 1997
- Tsunami of December 2, 1996
- Tsunami of November 12, 1996
- Tsunami of September 5, 1996
- Tsunami of September 4, 1996
- Tsunami of June 10, 1996



US Dept of Commerce  
National Oceanic and Atmospheric Administration  
West Coast & Alaska Tsunami Warning Center  
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## West Coast/Alaska Tsunami Warning Center, NOAA/NWS

### Past Tsunamis along the U.S. West Coast, British Columbia, and Alaska

Tsunamis listed are locally generated tsunamis with high validity or with a significant effect. Also, significant tsunamis recorded in the WC/ATWC AOR (Alaska, British Columbia, Washington, Oregon, and California) but generated elsewhere in the Pacific are listed. Maximum runup and fatalities refer to the WC/ATWC AOR. Maximum runup indicates the maximum vertical wave elevation along the shore or the maximum half-height of the wave recorded on a tide gage. For further information on Alaska, B.C., and U.S. west coast tsunamis, see the [NGDC Tsunami Catalog](#).

Information in this table is taken predominantly from *Tsunamis Affecting the West Coast of the United States 1806-1992* by Lander, et al., 1993, and from *Tsunami Affecting Alaska 1737-1996* by Lander, 1996.

Tsunami Date (yyyy mm dd)	Source Location	Max. runup (m)	Fatalities
1737 10 16	Kamchatka	12	0
1788 07 21	Kodiak Island	10	0
1788 08 06	Alaska Peninsula	30	Some
1812 12 21	Southern California	3.4	0
1854 00 00	Lituya Bay, Alaska	120	100 (?)
1868 08 13	Northern Chile	2.2	0
1872 08 23	Central Aleutian Is., Alaska	0.3	0
1873 11 23	Southern Oregon/Northern California	3	0
1874 05 00	Lituya Bay, Alaska	24	0
1877 05 10	Northern Chile	1.8	0
1878 11 22	Southern California	?	1
1883 10 06	Cook Inlet, Alaska	6	7 (?)
1896 06 15	Honshu, Japan	1.5	0
1899 09 04	Gulf of Alaska	3.1	0
1899 09 10	Gulf of Alaska	60	0
1900 08 11	Lituya Bay, Alaska	?	5
1905 07 04	Southern Alaska	35	0
1906 04 18	Northern California	0.1	0
1925 02 23	Valdez Inlet, Alaska	?	0



<u>1927 11 04</u>	Southern California	1.8	0
<u>1929 03 07</u>	Eastern Aleutian Is., Alaska	<0.1	0
<u>1930 08 31</u>	Southern California	3.0	1
<u>1936 10 27</u>	Lituya Bay, Alaska	150	0
<u>1938 11 10</u>	Alaska Peninsula	0.2	0
<u>1946 04 01</u>	Eastern Aleutian Is., Alaska	35	6
<u>1946 06 23</u>	British Columbia, Canada	30	0
<u>1949 04 13</u>	Puget Sound, Washington	2.2	0
<u>1949 08 22</u>	British Columbia, Canada	0.3	0
<u>1952 11 04</u>	Kamchatka	1.5+	0
<u>1957 03 09</u>	Central Aleutian Is., Alaska	22.8	0
<u>1958 07 10</u>	Southeastern Alaska	525	5
<u>1960 05 22</u>	South Central Chile	2.4	2
<u>1964 03 28</u>	Gulf of Alaska	67.1	122
<u>1965 02 04</u>	Western Aleutian Is., Alaska	10.7	0
<u>1965 03 30</u>	Western Aleutian Is., Alaska	0.1	0
<u>1965 07 02</u>	Eastern Aleutian Is., Alaska	0.1	0
<u>1971 05 02</u>	Central Aleutian Is., Alaska	0.1	0
<u>1971 11 06</u>	Central Aleutian Is., Alaska	0.1	0
<u>1972 07 30</u>	Southeastern, Alaska	0.1	0
<u>1975 11 29</u>	Hawaii	1.4	0
<u>1979 02 28</u>	Southern Alaska	0.1	0
<u>1986 05 07</u>	Central Aleutian Is., Alaska	0.9	0
<u>1987 11 17</u>	Gulf of Alaska	0.1	0
<u>1987 11 30</u>	Gulf of Alaska	0.5	0
<u>1988 03 06</u>	Gulf of Alaska	0.2	0
<u>1989 10 18</u>	Northern California	1.0	0
<u>1991 02 21</u>	Bering Sea	0.1	0
<u>1992 04 25</u>	Northern California	0.9	0
<u>1994 09 01</u>	Northern California	0.1	0
<u>1994 11 04</u>	Southeastern Alaska	7.6	1

1996 06 10A	Central Aleutian Is., Alaska	0.5	0
1996 06 10B	Central Aleutian Is., Alaska	0.2	0

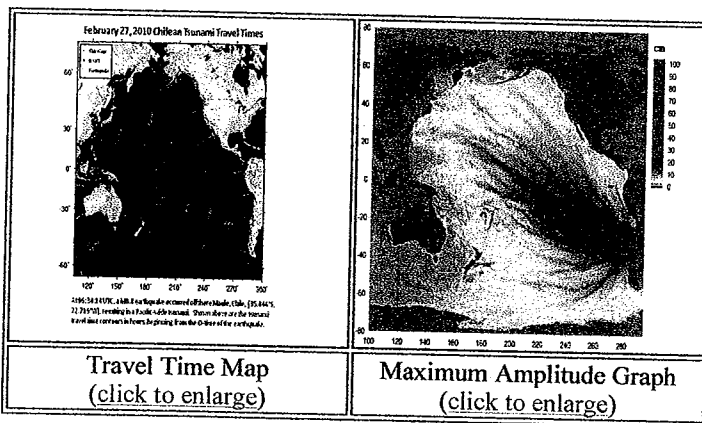
# West Coast/Alaska Tsunami Warning Center, NOAA/NWS

## Offshore Maule, Chile Tsunami of 27 February 2010

A great earthquake with a moment magnitude of 8.8 (USGS magnitude) occurred at 06:34:14 UTC 27 February 2010 (day 058) and was located 60 miles/100 km NNW of Chillan, Chile (35.846S, 72.719W, 21.75mi/35.0km depth--USGS location).

This earthquake produced a tsunami that was recorded at tide gages monitored at the Tsunami Warning Centers. Many observatories provide data to the centers; such as the NOAA National Ocean Service, the U.S. of Hawaii Sea Level Center, the Chilean Navy, and the National Tidal Facility in Australia among others. Click on the site name to see a graph of the tsunami, when available. Listed wave heights are maximum amplitude in cm (above sea level). Observed Arrival time is the actual tsunami arrival time in UTC on gages where it could be determined. The Computed Arrival time is the estimated time of arrival computed at the West Coast/Alaska Tsunami Warning Center based on the origin time and location (Note: The computed arrival times are those determined during the event based on a point source (the epicenter) which produces significant error in the near field due to the extended nature of the rupture). The Sample Interval column shows the time between samples.

For additional information about these tsunami events see [the Pacific Tsunami Warning Center's homepage](#).

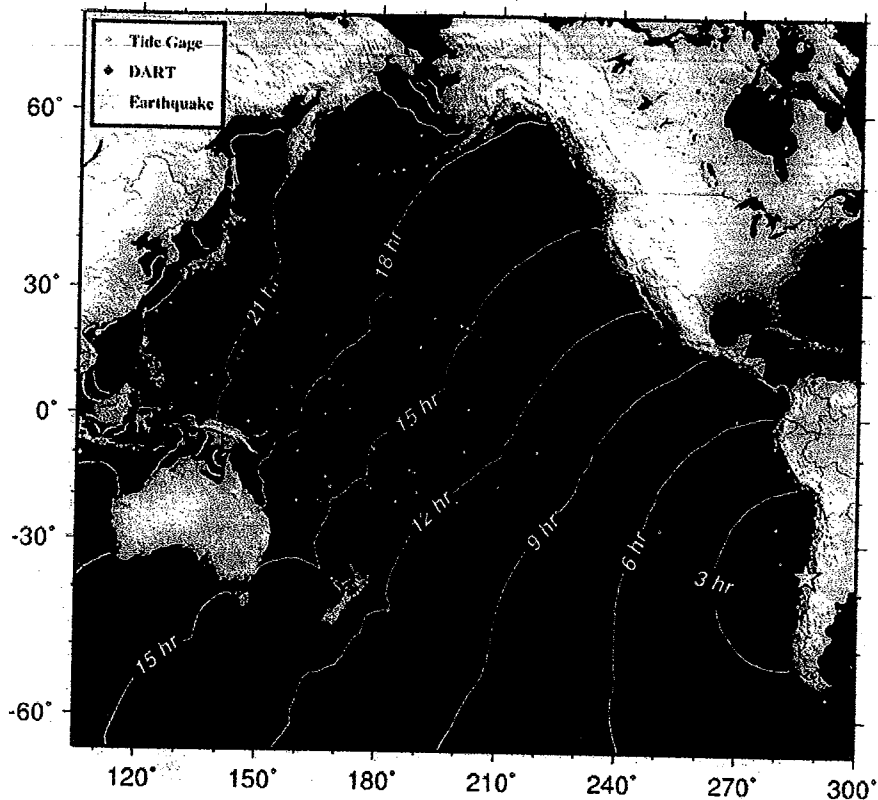


Tide gage	Peak amplitude (above sea level in cm)	Observed Initial Arrival time (UTC)	Computed Initial Arrival time (UTC)	Initial motion	Sample Interval (min)	Data File (Julian Day Starts at 0000 UTC)
<a href="#">Talcahuano, Chile</a>	181 before gauge stopped transmitting at 08:30Z JD 58		0726		2	058
<a href="#">Juan Fernandez, Chile</a>	12 before gauge stopped transmitting at 0721Z JD 058	0642	0739	down	2	058

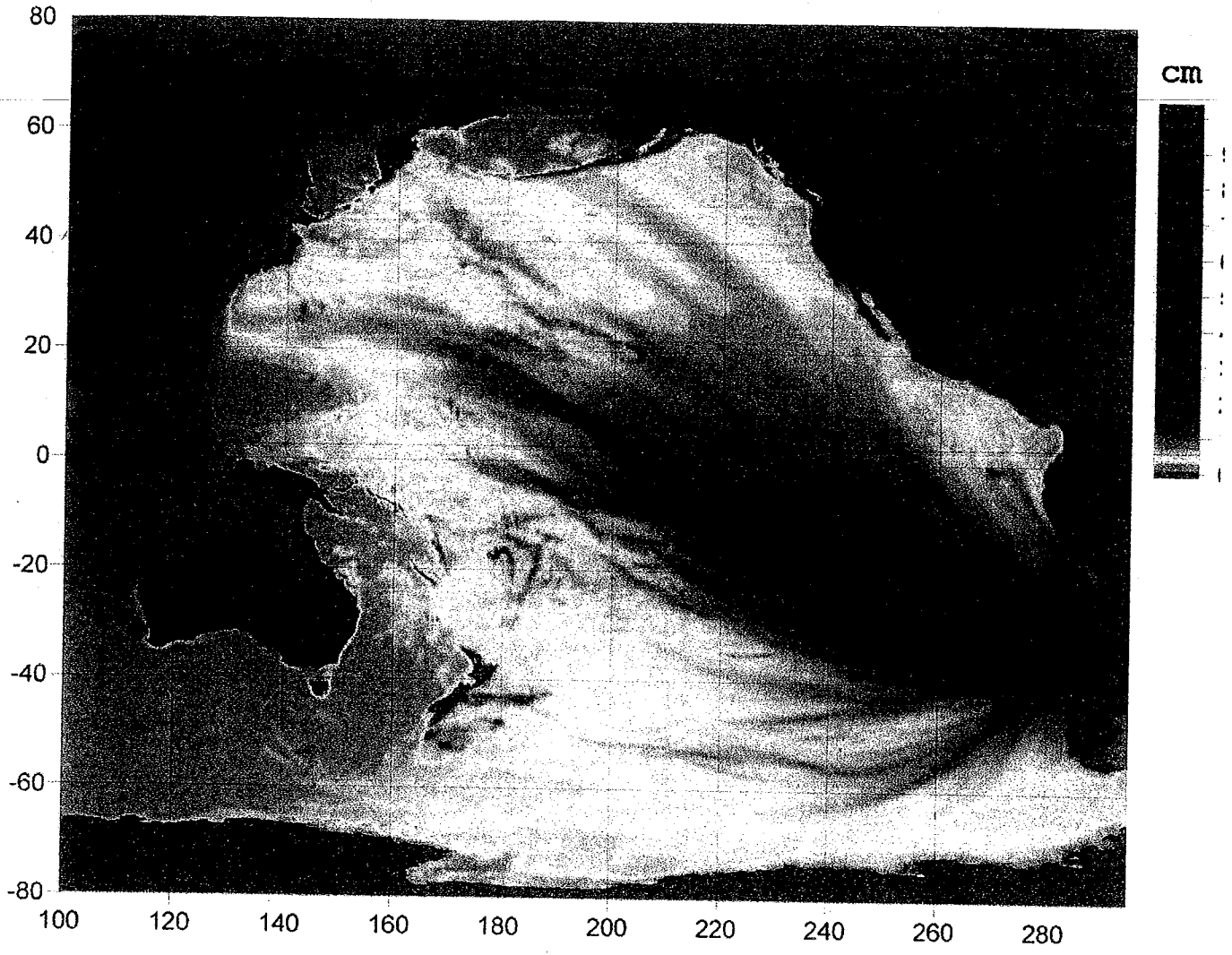
Valparaiso, Chile	261	0637	0731	rise	2	058, 059
San Felix, Chile	79	0648	0834	down	2	058, 059
Santa Cruz, Galapagos, Ecuador	105	1243	none	up	1	058, 059
San Pedro, Chile	40	0942	0926	up	2	058, 059
Iquiqui, Chile	68	0848	0901	up	2	058, 059
Corral, Chile	144	0730	0756	up	2	058, 059
Coquimbo, Chile	164	0723	0750	up	2	058, 059
Callao La Punta, Peru	69	1034	1034	up	6	058, 059
Caldera, Chile	90	0747	0810	up	2	058, 059
Baltra, Ecuador	41	1252	1311	up	1	058, 059
Arica, Chile	118	0914	0922	up	2	058, 059
Antofagasta, Chile	47	0815	0839	up	2	058, 059
Ancud, Chile	59	0754	none	up	2	058, 059
Acapulco, Mexico	65.6	1547	none	up	1	058, 059, 060
Cabo San Lucas, Mexico	35.9	1727	1743	up	1	058, 059, 060
Manzanillo, Mexico	60	1631	1652	up	1	058, 059, 060
Quepo, Costa Rica	?	1417	none	up	1	058, 059, 060
Alameda, California	12	2144	none	up	1	058, 059, 060
Arena Cove, California	39	2048	2104	up	1	058, 059, 060
Crescent City, California	64	2140	2146	up	1	058, 059, 060, 061
Eureka (N. Spit), California	23	2136	2133	up	1	058, 059, 060, 061
La Jolla, California	60	2002	2002	up	1	058, 059, 060, 061
Los Angeles, California	42	2015	2015	up	1	058, 059, 060, 061
Monterey, California	36	2031	2043	up	1	058, 059, 060, 061
Point Reyes, California	46	2059	2059	up	1	058, 059, 060, 061
San Diego, California	40	2004	none	up	1	058, 059, 060, 061
San Francisco, California	32	2120	2126	up	1	058, 059, 060, 061
Santa Barbara, California	91	2030	2031	up	1	058, 059, 060, 061
Santa Monica, California	64	2025	2025	up	1	058, 059, 060, 061
Astoria, Oregon	5	?	2311	?	1	058, 059, 060, 061
Charleston, Oregon	16	2205	2202	up	1	058, 059, 060, 061
Port Orford, Oregon	32	2137	2150	up	1	058, 059, 060, 061
South Beach, Oregon	16	2230	2229	up	1	058, 059, 060, 061
Westport, Washington	14	2300	2257	up	1	058, 059, 060, 061
Toke Point, Washington	9	2312	none	up	1	058, 059, 060, 061
Port Townsend, Washington	10	0031 (JD 059)	none	up	1	059, 060, 061
Port Angeles, Washington	19	2350	2344	up	1	058, 059, 060, 061
Neah Bay, Washington	23	2312	2307	up	1	058, 059, 060, 061
La Push, Washington	22	2258	2256	up	1	058, 059, 060, 061

Langara Point, BC	16	2352	2351	up	1	058, 059, 060, 061
Tofino, BC	14	2317	2315	up	1	058, 059, 060, 061
Winter Harbour, BC	22	2316	2316	up	1	058, 059, 060, 061
Adak, Alaska	38	0142 (JD 059)	0142	up	1	059, 060, 061
Akutan, Alaska	22	0120	0125	up	15 sec	059, 060, 061
Alitak, Alaska	18	0150	0208	up	1	059, 060, 061
Atka, Alaska	42	0130	0122	up	1	059, 060, 061
Cordova, Alaska	13	0220	0206	?	1	059, 060, 061
Craig, Alaska	23	0045	0100	up	1	058, 059, 060, 061
Dutch Harbor, Alaska	19	?	0138	up	1	059, 060, 061
Elfin cove, Alaska	13	0035	0038	up	1	059, 060, 061
Juneau, Alaska	11	?	0135	up	1	059, 060, 061
Ketchikan, Alaska	6	?	0049	up	1	059, 060, 061
King Cove, Alaska	63	0140	0134	up	1	059, 060, 061
Kodiak, Alaska	36	0135	0128	up	1	059, 060, 061
Old Harbor, Alaska	51	0125	0138	up	1	059, 060, 061
Port Alexander, Alaska	18	0020	0015	down	1	059, 060, 061
Sand Point, Alaska	38	0130	0129	up	1	059, 060, 061
Seldovia, Alaska	12	?	?	?	1	059, 060, 061
Seward, Alaska	39	0140	0139	up	1	059, 060, 061
Shemya, Alaska	39	?	0221	?	15 sec	059, 060, 061
Sitka, Alaska	21	0030	0029	up	1	059, 060, 061
St. Paul Island, Alaska	18	0257	none	up	1	059, 060, 061
Valdez, Alaska	12	0210	0157	up	1	059, 060, 061
Yakutat, Alaska	36	0118	0119	up	1	059, 060, 061
Chatam Island, NZ	101	1824	none	up	15 sec	058, 059, 060, 061
North Cape, NZ	23	2008	none	up	15 sec	058, 059, 060, 061
Currimao, Philippines	16	0819	none	down	1	059, 060, 061
Gisborn, NZ	117	1919	none	up	15 sec	058, 059, 060, 061
Johnston Island	21	2239	none	up	1	058, 059, 060, 061
East Cape, NZ	24	1856	none	up	1	058, 059, 060, 061
Midway Island	32	0026	0020	up	1	059, 060, 061
Owenga, Chatham, NZ	98	1816	1842	up	1	058, 059, 060, 061
Pago Pago, Am. Samoa	71	1935	1954	up	1	058, 059, 060, 061
Papeete, Fr. Polynesia	22	1733	1747	up	1	058, 059, 060, 061
Penrhyn, Cook Is.	3	1930	1921	up	1	058, 059, 060, 061
Raoul Island, NZ	50	1850	none	up	15 sec	058, 059, 060, 061
Rikitea, Fr. Polynesia	32	1536	1541	up	1	058, 059, 060, 061
Saipan	15	0404	none	up	1	059, 060, 061
Waitangi, Chatham Is.	78	1821	none	up	2	058, 059, 060, 061
Wake Island	33	0122	0118	up	1	059, 060, 061

### February 27, 2010 Chilean Tsunami Travel Times



At 06:34:14 UTC, a M8.8 earthquake occurred offshore Maule, Chile, [35.846°S, 72.719°W], resulting in a Pacific-wide tsunami. Shown above are the tsunami travel time contours in hours, beginning from the O-time of the earthquake.





<u>Apia, West Samoa</u>	<b>42</b>	<b>1948</b>	<b>2014</b>	<b>up</b>	<b>1</b>	<u>058, 059, 060, 061</u>
<u>Rarotonga, Cook Is.</u>	<b>33</b>	<b>1816</b>	<b>none</b>	<b>?</b>	<b>1</b>	<u>058, 059, 060, 061</u>
<u>Manus, PNG</u>	<b>37</b>	<b>0245</b>	<b>0214</b>	<b>up</b>	<b>1</b>	<u>058, 059, 060, 061</u>
<u>Honolulu, HI</u>	<b>26</b>	<b>2147</b>	<b>2147</b>	<b>up</b>	<b>1</b>	<u>058, 059, 060, 061</u>
<u>Kahului, HI</u>	<b>86</b>	<b>2141</b>	<b>2143</b>	<b>up</b>	<b>1</b>	<u>058, 059, 060, 061</u>
<u>Kaumialapa, HI</u>	<b>29</b>	<b>2135</b>	<b>none</b>	<b>up</b>	<b>1</b>	<u>058, 059, 060, 061</u>
<u>Kawaihae, HI</u>	<b>51</b>	<b>2129</b>	<b>2135</b>	<b>up</b>	<b>1</b>	<u>058, 059, 060, 061</u>
<u>Nawiliwili, HI</u>	<b>40</b>	<b>2154</b>	<b>2154</b>	<b>up</b>	<b>1</b>	<u>058, 059, 060, 061</u>
<u>Hanasaki, Japan</u>	<b>95</b>	<b>0443</b>	<b>none</b>	<b>up</b>	<b>1</b>	<u>059, 060, 061</u>
<u>Naha, Japan</u>	<b>30</b>	<b>0644</b>	<b>0627</b>	<b>up</b>	<b>1</b>	<u>059, 060, 061</u>
<u>Ofunato, Japan</u>	<b>40</b>	<b>0508</b>	<b>0508</b>	<b>up</b>	<b>1</b>	<u>059, 060, 061</u>
<u>Omaezaki, Japan</u>	<b>60</b>	<b>0558</b>	<b>0533</b>	<b>up</b>	<b>1</b>	<u>059, 060, 061</u>
<u>Tosashimizu, Japan</u>	<b>68</b>	<b>0638</b>	<b>none</b>	<b>up</b>	<b>1</b>	<u>059, 060, 061</u>

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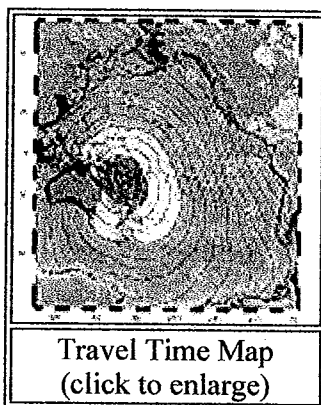
# West Coast/Alaska Tsunami Warning Center, NOAA/NWS

## Tsunami of 9 April 2008

A major earthquake with a moment magnitude of 7.3 (USGS magnitude) occurred at 124613 UTC 9 April 2008 (day 100) and was located 70 km SW of Isangel, Tanna, Vanuatu (20.058°S, 168.858°E, 35 km depth - USGS location).

The earthquake produced a tsunami that was recorded at the Port Vila, Vanuatu tide gage monitored at the Tsunami Warning Centers. The data was provided by the National Tidal Facility in Australia. Click on the site name to see a graph of the tsunami. Listed wave heights are maximum amplitude in cm (above sea level). Observed Arrival time is the actual tsunami arrival time in UTC on gages where it could be determined. The Computed Arrival time is the estimated time of arrival computed at the West Coast/Alaska Tsunami Warning Center (WC/ATWC) based on the origin time and location. The Sample Interval column shows the time between samples.

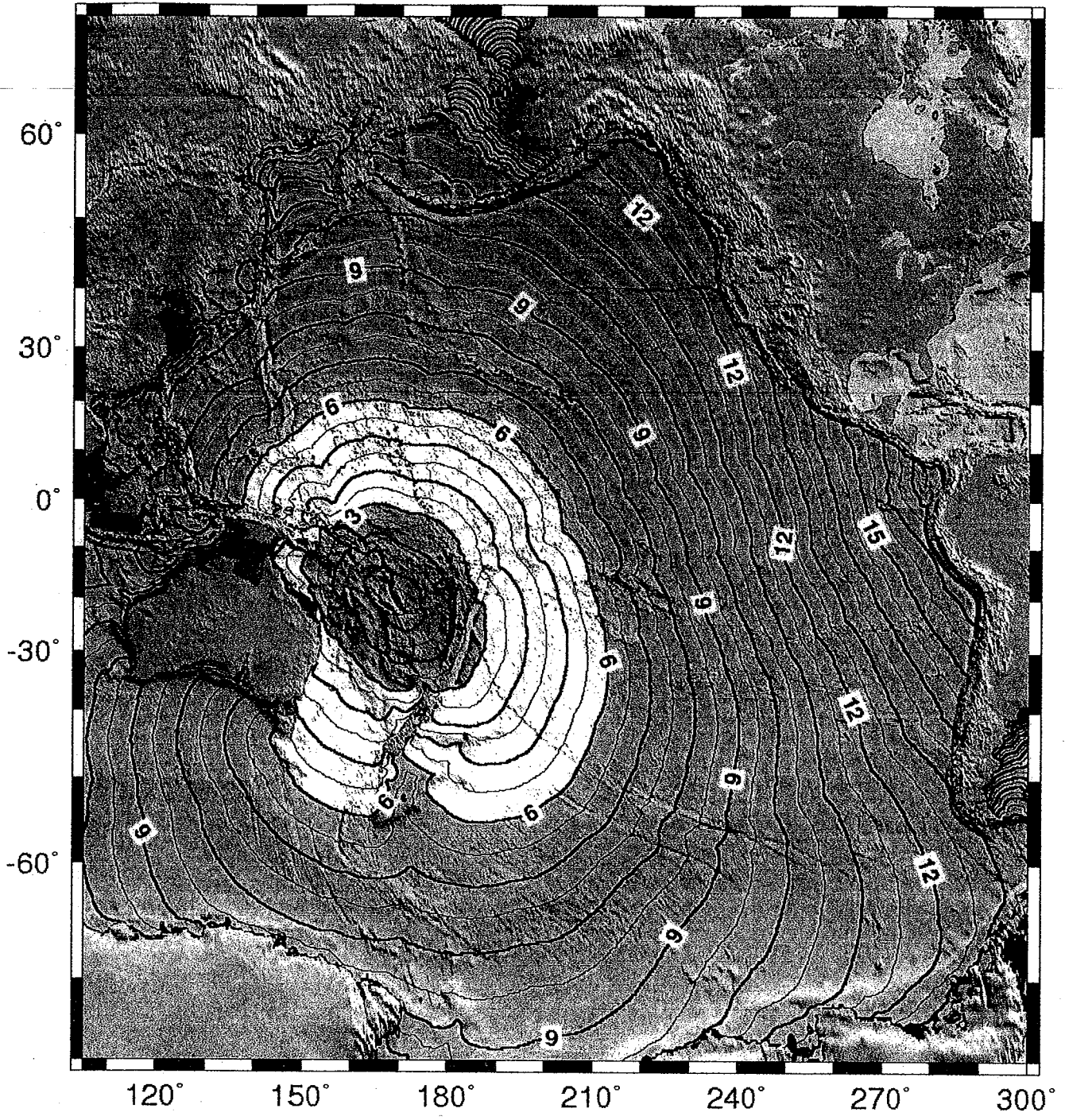
For additional information about this tsunami see [the Pacific Tsunami Warning Center's homepage](#).



Tide gage	Peak amplitude (above sea level in cm)	Observed Initial Arrival time (UTC)	Computed Initial Arrival time (UTC)	Initial motion	Sample Interval (min)	Data File (Julian Day Starts at 0000 UTC)
<a href="#">Port Vila, Vanuatu</a>	15.5	1310	1323	rise	1	100

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# March 28, 1964 Gulf of Alaska Tsunami

Date (UTC)	Time (UTC)	Source Location	Magnitude	Source Type	Maximum Runup (m)
March 28, 1964	03:36:14	61.05N 147.48W	9.2 Mw	Earthquake and Landslides	67.1

## Tsunami Related Fatalities

Alaska	British Columbia	Washington	Oregon	California
106	0	0	4	12

## Further Information

[Recorded Wave Heights](#)

[Damage Summary](#)

[Report](#)

[Runup Indicator Maps](#)

[Tsunami Travel Time Map](#)

[Marigrams](#)

[Pictures](#)

[References](#)

Source location map



### March 28, 1964 Gulf of Alaska Tsunami Amplitudes

Amplitude listed is either a measured runup (maximum vertical elevation wave reached above sea level at the time of tsunami) or a zero-to-peak tide gage reading. Both are given in meters.

Location	Region	Latitude	Longitude	Amplitude (m)	Arrival time (day hr. min. UTC)	Travel time (hr. min.)
KETCHIKAN	ALASKA	55.35N	131.68W	0.6	28 6 25	2 49
ANNETTE	ALASKA	55.06N	131.54W	1.2		
CRAIG	ALASKA	55.46N	133.13W	4.2		
KLAWOCK	ALASKA	55.54N	133.09W	4.6		
WRANGELL	ALASKA	56.47N	132.38W	0.9		
PETERSBURG	ALASKA	56.81N	132.96W	0.9		
JUNEAU	ALASKA	58.30N	134.41W	1.3	28 6 49	3 13
SITKA	ALASKA	57.05N	135.34W	2.1	28 5 6	1 30
ELFIN COVE	ALASKA	58.20N	136.36W	2.1		
SKAGWAY	ALASKA	59.44N	135.33W	3.0		
HAINES	ALASKA	59.22N	135.44W	5.8		
YAKUTAT	ALASKA	59.55N	139.74W	2.0	28 5 0	1 24
DISENCHANTMENT BAY	ALASKA	60.00N	139.58W	4.8		
CAPE YAKATAGA	ALASKA	60.07N	142.43W	3.7		
CAPE ST ELIAS	ALASKA	59.81N	144.60W	3.0		
CORDOVA	ALASKA	60.55N	145.75W	4.2		
POINT WHITSHED	ALASKA	60.45N	145.88W	OBS.		
BOSWELL BAY, HINCHIN...	ALASKA	60.41N	146.11W	6.0		
VALDEZ	ALASKA	61.11N	146.27W	6.1		
SHOUP BAY, VALDEZ INLET	ALASKA	61.12N	146.57W	67.1		
JACK BAY	ALASKA	61.04N	146.61W	12.0		
TATTILEK	ALASKA	60.86N	146.68W	4.1		
INAKWIK INLET	ALASKA	60.90N	147.43W	7.6		

PORT OCEANIC	ALASKA	60.21N	147.81W	11.9
PORT CRAWFORD	ALASKA	60.07N	147.88W	14.6
PERRY I.	ALASKA	60.68N	147.91W	7.6
POINT NOWELL	ALASKA	60.44N	147.94W	12.0
CRAB BAY, EVANS I.	ALASKA	60.07N	148.01W	6.1
CHENEGA	ALASKA	60.28N	148.08W	27.4
PORT NELLIE JUAN	ALASKA	60.55N	148.16W	15.0
PUGET BAY	ALASKA	60.02N	148.53W	7.3
BLACKSTONE BAY	ALASKA	60.74N	148.57W	24.2
KINGS BAY	ALASKA	60.50N	148.58W	34.5
PASSAGE CANAL	ALASKA	60.80N	148.67W	31.7
WHITTIER	ALASKA	60.78N	148.68W	13.1
WHIDBEY BAY	ALASKA	59.97N	148.95W	15.2
SEWARD	ALASKA	60.12N	149.43W	8.3
AIALIK BAY	ALASKA	59.85N	149.66W	30.0
HALIBUT COVE	ALASKA	59.59N	151.22W	7.2
ROCKY BAY	ALASKA	59.25N	151.42W	5.5
HOMER	ALASKA	59.62N	151.46W	6.0
PERL ISLAND	ALASKA	59.12N	151.64W	9.0
SELDOVIA	ALASKA	59.44N	151.72W	1.2
PORT GRAHAM	ALASKA	59.35N	151.83W	3.0
ENGLISH BAY	ALASKA	59.35N	151.92W	OBS.
SPRUCE CAPE	ALASKA	57.83N	152.33W	OBS.
NARROW CAPE	ALASKA	57.43N	152.33W	19.0
KALSIN BAY	ALASKA	57.59N	152.40W	OBS.
KODIAK	ALASKA	57.79N	152.41W	6.8
WOMEN'S BAY	ALASKA	57.75N	152.48W	7.6
OUZINKIE	ALASKA	57.92N	152.50W	9.1
AFOGNAK	ALASKA	58.00N	152.78W	3.4
SHEARWATER BAY	ALASKA	57.35N	152.89W	7.8
SITKALIDAK I.	ALASKA	57.19N	153.28W	OBS.
OLD HARBOR	ALASKA	57.20N	153.30W	7.3

KAGUYAK	ALASKA	56.86N	153.76W	9.8		
LARSEN BAY	ALASKA	57.54N	153.99W	1.2		
CHIGNIK	ALASKA	56.30N	158.39W	1.5		
PERRYVILLE	ALASKA	55.91N	159.15W	3.0		
DUTCH HARBOR	ALASKA	53.88N	166.54W	0.35	28 6 6	2 30
SWEEPER COVE, ADAK	ALASKA	51.86N	176.63W	0.18	28 7 0	3 24
ATTU, MASSACRE BAY	ALASKA	52.83N	173.20E	0.4	28 7 27	3 51
PRINCE RUPERT	CANADA	54.32N	130.33W	1.6		
SHIELDS BAY	CANADA	53.34N	132.49W	9.8		
TASU SOUND	CANADA	52.75N	132.02W	1.1		
OCEAN FALLS	CANADA	52.35N	127.68W	1.7		
BELLA BELLA	CANADA	52.17N	128.14W	1.2		
ALERT BAY	CANADA	50.58N	126.93W	1.3		
PORT ALBERNI	CANADA	49.23N	124.82W	6.4		
TOFINO B.C.	CANADA	49.15N	125.90W	1.3	28 7 0	3 24
FULFORD HARBOUR	CANADA	48.77N	123.45W	0.5		
VICTORIA	CANADA	48.42N	123.40W	0.7		
FRIDAY HARBOR	WASHINGTON	48.54N	123.03W	0.3	28 8 30	4 54
NEAH BAY	WASHINGTON	48.37N	124.62W	0.82	28 7 18	3 42
LAPUSH	WASHINGTON	47.91N	124.64W	1.0		
HOH R. MOUTH	WASHINGTON	47.75N	124.44W	0.5		
SEATTLE	WASHINGTON	47.60N	122.34W	0.15	28 9 12	5 36
TAHOLAH	WASHINGTON	47.35N	124.30W	0.7		
WRECK CREEK	WASHINGTON	47.29N	124.23W	4.5		
MOCLIPS	WASHINGTON	47.24N	124.21W	3.4		
PACIFIC BEACH	WASHINGTON	47.22N	124.21W	OBS.		
JOE CREEK	WASHINGTON	47.21N	124.21W	2.4		
BOONE CREEK	WASHINGTON	47.16N	124.19W	OBS.		
COPALIS	WASHINGTON	47.13N	124.18W	OBS.		
OCEAN SHORES	WASHINGTON	46.97N	124.17W	2.9		



ABERDEEN	WASHINGTON	46.97N	123.97W	OBS.		
WESTPORT	WASHINGTON	46.91N	124.11W	OBS.		
SEAVIEW	WASHINGTON	46.33N	124.06W	3.8		
ILWACO	WASHINGTON	46.33N	124.05W	1.4		
CAPE DISAPPOINTMENT	WASHINGTON	46.28N	124.08W	1.7		
VANCOUVER	WASHINGTON	45.64N	122.67W	<0.1		
POINT ADAMS	OREGON	46.21N	123.95W	0.8		
ASTORIA	OREGON	46.21N	123.77W	0.36	28 7 56	4 20
GEARHART	OREGON	46.02N	123.92W	1.4		
SEASIDE	OREGON	46.01N	123.92W	OBS.		
CANNON BEACH	OREGON	45.90N	123.96W	OBS.		
NEHALEM RIVER	OREGON	45.66N	123.94W	3.5		
TILLAMOOK BAY	OREGON	45.57N	123.96W	0.5		
DEPOE BAY	OREGON	44.81N	124.07W	3.5		
NEWPORT	OREGON	44.63N	124.04W	OBS.		
YAQUINA BAY	OREGON	44.62N	124.07W	3.5		
WALDPORT-ALSEA	OREGON	44.43N	124.07W	OBS.		
SIUSLAW RIVER	OREGON	44.02N	124.12W	3.7		
FLORENCE	OREGON	43.97N	124.11W	0.6		
UMPQUA RIVER	OREGON	43.67N	124.20W	1.7		
COOS BAY	OREGON	43.35N	124.34W	1.4		
ROGUE RIVER	OREGON	42.43N	124.43W	2.9		
BROOKINGS	OREGON	42.05N	124.27W	1.7		
SMITH RIVER	CALIFORNIA	41.94N	124.20W	OBS.		
CRESCENT CITY	CALIFORNIA	41.75N	124.18W	4.8	28 7 39	4 3
KLAMATH RIVER	CALIFORNIA	41.55N	124.08W	OBS.		
TRINIDAD	CALIFORNIA	41.06N	124.14W	OBS.		
HUMBOLDT BAY	CALIFORNIA	40.77N	124.22W	1.9		
NOYO RIVER MOUTH	CALIFORNIA	39.43N	123.82W	2.0		
FORT BRAGG	CALIFORNIA	39.44N	123.82W	3.8		
RUSSIAN GULCH	CALIFORNIA	39.33N	123.81W	OBS.		

VAN DAMME STATE PARK	CALIFORNIA	39.27N	123.80W	OBS.		
ALBION RIVER	CALIFORNIA	39.23N	123.79W	OBS.		
POINT ARENA	CALIFORNIA	38.96N	123.74W	OBS.		
ARENA COVE	CALIFORNIA	38.91N	123.71W	1.8		
JENNER BEACH	CALIFORNIA	38.46N	123.14W	OBS.		
BODEGA BAY	CALIFORNIA	38.31N	123.05W	0.8		
TOMALES BAY	CALIFORNIA	38.23N	122.97W	1.0		
DRAKE'S BEACH	CALIFORNIA	38.03N	122.92W	OBS.		
SAN RAFAEL	CALIFORNIA	37.97N	122.49W	1.5		
BOLINAS	CALIFORNIA	37.90N	122.70W	OBS.		
MUIR BEACH	CALIFORNIA	37.86N	122.58W	OBS.		
SAUSALITO	CALIFORNIA	37.86N	122.48W	1.2		
OAKLAND	CALIFORNIA	37.82N	122.32W	OBS.		
SAN FRANCISCO	CALIFORNIA	37.81N	122.47W	1.1	28 8 42	5 6
ALAMEDA (NAS)	CALIFORNIA	37.77N	122.30W	0.6	28 9 6	5 30
PACIFICA	CALIFORNIA	37.64N	122.49W	1.4		
HALF MOON BAY	CALIFORNIA	37.49N	122.49W	OBS.		
SANTA CRUZ	CALIFORNIA	36.96N	122.02W	1.5		
CAPITOLA	CALIFORNIA	36.97N	121.95W	2.1		
MOSS LANDING	CALIFORNIA	36.81N	121.79W	1.4		
PACIFIC GROVE	CALIFORNIA	36.62N	121.91W	0.9		
MONTEREY	CALIFORNIA	36.61N	121.89W	1.4		
PEBBLE BEACH	CALIFORNIA	36.57N	121.95W	OBS.		
MARTIN'S BEACH	CALIFORNIA	35.88N	121.46W	3.0		
AVILA	CALIFORNIA	35.18N	120.73W	1.8	28 8 44	5 8
SANTA BARBARA	CALIFORNIA	34.41N	119.69W	0.8.		
RINCON I.	CALIFORNIA	34.37N	119.48W	0.9	28 9 17	5 41
SANTA MONICA	CALIFORNIA	34.01N	118.50W	1.0	28 9 15	5 39
LONG BEACH	CALIFORNIA	33.75N	118.23W	OBS.		
ALAMITOS BAY	CALIFORNIA	33.75N	118.12W	0.4	28 8 36	6 0
LOS ANGELES	CALIFORNIA	33.72N	118.26W	0.6	28 9 24	5 48
NEWPORT BAY	CALIFORNIA	33.59N	117.88W	0.4	28 9 26	5 50

LA JOLLA	CALIFORNIA	32.87N	117.26W	0.6	28 9 24	5 48
SAN DIEGO	CALIFORNIA	32.71N	117.17W	0.6	28 9 50	6 14
SEAVIEW	CALIFORNIA	0.00N	0.00E	3.8.		
SALMON CREEK BEACH	CALIFORNIA	0.00N	0.00E	OBS.		
HILO, HAWAII	HAWAII	19.73N	155.06W	3.0	28 9 0	5 24
LAUPAHOEHOE, HAWAII	HAWAII	20.00N	155.25W	0.7		
WAIPIO BAY, HAWAII	HAWAII	20.13N	155.60W	1.2		
KAWAIHAE, HAWAII	HAWAII	20.04N	155.83W	1.0		
PUAKO, HAWAII	HAWAII	19.97N	155.88W	0.6		
MAHUKONA, HAWAII	HAWAII	20.18N	155.92W	1.9		
MALIKO BAY, MAUI	HAWAII	20.80N	156.25W	2.5		
LOWER PAIA, MAUI	HAWAII	20.92N	156.38W	2.8		
KAHULUI, MAUI	HAWAII	20.90N	156.47W	3.6	28 8 47	5 11
COCONUT I., OAHU	HAWAII	21.43N	157.80W	0.3	28 8 48	5 12
HONOLULU, OAHU	HAWAII	21.31N	157.87W	0.5	28 8 53	5 17
HAUULA, OAHU	HAWAII	21.62N	157.92W	1.2		
WAIALEE, OAHU	HAWAII	21.70N	158.04W	1.8		
WAIMEA BAY, OAHU	HAWAII	21.63N	158.07W	4.9		
PUAENA POINT, OAHU	HAWAII	21.61N	158.11W	2.4		
HALIEWA, OAHU	HAWAII	21.60N	158.12W	3.1		
KAIKA BAY, OAHU	HAWAII	21.58N	158.12W	4.6		
ANAHOLA BAY, KAUAI	HAWAII	22.15N	159.31W	1.0		
KAPAA, KAUAI	HAWAII	22.08N	159.32W	2.2		
MOLOAA, KAUAI	HAWAII	22.45N	159.33W	1.0		
WAILUA, KAUAI	HAWAII	22.06N	159.34W	1.3		

NAWILIWILI, KAUAI	HAWAII	21.96N	159.36W	0.4	28 8 33	4 57
HANAIEI, KAUAI	HAWAII	21.90N	159.50W	1.9		
HAENA, KAUAI	HAWAII	22.22N	159.55W	3.0		
JOHNSTON I.	HAWAII	16.69N	169.53W	0.2	28 9 39	6 3
MIDWAY I.	HAWAII	28.21N	177.36W	0.20	28 8 27	4 51
MANZANILLO	MEXICO	19.06N	104.25W	0.6	28 12 15	8 39
MAZATLAN	MEXICO	23.18N	106.43W	0.4	28 12 0	8 24
SALINA CRUZ	MEXICO	16.17N	95.20W	0.4	28 14 10	10 34
ACAPULCO	MEXICO	16.85N	99.92W	0.4	28 13 5	9 29
LA PAZ	MEXICO	24.17N	110.32W	0.5	28 12 27	8 51
TOPOLOBAMPO	MEXICO	25.62N	109.05W	<0.1	28 11 59	8 23
GUAYMAS	MEXICO	27.92N	110.90W	OBS.	28 12 30	8 54
ENSENADA	MEXICO	31.87N	116.62W	1.2	28 9 42	6 6
ACAJUTLA	EL SALVADOR	13.58N	89.85W	0.2	28 15 18	11 42
LA UNION	EL SALVADOR	13.33N	87.82W	0.1		
PUNTARENAS	COSTA RICA	9.97N	84.83W	0.2	28 16 23	12 47
QUEPOS	COSTA RICA	9.40N	84.17W	0.2	28 16 0	12 24
PUERTO ARMUELLES	PANAMA	8.26N	82.87W	0.15	28 16 24	12 48
NAOS ISLAND	PANAMA	8.92N	79.53W	0.15		
TUMACO	COLOMBIA	1.83N	0.00E	0.1		
BAHIA SOLANO	COLOMBIA	6.23N	0.00E	0.2	28 17 45	14 9
BUENAVENTURA	COLOMBIA	3.92N	0.00E	<0.1		
LA LIBERTAD	ECUADOR	2.20S	80.92W	0.6	28 18 9	14 33
MATARANI	PERU	17.00S	72.12W	0.5	28 19 57	16 21
					28 19	

SAN JUAN	PERU	15.35S	75.15W	0.6	30	15 54
TALARA	PERU	4.58S	81.42W	1.0		
LA PUNTA	PERU	12.08S	77.17W	0.9		
CALLAO	PERU	12.08S	77.13W	1.1	28 19 11	15 35
CALDERA	CHILE	27.07S	70.83W	0.7	28 20 55	17 19
TALCAHUANO	CHILE	36.67S	73.17W	2.5	28 22 15	18 39
ANTOFAGASTA	CHILE	23.65S	70.42W	0.5	28 20 39	17 3
CORRAL	CHILE	39.86S	73.42W	1.7	28 22 39	19 3
VALPARAISO	CHILE	33.08S	71.67W	2.2	28 21 27	17 51
ARICA	CHILE	18.47S	70.32W	2.1	28 20 30	16 54
COQUIMBO	CHILE	29.95S	71.35W	4.0		
IQUIQUE	CHILE	20.25S	70.13W	OBS.		
HUASCO	CHILE	28.50S	71.25W	OBS.		
PALMER PEN	ANTARCTICA	64.50S	60.00W	0.4		
SAN CRISTOBAL	GALAPAGOS IS.	0.90S	89.62W	0.6	28 16 27	12 51
	WAKE I.	19.29N	166.63E	<0.1		
CHRISTMAS I.	LINE IS.	1.98N	157.48W	0.1	28 11 21	7 48
PAGO PAGO	SAMOA	14.28S	170.68W	0.2	28 13 51	10 15
TRUK	CAROLINE IS.	7.45N	151.85E	<0.1	28 13 0	9 24
RABAU	NEW BRITAIN	4.22S	152.18E	0.3		
GUAM	MARIANA IS.	13.44N	144.65E	<0.1	28 12 48	9 12
KWAJALEIN	MARSHALL IS.	8.74N	167.74E	0.2	28 12 0	8 24
ENIWETOK	MARSHALL IS.	11.37N	162.35E	<0.1	28 11 48	8 12
CANTON I.	PHOENIX IS.	2.82S	171.72W	<0.1	28 12	8 36

# May 22, 1960 South-Central Chile Tsunami

Date (UTC)	Time (UTC)	Source Location	Magnitude	Source Type	Max. Runup in AOR (m)
May 22, 1960	19:11:17	39.5S 74.5W	9.5 Mw	Earthquake	2.4

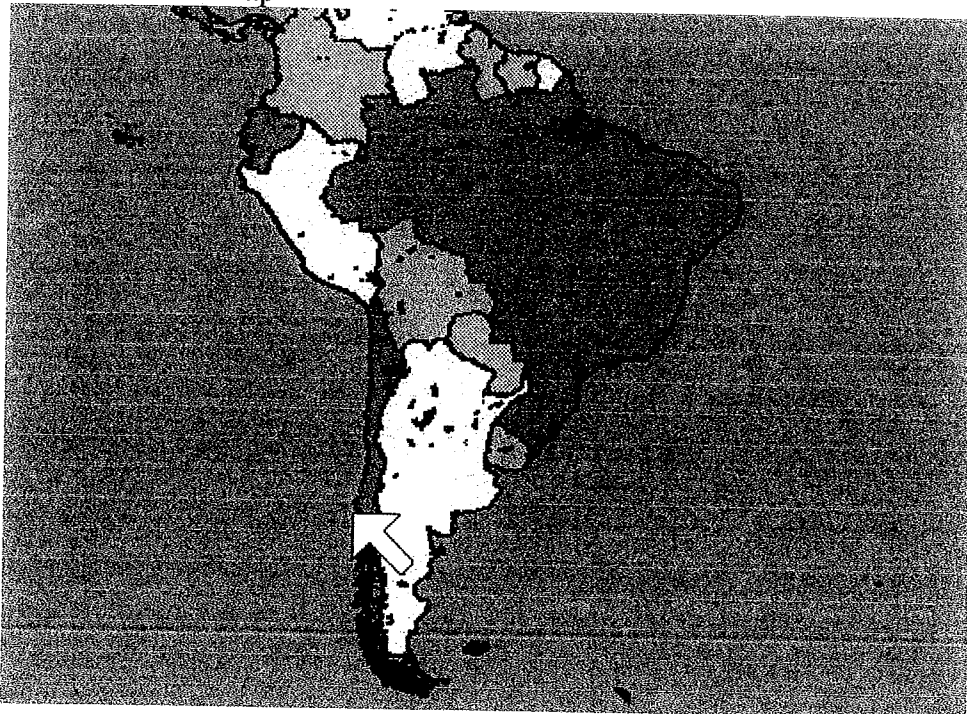
## Tsunami Related Fatalities

Alaska	British Columbia	Washington	Oregon	California
0	0	0	0	2

## Further Information

[Recorded Wave Heights](#)  
[Damage Summary](#)  
[Tsunami Travel Time Map](#)  
[Marigrams](#)  
[Pictures](#)  
[References](#)

Source location map



## May 22, 1960 South Central Chile Tsunami Amplitudes

Amplitude listed is either a measured runup (maximum vertical elevation wave reached above sea level at the time of tsunami) or a zero-to-peak tide gage reading. Both are given in meters.

Location	Region	Latitude	Longitude	Amplitude (m)	Arrival time (day hr. min. UTC)	Travel time (hr. min.)
CONCEPCION	CHILE	36.83S	73.05W	OBS.		
CORRAL	CHILE	39.86S	73.42W	10.0		
GUAFO	CHILE	43.58S	74.83W	10.0		
LEBU	CHILE	37.63S	73.72W	(4.0)5.0		
ARAUCO	CHILE	37.25S	73.32W	OBS.		
MOCHA I.	CHILE	38.22N	74.00W	25.0		
PUNTA CONSTITUCION	CHILE	35.33S	72.42W	2.5		
AYSEN PROV.	CHILE	0.00N	0.00E	3.0		
ISLA MOCHA	CHILE	38.33S	73.90W	25.0		
PUNTA TIRNA (TIRERA)	CHILE	38.33S	73.52W	5.0		
PUERTO AISEN	CHILE	45.40S	72.70W	3.0		
CONSTITUCION	CHILE	35.33S	72.42W	2.5		
VALDIVIA	CHILE	39.80S	73.24W	10.0		
MANSA RIVER	CHILE	40.55S	73.76W	8.5		
PUNTA SAAVEDRA	CHILE	38.78S	73.40W	9.0		
CHILOE ISLAND	CHILE	42.50S	73.92W	10.0		
TOME	CHILE	36.63S	72.95W	2.5		
ANCUD	CHILE	41.91S	72.76W	(8.0)12.0		
CORONEL	CHILE	36.98S	73.17W	2.0		
MEHUIN	CHILE	39.43S	73.22W	15.0		
COQUIMBO	CHILE	29.93S	71.33W	2.2	22 20 35	1 24
VALPARAISO	CHILE	33.03S	71.63W	1.7	22 16 30	1 4

ARICA	CHILE	18.47S	70.32W	2.2	22 22 38	3 27
PUNTA ARENAS	CHILE	53.17S	70.93W	0.4	22 23 15	4 4
CALDERA	CHILE	27.08S	70.68W	2.9	22 21 14	2 3
TALCAHUANO	CHILE	36.67S	73.17W	5.0	22 20 5	0 54
ANTOFAGASTA	CHILE	23.65S	70.42W	1.5	22 21 40	2 29
CALLAO	PERU	12.08S	77.13W	1.1	22 23 45	4 34
SAN JUAN	PERU	15.36S	75.12W	0.5	22 22 40	3 29
MATARANI	PERU	17.00S	72.12W	0.6	22 22 36	3 25
TALARA	PERU	4.58S	81.42W	0.6	23 0 34	5 23
CHIMBOTE	PERU	9.07S	78.60W	1.7	23 0 38	5 27
LA LIBERTAD	ECUADOR	2.20S	80.92W	1.9	23 1 20	6 9
TUMACO	COLOMBIA	1.85N	78.77W	OBS.	23 0 0	0 0
BUENAVENTURA	COLOMBIA	3.90N	77.10W	OBS.		
	EASTER I.	27.15S	109.45W	6.0		
SAN CRISTOBAL	GALAPAGOS IS.	0.90S	89.62W	0.6		
CAPE KUMAKAHI, HAWAII	HAWAII	19.52N	154.81W	0.9		
POHOIKI, HAWAII	HAWAII	19.45N	154.85W	1.8		
OPHIKAO, HAWAII	HAWAII	19.43N	154.90W	1.8		
KAIMU, HAWAII	HAWAII	19.37N	154.97W	4.0		
KALAPANA, HAWAII	HAWAII	19.35N	154.98W	2.1		
KEAAU, HAWAII	HAWAII	19.60N	154.98W	3.7		
HILO, HAWAII	HAWAII	19.73N	155.06W	10.7	23 9 58	14 47
PAPAIKOU, HAWAII	HAWAII	19.75N	155.10W	2.7		
PEPEEKEO, HAWAII	HAWAII	19.83N	155.10W	1.5		
HONOMU, HAWAII	HAWAII	19.85N	155.10W	3.7		
HAKALAU, HAWAII	HAWAII	19.90N	155.13W	2.7		
ONOMEA, HAWAII	HAWAII	19.80N	155.13W	3.4		



HALAPE, HAWAII	HAWAII	19.27N	155.25W	1.5		
LAUPAHOEHOE, HAWAII	HAWAII	20.00N	155.25W	2.1		
HONOKAA, HAWAII	HAWAII	20.07N	155.45W	1.8		
PUNALUU BAY, HAWAII	HAWAII	19.13N	155.50W	3.4		
HONUAPO, HAWAII	HAWAII	19.10N	155.55W	5.2		
WAIPIO V., HAWAII	HAWAII	20.13N	155.60W	2.4		
KAALUALU, HAWAII	HAWAII	18.97N	155.62W	5.2		
SOUTH POINT, HAWAII	HAWAII	18.92N	155.68W	3.7		
POLOLU V., HAWAII	HAWAII	20.21N	155.73W	3.4		
KAWAIHAE, HAWAII	HAWAII	20.04N	155.83W	2.7		
UPOLU PT., HAWAII	HAWAII	20.27N	155.87W	2.1		
HOOKENA, HAWAII	HAWAII	19.38N	155.90W	2.1		
MILOLII, HAWAII	HAWAII	19.19N	155.91W	0.9		
MAHUKONA, HAWAII	HAWAII	20.18N	155.92W	1.2		
HONAUNAU, HAWAII	HAWAII	19.42N	155.92W	1.5		
NAPOOPOO, HAWAII	HAWAII	19.48N	155.92W	4.9		
KAHALUU, HAWAII	HAWAII	19.58N	155.97W	3.0		
KEAUHOU, HAWAII	HAWAII	19.57N	155.97W	3.7		
KAILUA, HAWAII	HAWAII	19.63N	155.98W	2.4		
LOWER PAIA, MAUI	HAWAII	20.92N	156.38W	3.7		
SPRECKLESVILLE, MAUI	HAWAII	20.91N	156.42W	3.4		
KIHEI, MAUI	HAWAII	20.79N	156.47W	2.4		
KAHULUI, MAUI	HAWAII	20.90N	156.47W	3.4	23 10 18	15 7
PAUKUKALO, MAUI	HAWAII	20.91N	156.48W	4.6		
LAHAINA, MAUI	HAWAII	20.87N	156.67W	2.1		
MOKUOLOE OAHU	HAWAII	21.44N	157.79W	0.3	23 10 40	15 29
HONOLULU, OAHU	HAWAII	21.31N	157.87W	0.8	23 10 33	15 22

WAILUA, KAUAI	HAWAII	22.06N	159.34W	1.5		
NAWILIWILI, KAUAI	HAWAII	21.96N	159.36W	1.5	23 10 40	15 29
ANINI, KAUAI	HAWAII	22.23N	159.47W	0.6		
WAHIAWA BAY, KAUAI	HAWAII	22.05N	159.55W	4.3		
HAENA, KAUAI	HAWAII	22.22N	159.55W	4.1		
KAUMAKANI, KAUAI	HAWAII	21.93N	159.63W	2.7		
PAKALA, KAUAI	HAWAII	21.93N	159.65W	3.2		
KEKAHA, KAUAI	HAWAII	21.97N	159.72W	3.0		
ANEOWEONUI, KAUAI	HAWAII	0.00N	0.00E	3.3		
JOHNSTON I.	HAWAII	16.69N	169.53W	0.5	23 11 30	16 19
MIDWAY I.	HAWAII	28.21N	177.36W	0.6	23 13 30	18 19
PITCAIRN I.	TUAMOTU	25.07S	130.10W	12.2		
CHRISTMAS I.	LINE IS.	1.98N	157.48W	0.3	23 9 3	13 52
TUTUILA	SAMOA	14.30S	170.70W	4.9		
UPOLU	SAMOA	13.92S	171.75W	4.9		
APIA	SAMOA	13.81S	171.75W	(1.5)4.9		
PAGO PAGO	SAMOA	14.28S	170.68W	2.4	23 7 33	12 22
FAGA'ALU	SAMOA	14.30S	170.68W	0.8		
CANTON I.	PHOENIX IS.	2.82S	171.72W	0.1	23 9 24	14 13
SUVA	FIJI	18.13S	178.42E	0.5	23 8 30	13 19
ENIWETOK	MARSHALL IS.	11.37N	162.35E	0.2	23 13 3	17 52
KWAJALEIN	MARSHALL IS.	8.74N	167.74E	0.4	23 13 20	18 9
	WAKE I.	19.29N	166.63E	0.5	23 13 33	18 22
MOEN I.	CAROLINE IS.	7.45S	151.85E	0.1	23 14 36	19 25
LYTTELTON	NEW ZEALAND	43.62S	172.72E	0.4	23 8 12	13 1
WELLINGTON	NEW	41.28S	174.78E	0.9	23 7 45	12 34

	ZEALAND					
TAYLORS POINT	NEW ZEALAND	45.78S	170.67E	0.6	23 7 40	12 29
PORT CHALMERS	NEW ZEALAND	45.82S	170.65E	0.4	23 7 50	12 39
TAURANGA	NEW ZEALAND	37.70S	176.18E	0.9	23 8 23	13 12
DUNEDIN	NEW ZEALAND	45.88S	170.55E	0.4	23 8 35	13 24
TOWNSVILLE, QUEENSLAND	AUSTRALIA	17.30S	146.81E	0.3	23 16 5	20 54
CAIRNS	AUSTRALIA	16.92S	145.78E	0.03	23 15 0	19 49
NORFOLK I.	AUSTRALIA	29.07S	167.95E	0.2	23 9 0	13 49
HOBART	AUSTRALIA	42.88S	147.33E	0.3	23 12 0	16 49
FREMANTLE	AUSTRALIA	32.11S	115.75E	0.3		
URANGAN JETTY,QUEENSLAND	AUSTRALIA	25.28S	152.97E	0.2		
BRISBANE	AUSTRALIA	27.45S	153.07E	0.2		
PT. MACDONNELL	AUSTRALIA	38.07S	140.70E	0.2		
FT.DENISON,SYDNEY HARBOR	AUSTRALIA	33.80S	151.27E	OBS.		
LORD HOWE I.	AUSTRALIA	31.53S	159.07E	0.7	23 10 45	15 34
ILUKA	AUSTRALIA	29.42S	153.37E	0.6	23 12 33	17 22
BALLINA	AUSTRALIA	28.87S	153.58E	0.1	23 12 5	16 54
NEWCASTLE	AUSTRALIA	32.93S	151.78E	0.2	23 12 0	16 49
COFFS HARBOR	AUSTRALIA	30.30S	153.15E	OBS.		
EDEN	AUSTRALIA	37.05S	149.97E	1.7	23 12 10	16 59
APIA HARBOR	MARIANA IS.	13.43N	144.65E	0.4		
GUAM	MARIANA IS.	13.44N	144.65E	0.2	23 16 40	21 29
TACLOBAN	PHILIPPINES	11.25N	125.00E	0.2	23 21 12	26 1
LEGASPI	PHILIPPINES	13.15N	123.75E	0.2	23 19 20	24 9

HONDAGUA	PHILIPPINES	13.95N	122.23E	0.2	23 21 15	26 4
HWA-LIAN	TAIWAN	23.97N	121.62E	0.2	23 19 20	24 9
KEE LUNG	TAIWAN	25.15N	121.75E	1.1	23 20 30	25 19
KAO-HSIUNG	TAIWAN	22.62N	120.28E	0.1	23 20 30	25 19
AN-PING	TAIWAN	23.00N	120.09E	0.2	23 22 30	27 19
PENG-HU	TAIWAN	23.57N	119.55E	0.2	23 22 48	27 37
HONG KONG	CHINA	22.30N	114.18E	0.5	23 22 20	27 9
DANNOURA	JAPAN	33.97N	130.95E	0.4	24 0 40	29 29
TUKIZI	JAPAN	35.67N	139.77E	0.1	23 18 10	22 59
MAIZURU	JAPAN	35.48N	135.40E	0.5	23 23 25	28 14
MOZI	JAPAN	33.95N	130.97E	0.9	24 0 25	29 14
URAKAWA	JAPAN	42.17N	142.83E	3.2		
IZUHARA	JAPAN	34.20N	129.30E	0.2		
KAMAISI	JAPAN	39.27N	141.90E	0.7	23 17 35	22 24
SASEBO	JAPAN	33.17N	129.72E	1.3	23 21 40	26 29
NASE	JAPAN	28.38N	129.50E	0.5	23 19 50	24 39
OMINATO	JAPAN	41.25N	141.15E	0.2	23 20 15	25 4
MOMBETSU	JAPAN	44.38N	143.22E	0.4	23 19 10	23 59
HAKODATE(41.70 140.73)	JAPAN	44.67N	142.42E	2.2	23 18 38	23 27
MAKURAZAKI	JAPAN	31.27N	130.31E	1.6		
AOMORI COAST	JAPAN	40.81N	140.74E	6.3		
HACHINOHE	JAPAN	40.52N	141.55E	3.3		
ONAGAWA	JAPAN	38.46N	141.43E	4.2		

SHIMIZU	JAPAN	34.95N	138.47E	1.5		
HAMAMATSU	JAPAN	34.70N	137.70E	1.1		
KUSHIRO	JAPAN	42.98N	144.44E	1.8		
MUTSU	JAPAN	41.31N	141.23E	6.3		
MERA	JAPAN	34.93N	139.83E	1.3		
MIYAKO	JAPAN	39.76N	141.95E	1.2		
HOKKAIDO	JAPAN	42.90N	145.00E	5.0		
KOCHI	JAPAN	33.59N	133.55E	3.1		
OFUNATO	JAPAN	39.06N	141.64E	4.9		
WAKAYAMA COAST	JAPAN	32.75N	135.35E	2.4		
MIYAZAKI	JAPAN	31.93N	131.45E	0.6		
ABURATSU	JAPAN	31.65N	131.37E	2.0		
SHIMODA	JAPAN	34.67N	138.92E	1.8		
CHOSHI	JAPAN	35.74N	140.84E	2.1		
E. COAST HOKKAIDO	JAPAN	42.90N	144.00E	5.0		
N RIKUCHU	JAPAN	39.83N	141.86E	6.3		
MIYAGI (S. COAST)	JAPAN	38.43N	141.25E	4.0		
MIE COAST	JAPAN	34.30N	136.94E	4.9		
HOSOJIMA	JAPAN	32.44N	131.68E	1.9		
SANRIKU COAST	JAPAN	39.37N	141.88E	6.4		
RIKUCHU	JAPAN	39.74N	142.00E	6.3		
SHIOGAMA	JAPAN	38.32N	141.00E	2.8		
RIKUCHU (S.)	JAPAN	39.30N	141.88E	5.6		
KUSHIMOTO	JAPAN	33.47N	135.79E	2.2		
RIKUZEN	JAPAN	38.00N	140.92E	6.4		
TOSA-SHIMIZU	JAPAN	33.51N	133.44E	2.7		
TOBA	JAPAN	34.46N	136.85E	1.6		
N MIYAGI COAST	JAPAN	38.85N	141.60E	6.4		
NAOS ISLAND	PANAMA	8.92N	79.53W	0.4	23 4 40	9 29
QUEPOS	COSTA RICA	9.40N	84.17W	0.2	23 3 45	8 34
PUNTARENAS	COSTA RICA	9.97N	84.83W	0.3	23 4 0	8 49
LA UNION	EL SALVADOR	13.33N	87.82W	0.5		

SAN JOSE	GUATAMALA	13.92N	90.83W	0.5	23 4 35	9 24
ENSENADA	MEXICO	31.88N	116.60W	1.2	23 8 48	13 37
LA PAZ	MEXICO	24.16N	110.32W	0.75	23 7 56	12 45
TOPOLOBAMPO	MEXICO	25.62N	109.05W	0.15	23 8 2	12 51
ZIHUATENEJO	MEXICO	17.62N	101.45W	1.5		
ACAPULCO	MEXICO	16.85N	99.92W	1.0	23 5 0	9 49
MAZATLAN	MEXICO	23.18N	106.43W	1.1	23 6 57	11 46
SALINA CRUZ	MEXICO	16.17N	95.20W	1.0	23 4 56	9 45
GUAYMAS	MEXICO	27.92N	110.90W	0.3	23 8 16	13 5
CRESCENT CITY	CALIFORNIA	41.75N	124.18W	1.7	23 10 40	15 29
GUALALA RIVER	CALIFORNIA	38.77N	123.53W	0.6		
BODEGA BAY	CALIFORNIA	38.31N	123.05W	0.3		
STENSON BEACH	CALIFORNIA	37.90N	122.65W	1.5		
SAN FRANCISCO	CALIFORNIA	37.81N	122.47W	0.4	23 10 13	15 2
ALAMEDA	CALIFORNIA	37.77N	122.30W	0.3	23 10 50	15 39
PACIFICA	CALIFORNIA	37.64N	122.49W	1.2		
PRINCETON	CALIFORNIA	37.50N	122.48W	2.2		
HALF MOON BAY	CALIFORNIA	37.49N	122.44W	OBS.		
SANTA CRUZ	CALIFORNIA	36.96N	122.02W	0.9		
MOSS LANDING	CALIFORNIA	36.81N	121.79W	0.8		
PACIFIC GROVE	CALIFORNIA	36.62N	121.91W	0.9		
MONTEREY	CALIFORNIA	36.61N	121.89W	1.1		
AVILA BEACH	CALIFORNIA	35.18N	120.73W	0.9		
PISMO BEACH	CALIFORNIA	35.14N	120.66W	2.4		
SANTA BARBARA	CALIFORNIA	34.41N	119.69W	1.4		
PORT HUENEME	CALIFORNIA	34.15N	119.21W	1.3	23 9 15	14 4
SANTA MONICA	CALIFORNIA	34.01N	118.50W	1.6	23 9 22	14 11
SAN PEDRO	CALIFORNIA	33.75N	118.29W	0.5	23 9 18	14 7
LONG BEACH	CALIFORNIA	33.75N	118.23W	0.7	23 9 27	14 16
TERMINAL I.	CALIFORNIA	33.75N	118.23W	0.9	23 9 30	14 19

ALAMITOS BAY	CALIFORNIA	33.75N	118.12W	0.6	23 9 34	14 23
LOS ANGELES	CALIFORNIA	33.72N	118.26W	0.8	23 9 18	14 7
AVALON	CALIFORNIA	33.35N	118.32W	0.6		
WILSON COVE	CALIFORNIA	33.01N	118.57W	0.6	23 8 54	13 43
LA JOLLA	CALIFORNIA	32.87N	117.26W	0.5	23 8 50	13 39
SAN DIEGO	CALIFORNIA	32.71N	117.17W	0.7	23 9 12	14 1
SHELTER COVE	CALIFORNIA	0.00N	0.00E	0.6		
ASTORIA	OREGON	46.21N	123.77W	0.2	23 12 40	17 29
SEASIDE	OREGON	46.01N	123.92W	1.5		
DEPOE BAY	OREGON	44.81N	124.07W	1.8		
NEWPORT	OREGON	44.63N	124.04W	0.6		
GOLD BEACH	OREGON	42.42N	124.43W	OBS.		
ECHO BAY	WASHINGTON	48.76N	122.91W	OBS.	23 17 5	21 54
FRIDAY HARBOR	WASHINGTON	48.54N	123.03W	0.1	23 16 30	21 19
NEAH BAY	WASHINGTON	48.37N	124.62W	0.4	23 12 25	17 14
GRAY'S HARBOR	WASHINGTON	46.91N	124.11W	0.3		
TOKELAND	WASHINGTON	46.70N	123.99W	0.6		
WILLAPA BAY	WASHINGTON	46.65N	124.05W	0.6		
PRINCE RUPERT	CANADA	54.32N	130.33W	OBS.	23 20 50	0 0
MCKENNY ISLAND	CANADA	52.65N	129.48W	0.4	23 13 3	17 52
CAPE ST.JAMES, B.C.	CANADA	51.93N	131.02W	0.4	23 12 20	17 9
TOFINO, BRITISH COLOMBIA	CANADA	49.15N	125.90W	0.4	23 12 20	17 9
KETCHIKAN	ALASKA	55.35N	131.68W	<0.1		
CRAIG	ALASKA	55.46N	133.13W	1.0		
CAPE POLE	ALASKA	55.97N	133.81W	1.0		
KAKE	ALASKA	56.98N	133.95W	<0.1	23 14 0	18 49
JUNEAU	ALASKA	58.30N	134.41W	<0.1		
SKAGWAY	ALASKA	59.44N	135.33W	0.2	23 15 0	19 49

SITKA	ALASKA	57.05N	135.34W	0.5	23 13 33	18 22
YAKUTAT	ALASKA	59.55N	139.74W	0.8	23 14 18	19 7
MONTAGUE ISLAND	ALASKA	59.88N	147.78W	2.3	23 16 57	19 29
SEWARD	ALASKA	60.12N	149.43W	0.7	23 16 57	19 29
WOMEN'S BAY, KODIAK	ALASKA	57.75N	152.48W	0.7	23 14 25	19 14
DUTCH HARBOR	ALASKA	53.88N	166.54W	0.7	23 14 50	19 39
SWEEPER COVE, ADAK	ALASKA	51.86N	176.63W	1.1	23 14 40	19 29
MASSACRE BAY, ATTU	ALASKA	52.83N	173.20E	>1.7	23 15 30	20 19
KURILSKIYE	KURIL IS.	46.00N	150.00E	4.7		
CAPE LOPATKA	KAMCHATKA	50.94N	156.60E	2.0		
KHODUTKA INLET	KAMCHATKA	0.00N	0.00E	3.0		
RUSSKAYA INLET	KAMCHATKA	0.00N	0.00E	7.0		
VILYUCHINSKAYA	KAMCHATKA	0.00N	0.00E	5.0		
TARYA INLET	KAMCHATKA	0.00N	0.00E	1.0		
RYBACHII	KAMCHATKA	52.89N	158.60E	0.2		
CAPE MAYACHNYI	KAMCHATKA	0.00N	0.00E	2.0		
KHALAKTYRKA	KAMCHATKA	0.00N	0.00E	2.0		
CAPE SHIPUNSKII	KAMCHATKA	0.00N	0.00E	3.0		
MORZHOVAYA BAY	KAMCHATKA	0.00N	0.00E	7.0		
TAUISKAYA INLET	KAMCHATKA	0.00N	0.00E	2.2		
LAVROVA BAY	KAMCHATKA	0.00N	0.00E	2.5		
APUKA	KAMCHATKA	60.48N	169.60E	OBS.		
UST KAMCHATSK	KAMCHATKA	56.37N	162.45E	0.8		
OLGA INLET	KAMCHATKA	54.58N	161.00E	4.0		
SEMLYACHIK	KAMCHATKA	0.00N	0.00E	4.0		
PETROPAVLOVSK	KAMCHATKA	53.10N	158.65E	0.6		
LOZHNYKHEVSTEI INLET	KAMCHATKA	0.00N	0.00E	2.5		



OSSORA	KAMCHATKA	59.37N	163.08E	OBS.
KARAGINSKII I., S. TIP	KAMCHATKA	58.50N	163.37E	OBS.
KAMCHATKA R. MOUTH	KAMCHATKA	56.14N	162.44E	4.0
NIKOLSKOE, BERING I.	COMMANDER IS.	55.18N	166.00E	3.5
MEDNYI I.	COMMANDER IS.	54.60N	167.70E	1.0

**Return To:**[May 22, 1960 Main Page](#)[Past Tsunamis Page](#)[WC/ATWC Home Page](#)

OWASE	JAPAN	34.06N	136.20E	0.5
KOBE	JAPAN	35.97N	123.67E	0.2
WAKAYAMA	JAPAN	34.23N	135.18E	0.2
AOMORI	JAPAN	40.79N	140.73E	0.3
HACHIJO IS.	JAPAN	35.15N	139.80E	0.1
ABURATSUBO	JAPAN	35.15N	135.63E	0.2
YOKOSUKA	JAPAN	35.30N	139.65E	0.2
SHIMIZU	JAPAN	34.95N	138.47E	0.3
TOSA-SHIMIZU	JAPAN	33.51N	133.44E	0.2
TOBA	JAPAN	34.46N	136.85E	0.2
ASAMUSHI	JAPAN	0.00N	0.00E	0.5
ONIZAKI	JAPAN	0.00N	0.00E	0.1
KOCHI	JAPAN	33.59N	133.55E	0.2
AOSHIMA	JAPAN	0.00N	0.00E	0.2
KAINAN	JAPAN	34.17N	135.22E	0.2
CHOSHI	JAPAN	35.74N	140.84E	0.7
YUZHNO, KURILSKIYE	KURIL IS.	44.04N	144.82E	0.4
PETROPAVLOVSK	KAMCHATKA	53.10N	158.65E	0.07
NIKOLSKOE, BERING I.	COMMANDER IS.	55.18N	166.00E	OBS.

**Return To:**

[March 28, 1964 Main Page](#)

[Past Tsunamis Page](#)

[WC/ATWC Home Page](#)

					15
LYTTLETON	NEW ZEALAND	43.62S	172.72E	0.6	
SYDNEY	AUSTRALIA	33.92S	141.17E	0.2	
MISHO	JAPAN	0.00N	0.00E	0.9	
NAGOYA	JAPAN	35.14N	136.92E	0.4	
OSAKA	JAPAN	34.68N	135.51E	0.2	
WAKKANAI	JAPAN	45.43N	141.72E	0.7	
KAMAISHI	JAPAN	39.37N	141.88E	0.4	
ABASHIRI	JAPAN	44.00N	144.26E	0.3	
KUSHIRO	JAPAN	42.98N	144.44E	1.6	
OMAEZAKI	JAPAN	34.61N	138.23E	0.6	
MIYAKO	JAPAN	39.76N	141.95E	0.1	
MERA	JAPAN	34.93N	139.83E	0.3	
HANASAKI	JAPAN	43.31N	145.63E	0.7	
ENOSHIMA	JAPAN	35.30N	139.48E	0.2	
URAKAWA	JAPAN	42.17N	142.83E	0.3	
OFUNATO	JAPAN	39.06N	141.64E	0.7	
MOMBETSU	JAPAN	44.38N	143.22E	0.1	
HACHINOHE	JAPAN	40.52N	141.55E	1.4	
ONAGAWA	JAPAN	38.46N	141.43E	0.5	
ONAHAMA	JAPAN	36.95N	140.90E	0.4	
KANAYA	JAPAN	34.82N	138.14E	0.2	
URAKAMI	JAPAN	0.00N	0.00E	0.5	
UCHIURA	JAPAN	42.25N	140.25E	0.2	
HAKODATE	JAPAN	41.81N	140.75E	1.0	
HOSOJIMA	JAPAN	32.44N	131.68E	0.1	
ABURATSU	JAPAN	31.65N	131.37E	0.7	
KUSHIMOTO	JAPAN	33.47N	135.79E	0.7	
NAZE	JAPAN	28.37N	129.49E	0.2	
TOKYO	JAPAN	35.69N	139.75E	0.1	
TOMIZAKI	JAPAN	0.00N	0.00E	0.6	
SUMOTO	JAPAN	34.34N	134.88E	0.1	

# April 1, 1946 Eastern Aleutian Is., Alaska Tsunami

Date (UTC)	Time (UTC)	Source Location	Magnitude	Source Type	Maximum Runup (m)
April 1, 1946	12:28:56	53.32N 163.19W	7.3 Ms	Earthquake	35

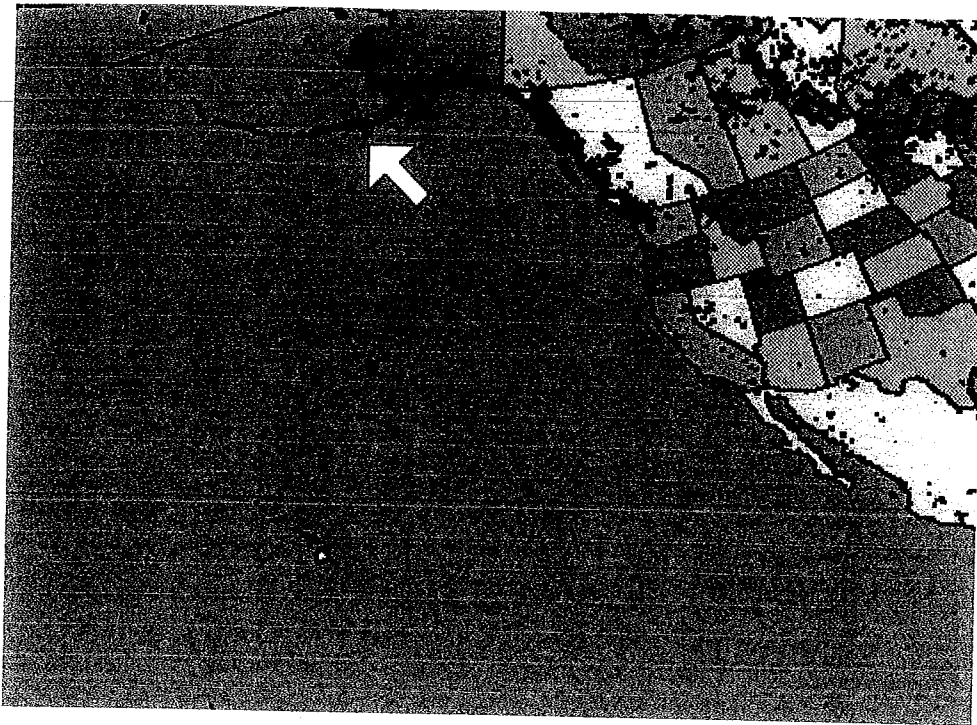
## Tsunami Related Fatalities

Alaska	British Columbia	Washington	Oregon	California
5	0	0	0	1

## Further Information

[Recorded Wave Heights](#)  
[Damage Summary](#)  
[Runup Indicator Map](#)  
[Tsunami Travel Time Map](#)  
[Marigrams](#)  
[Pictures](#)  
[References](#)

Source location map



### April 1, 1946 Eastern Aleutian Is., Alaska Tsunami Amplitudes

Amplitude listed is either a measured runup (maximum vertical elevation wave reached above sea level at the time of tsunami) or a zero-to-peak tide gage reading. Both are given in meters.

Location	Region	Latitude	Longitude	Amplitude (m)	Arrival time (day hr. min. UTC)	Travel time (hr. min.)
SITKA	ALASKA	57.05N	135.34W	0.4		
YAKUTAT	ALASKA	59.55N	139.74W	0.4		
SEWARD	ALASKA	60.12N	149.43W	0.1		
KODIAK	ALASKA	57.79N	152.41W	0.6		
CHIGNIK	ALASKA	56.30N	158.39W	0.8		
SAND POINT	ALASKA	55.34N	160.50W	OBS.		
UNGA, SHUMAGIN IS.	ALASKA	55.19N	160.51W	0.8		
COLD BAY	ALASKA	55.21N	162.72W	6.1		
KING COVE	ALASKA	55.06N	162.31W	1.5		
SANAK I.	ALASKA	54.48N	162.83W	6.1		
IKATAN	ALASKA	54.75N	163.31W	OBS.		
SCOTCH CAP, UNIMAK I.	ALASKA	54.40N	164.80W	35.0		
DUTCH HARBOR	ALASKA	53.88N	166.54W	OBS.		
NIKOLSKI	ALASKA	52.94N	168.86W	12.2		
ADAK	ALASKA	51.86N	176.63W	0.2		
ATTU	ALASKA	52.83N	173.20E	OBS.		
TOFINO	CANADA	49.15N	125.90W	0.3	0 16 47	4 18
NEAH BAY	WASHINGTON	48.37N	124.62W	0.2	0 17 0	4 31
FRIDAY HARBOR	WASHINGTON	48.54N	123.03W	<0.1		
TAHOLAH	WASHINGTON	47.35N	124.30W	1.5		
CLATSOP SPIT	OREGON	46.22N	124.01W	1.8		
SEASIDE	OREGON	46.01N	123.92W	1.2		
DEPOE BAY	OREGON	44.81N	124.07W	0.9		

NEWPORT	OREGON	44.63N	124.04W	1.5		
SIUSLAW R.	OREGON	44.02N	124.12W	1.0		
COOS BAY	OREGON	43.35N	124.34W	3.0		
CHARLESTON	OREGON	43.35N	124.32W	1.5		
BRANDON	OREGON	43.12N	124.42W	0.6		
CRESCENT CITY	CALIFORNIA	41.75N	124.18W	0.9	0 17 7	4 38
NOYO RIVER/FORT BRAGG	CALIFORNIA	39.43N	123.82W	1.4		
CASPAR BEACH	CALIFORNIA	39.36N	123.82W	OBS.		
NAVARRO R. MOUTH	CALIFORNIA	39.19N	123.76W	OBS.		
ARENA COVE	CALIFORNIA	38.91N	123.71W	2.4		
DRAKE'S BAY	CALIFORNIA	38.03N	122.92W	2.6		
BOLINAS	CALIFORNIA	37.91N	122.68W	OBS.		
MUIR BEACH	CALIFORNIA	37.86N	122.58W	OBS.		
SAN FRANCISCO	CALIFORNIA	37.81N	122.47W	0.3	0 18 0	5 31
ALAMEDA	CALIFORNIA	37.77N	122.30W	0.2		
SAN MATEO	CALIFORNIA	37.58N	122.30W	<0.1		
HALF MOON BAY	CALIFORNIA	37.49N	122.49W	2.6		
SANTA CRUZ	CALIFORNIA	36.96N	122.02W	1.5		
PACIFIC GROVE	CALIFORNIA	36.62N	121.91W	OBS.		
MONTEREY	CALIFORNIA	36.61N	121.89W	1.0		
SAN SIMEON	CALIFORNIA	35.64N	121.19W	OBS.		
MORRO BAY	CALIFORNIA	35.37N	120.82W	1.5		
SAN LUIS OBISPO	CALIFORNIA	35.27N	120.67W	1.2	0 18 5	5 36
AVILA	CALIFORNIA	35.18N	120.73W	1.3		
POINT ARGUELLO	CALIFORNIA	34.58N	120.65W	1.1		
SANTA BARBARA	CALIFORNIA	34.41N	119.69W	0.9		
PORT HUENEME	CALIFORNIA	34.15N	119.21W	0.8		
SAN PEDRO	CALIFORNIA	33.75N	118.29W	OBS.		
LONG BEACH	CALIFORNIA	33.75N	118.20W	0.2		
LOS ANGELES	CALIFORNIA	33.72N	118.26W	0.4		

LA JOLLA	CALIFORNIA	32.87N	117.26W	0.2	0 18 40	6 11
GRANADA	CALIFORNIA	0.00N	0.00E	OBS.		
SAN DIEGO	CALIFORNIA	32.71N	117.17W	0.2		
POHOIKI, HAWAII	HAWAII	19.43N	154.83W	2.7		
KAIMU, HAWAII	HAWAII	19.37N	154.97W	6.1		
KALAPANA, HAWAII	HAWAII	19.35N	154.98W	6.1		
KEAAU, HAWAII	HAWAII	19.60N	154.98W	7.3		
KEOKEA PT., HAWAII	HAWAII	19.73N	155.05W	9.8		
HILO, HAWAII	HAWAII	19.73N	155.06W	8.1		
HONOMU, HAWAII	HAWAII	19.85N	155.10W	11.3		
PEPEEKEO, HAWAII	HAWAII	19.83N	155.10W	8.2		
PAPAIKOU, HAWAII	HAWAII	19.75N	155.10W	10.7		
KOLEKOLE STREAM, HAWAII	HAWAII	19.89N	155.12W	11.0		
ONOMEA, HAWAII	HAWAII	19.80N	155.13W	10.4		
HAKALAU, HAWAII	HAWAII	19.90N	155.13W	11.3		
LAUPAHOEHOE, HAWAII	HAWAII	20.00N	155.25W	9.1		
HONOKAA, HAWAII	HAWAII	20.07N	155.45W	8.5		
PUNALUU BAY, HAWAII	HAWAII	19.13N	155.50W	4.3		
HONUAPO, HAWAII	HAWAII	19.10N	155.55W	4.3		
WAIPIO V., HAWAII	HAWAII	20.13N	155.60W	12.0		
NE COAST, HAWAII	HAWAII	20.15N	155.65W	17.0		
SOUTH POINT, HAWAII	HAWAII	18.92N	155.68W	6.1		
POLOLU V., HAWAII	HAWAII	20.21N	155.73W	12.0		



KAWAIHAE, HAWAII	HAWAII	20.04N	155.83W	3.7
UPOLU PT., HAWAII	HAWAII	20.27N	155.87W	6.1
HOOKENA, HAWAII	HAWAII	19.38N	155.90W	2.4
MILOLII, HAWAII	HAWAII	19.19N	155.91W	0.6
NAPOOPOO, HAWAII	HAWAII	19.48N	155.92W	2.7
MAHUKONA, HAWAII	HAWAII	20.18N	155.92W	4.3
HONAUNAU, HAWAII	HAWAII	19.42N	155.92W	2.1
SW COAST, HAWAII	HAWAII	18.95N	155.93W	6.5
KEAUHOU, HAWAII	HAWAII	19.57N	155.97W	4.0
KAILUA, HAWAII	HAWAII	19.63N	155.98W	3.3
HONOKOHAU, HAWAII	HAWAII	19.67N	156.03W	8.5
HAMO A, MAUI	HAWAII	20.73N	155.99W	7.0
HANA BAY, MAUI	HAWAII	20.75N	156.00W	9.1
MALIKO BAY, MAUI	HAWAII	20.80N	156.25W	8.5
LOWER PAIA, MAUI	HAWAII	20.92N	156.38W	6.0
SPRECKLESVILLE, MAUI	HAWAII	20.91N	156.42W	8.5
PAUKUKALO, MAUI	HAWAII	20.91N	156.48W	6.1
KAHULUI, MAUI	HAWAII	20.90N	156.47W	8.5
MAALAEA, MAUI	HAWAII	20.82N	156.52W	2.7
KAHAKUALOA, MAUI	HAWAII	21.00N	156.55W	10.0
MALA, MAUI	HAWAII	20.89N	156.65W	3.7
HONOKOHUA, MAUI	HAWAII	21.00N	156.65W	8.5
LAHAINA, MAUI	HAWAII	20.87N	156.67W	2.0

KAANAPALI, MAUI	HAWAII	20.93N	156.70W	4.9
WAIKOLU V., MOLOKAI	HAWAII	21.10N	156.80W	16.4
KALAU PAPA, MOLOKAI	HAWAII	21.20N	156.98W	2.1
KAUNAKAKAI, MOLOKAI	HAWAII	21.10N	157.03W	0.6
KALOKO, OAHU	HAWAII	21.30N	157.66W	4.5
MAKAKPUU PT., OAHU	HAWAII	21.30N	157.67W	11.1
LANIKAI, OAHU	HAWAII	21.38N	157.72W	2.1
MOKAPU PEN., OAHU	HAWAII	21.45N	157.75W	6.7
HONOLULU, OAHU	HAWAII	21.31N	157.87W	0.6
WAIKIKI, OAHU	HAWAII	21.28N	157.87W	2.7
PUNALUU, OAHU	HAWAII	21.57N	157.88W	3.7
KAHANA, OAHU	HAWAII	21.55N	157.88W	2.1
KAHUKU POINT, OAHU	HAWAII	21.70N	158.00W	8.2
KAWELA BAY, OAHU	HAWAII	21.70N	158.02W	5.8
HALEIWA, OAHU	HAWAII	21.60N	158.12W	3.4
WAIANA E, OAHU	HAWAII	21.45N	158.15W	4.3
KAENA PT., OAHU	HAWAII	21.58N	158.30W	10.9
MOLOAA, KAUAI	HAWAII	22.45N	159.33W	11.5
NAWILIWILI, KAUAI	HAWAII	21.96N	159.36W	4.2
KALIHIWAI BAY, KAUAI	HAWAII	22.22N	159.43W	6.7
HANA LEI BAY, KAUAI	HAWAII	21.90N	159.50W	5.8
WAINIHA, KAUAI	HAWAII	22.97N	159.54W	7.3
HAENA, KAUAI	HAWAII	22.22N	159.55W	13.7
PORT ALLEN, KAUAI	HAWAII	21.90N	159.58W	2.4

KAUMAKANI, KAUAI	HAWAII	21.93N	159.63W	2.4		
PAKALA POINT, KAUAI	HAWAII	21.94N	159.65W	10.0		
WAIMEA BAY, KAUAI	HAWAII	21.97N	159.67W	4.2		
NIIHAU I.	HAWAII	21.83N	160.18W	6.0		
YEZO I.	JAPAN	0.00N	0.00E	0.3		
IWATE PREF.	JAPAN	39.41N	142.00E	0.4		
UCHIURA	JAPAN	42.25N	140.25E	0.1		
HACHINOHE	JAPAN	40.52N	141.55E	0.2		
ABURATSU	JAPAN	31.65N	131.37E	0.8		
CHOSHI	JAPAN	35.74N	140.84E	0.1		
MIYAKO	JAPAN	39.76N	141.95E	0.2		
KUSHIMOTO	JAPAN	33.47N	135.79E	0.7		
AYUKAWA	JAPAN	38.30N	141.50E	1.1		
	MARQUESAS IS.	9.00S	139.50W	9.5		
APIA	SAMOA	13.81S	171.75W	1.2		
PAGO PAGO	SAMOA	14.28S	170.68W	0.8		
CALLAO	PERU	12.08S	77.13W	0.6		
MATARANI	PERU	17.00S	72.12W	0.6	0 28 55	16 26
TALARA	PERU	4.58S	81.42W	0.5	0 27 0	15 30
JUAN FERNANDEZ IS.	CHILE	33.00S	80.00W	9.5		
ANTOFAGASTA	CHILE	23.65S	70.42W	1.8	0 29 50	17 21
VALPARAISO	CHILE	33.08S	71.67W	1.6	0 30 36	18 7

**Return To:**[April 1, 1946 Main Page](#)[Past Tsunamis Page](#)[WC/ATWC Home Page](#)

# April 18, 1906 Northern California Tsunami

Date (UTC)	Time (UTC)	Source Location	Magnitude	Source Type	Maximum Runup (m)
April 18, 1906	13:12:21	37.7N 122.5W	7.9 Mw	Earthquake	0.1

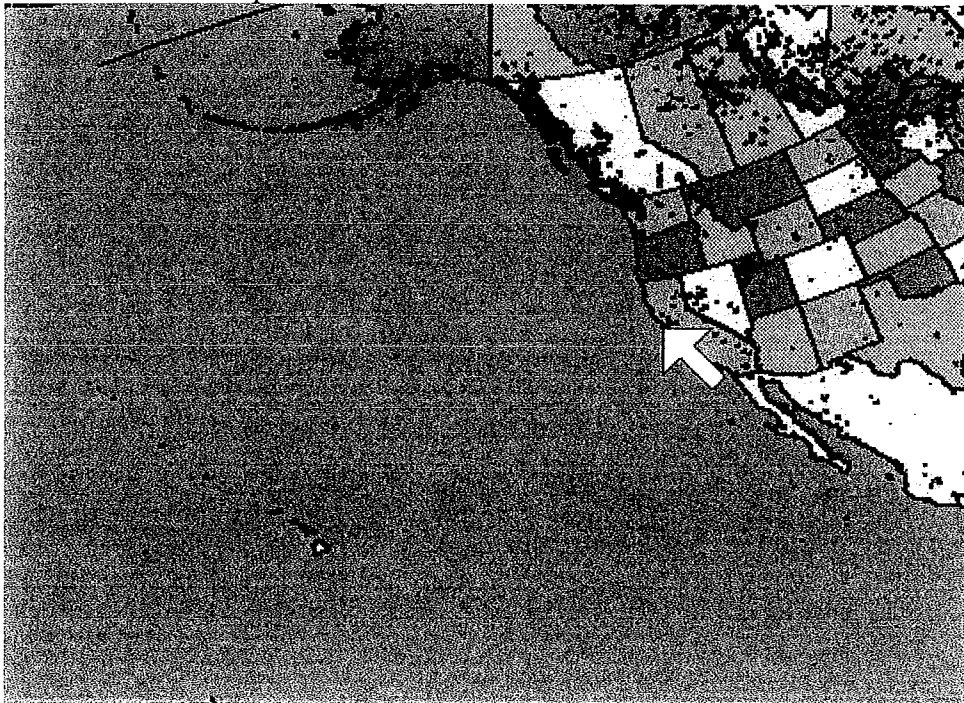
## Tsunami Related Fatalities

Alaska	British Columbia	Washington	Oregon	California
0	0	0	0	0

## Further Information

- [Recorded Wave Heights](#)
- [Tsunami Travel Time Map](#)
- [Marigrams](#)
- [References](#)

Source location map



## April 18, 1906 Northern California Tsunami Amplitudes

Amplitude listed is either a measured runup (maximum vertical elevation wave reached above sea level at the time of tsunami) or a zero-to-peak tide gage reading. Both are given in meters.

Location	Region	Latitude	Longitude	Amplitude (m)	Arrival time (day hr. min. UTC)	Travel time (hr. min.)
NAVARRO R. MOUTH	CALIFORNIA	39.19N	123.76W	OBS.		
SAN FRANCISCO	CALIFORNIA	37.81N	122.47W	0.1		

### Return To:

[April 18, 1906 Main Page](#)

[Past Tsunamis Page](#)

[WC/ATWC Home Page](#)

## **GeoSoils, Inc.**

October 14, 2010

Mr. Jeff Peck  
Big Wave Group  
P.O. Box 1901  
La Granada, CA 94018

**SUBJECT:** Tsunami Runup and Force Analysis for Big Wave Wellness Center, Airport Street, Princeton, San Mateo County, California.

**References:** "Scope of Work, Peer Review of Tsunami Report for Big Wave Wellness Center," dated September 28, 2010, by Camille Leung, Project Planner, County of San Mateo.

"Big Wave Tsunami Force and Run-up Report in Accordance with Zoning Ordinance 6323.2 (8-20-2010)," dated August 23, 2010, by Scott Holmes, Big Wave Project Engineer.

Dear Mr. Peck:

At your request, GeoSoils Inc. (GSI) is pleased to provide this Tsunami Runup and Force Analysis for Big Wave Wellness Center in San Mateo County. This report also covers the proposed office park development on the parcel further inland from the Wellness Center. Our scope of work includes an inspection of the site and surrounding area, review of the above referenced scope of work, review of the above referenced tsunami analysis, independent analysis of tsunami propagation onto the subject site, and preparation of this report.

### **PREPARERS QUALIFICATIONS**

This report is prepared by David Skelly, a California licenced professional engineer specializing in coastal engineering. I have over 33 years experience in coastal engineering. Prior to joining the GSI team, I worked as a research engineer at the Center for Coastal Studies at Scripps Institution of Oceanography for 17 years. During my tenure at Scripps, I worked on coastal erosion problems throughout the world. I have written numerous technical reports and published papers on these projects. I have performed numerous wave runup analysis for coastal development, including analyzing coastal processes, wave forces, water elevation, longshore transport of sand, and coastal erosion. I have extensive experience in producing environmental documentation concerning coastal projects on the federal, state, and local level. I am recognized by the California Coastal Commission as professionally capable of producing this type of tsunami runup analysis. I am a founding member of the Association of Coastal Engineers.

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## **GeoSoils, Inc.**

### **HOLMES REPORT REVIEW**

We have reviewed the tsunami force and runup report prepared by Scott Holmes for the Big Wave Wellness Center in Princeton, San Mateo County. It is GSI's opinion that this report is adequate for its intended purpose and meets the standard of care and practice necessary for this type of complex analysis. The author documents the potential tsunami sources and wave heights for the area using historical tsunami records, wave heights and impacts. The report makes reasonable assumptions regarding the potential impact of a tsunami event at the site. Finally, we are in agreement with the conclusions provided in the report with regards to the susceptibility of the proposed development to tsunami hazards.

### **GSI TSUNAMI RUNUP AND OVERTOPPING ANALYSIS**

In order to further determine potential tsunami impacts at the site, in light of future sea level rise over the life of the development (75 years), an extreme event tsunami analysis will be provided herein. There are many experts that study and publish up to date information on tsunamis including Dr. James Lander at NOAA, Dr Jose Borrero, and Dr. Costa Synolakis at the USC Tsunami Research Center (<http://www.usc.edu/dept/tsunamis/2005/index.php>). Either of these sources can provide the San Mateo County reviewer with extensive information on tsunami events. Based upon our review of the historical data and tsunami forecast modeling by the USC Tsunami Research Center, a 6.5 feet high tsunami for this area would be on the order of a 500-year recurrence interval event. For our analysis, a 6.5 feet tsunami will be the conservative, extreme, tsunami wave height.

To determine how an extreme tsunami may impact the site, the physical setting of the site relative to the ocean needs to be discussed. As a tsunami propagates towards the site, it first encounters the breakwater at Half Moon Bay. The breakwater is located in about 30 feet of water and rises to an elevation of about +15 feet NGVD29 (~MSL). The tsunami will break on or before the breakwater and then overtop the structure. Depending upon the tide, some or most of the tsunami energy will be lost on the breakwater and or reflected back offshore. The portion of the tsunami that overtops the breakwater forms a critical flow bore that will then propagate across the bay, a distance of about 2,900 feet. The tsunami bore will reach the shoreline and will then propagate into and possibly across a heavy vegetated marsh area (trees and dense reeds) to reach the closest portion of the subject site to the shoreline, an additional distance of 1,300 feet. Basic hydraulic modeling of this bore propagation would use the Manning Equation for open channel flow with a very high roughness coefficient (Manning Equation variable N) due to the marsh vegetation. It is very important to point out that the tsunami will reach the shoreline area in the form of a bore, that is a pulse of water. It is NOT a continuous flow nor a sustained flow of water.

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## GeoSoils, Inc.

As a tsunami encounters the breakwater in front of the property, the wave will rush up, and sometimes over, the breakwater crest. Wave runup is defined as the vertical height above the still water level to which a wave will rise on a structure (breakwater) of infinite height. Overtopping is the flow rate of water over the top of a finite height structure (breakwater) as a result of wave runup.

Wave runup and overtopping for an extreme tsunami event is calculated using the US Army Corps of Engineers Automated Coastal Engineering System (ACES). ACES is an interactive computer based design and analysis system in the field of coastal engineering. The methods to calculate runup and overtopping implemented within this ACES application are discussed in greater detail in Chapter 7 of the Shore Protection Manual (1984) and the Coastal Engineering Manual (2004). The overtopping estimates calculated herein are corrected for the effect of onshore winds. Figure 1 is a diagram showing the analysis terms.

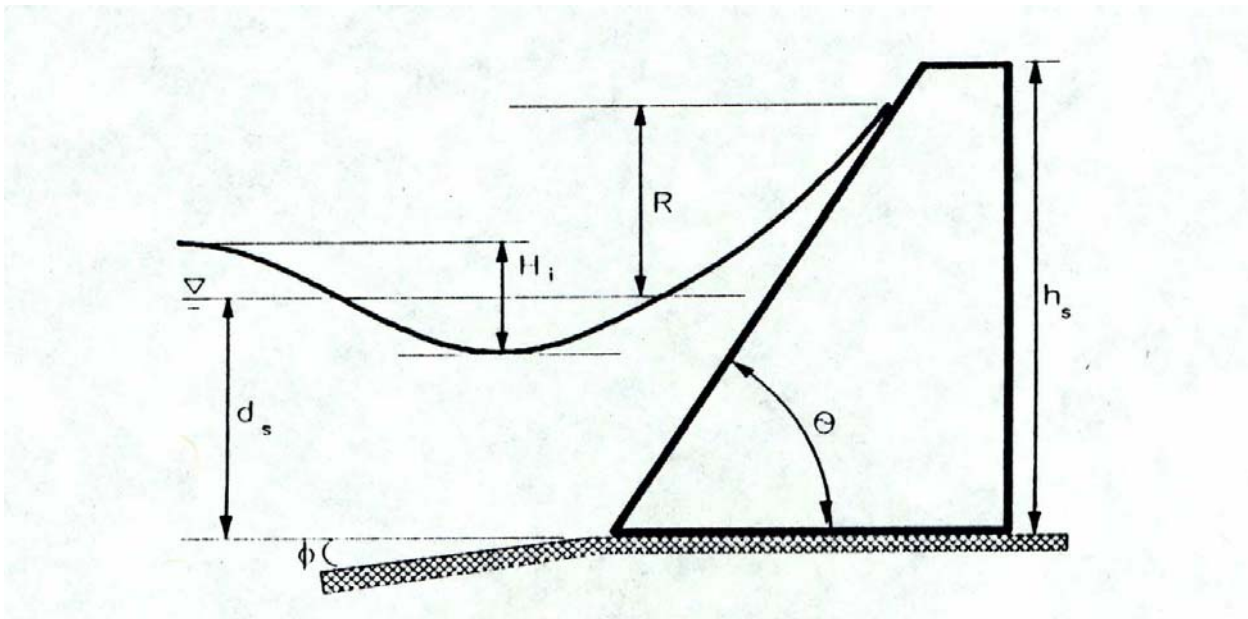


Figure 1. Wave runup terms from ACES manual.

The wave, wind, and water level data used as input to the tsunami runup and overtopping application will be the extreme tsunami height of 6.5 feet with the water level at highest recorded water level, corrected for future sea level rise. Sea level rise over the life of the development was chosen from the Cayan, et al. (2008) scientific paper entitled "Climate change projections of sea level extremes along the California coast." This paper provides



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a range in sea level rise from 11 cm (4.3 in) to 72 cm (28 in) over then next 100 years. The extreme water elevation used in this analysis is +7.5 feet NGVD29 (max recorded historical still water of 5.0 feet NGVD29 on January 27, 1983 [Monterey NOAA Tidal Station]+ 2.5 feet sea level rise). **Table I** is the ACES output for these design conditions.

**Table I**

AUTOMATED COASTAL ENGINEERING SYSTEM ... Version 1.02      10/11/2010      8:15  
 Project:      TSUNAMI RUNUP OVERTOPPING HALF MOON BAY

WAVE RUNUP AND OVERTOPPING ON IMPERMEABLE STRUCTURES				
Item		Unit	Value	
Wave Height at Toe	Hi:	ft	6.500	Rough Slope
Wave Period	T:	sec	30.000	Runup and
COTAN of Nearshore Slope			170.000	Overtopping
Water Depth at Toe	ds:	ft	14.000	
COTAN of Structure Slope			2.000	
Structure Height Above Toe	hs:	ft	15.000	
Rough Slope Coefficient	a:		0.956	
Rough Slope Coefficient	b:		0.398	
Deepwater Wave Height	H0:	ft	3.401	
Relative Height	(ds/H0):		4.117	
Wave Steepness	(H0/gT^2):		0.117E-03	
Wave Runup	R:	ft	13.134	
Onshore Wind Velocity	U:	ft/sec	0.000	
Overtopping Coefficient	Alpha:		0.600E-01	
Overtopping Coefficient	Qstar0:		0.110	
Overtopping Rate	Q:	ft^3/s-ft	8.952	

The calculated overtopping rate for the eroded beach conditions is ~9 ft<sup>3</sup>/s-ft. This is on the order of 2 to 3 feet of water coming over the top of the breakwater. The overtopping waters will propagate across the bay with some loss in elevation due to friction. For conservative analysis, assume that the height of the tsunami bore is 2.5 feet when it reaches the shoreline. The US Army Corps of Engineers Coastal Engineering Manual (CEM) states that for every 25 feet that a wave overtopping travels across the beach, the height of the runup bore is reduced by 1 foot. The distance from the shoreline to the closet portion of the Wellness Center site is about 1,300 feet across dense vegetation. It is unlikely that the tsunami bore will reach the site and even if it does the bore height will be on the order of a few inches.

The Wellness Center building has a very low but not zero probability of being subject to some tsunami runup. The runup will be less than 1 foot in height for the reasons detailed above. The methodology for calculating wave forces on a building/wall is contained in Chapter VI-5 of the US Army Corp of Engineers CEM (2004). This method is reasonably conservative and consistent with the standard of practice. Figure 2 below shows the terms used in the calculation.

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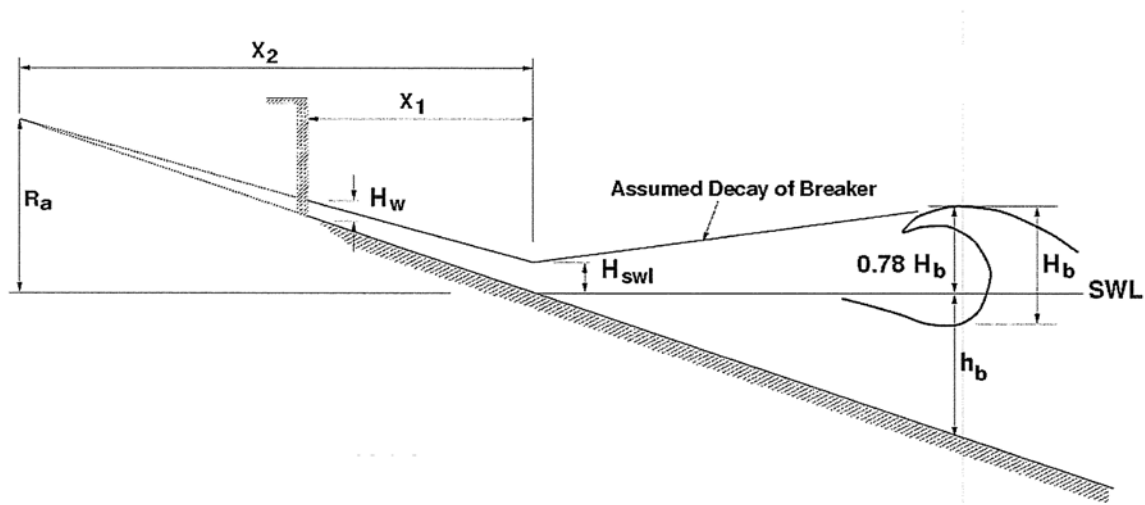


Figure 2. Broken wave force on wall from the CEM.

The formula for the force of the broken wave surge is:

$$F_{\text{surge}} \approx 4.5 \rho g H_w^2$$

Using a  $H_w$  of 1.0 feet the calculation yields a  $F_{\text{surge}} = 280$  lbs/ft. This force is the horizontal force of the bore or wave surge on the wall of the building. This force is not considered significant as compared to dynamic forces on the building due to seismic acceleration of the building mass.

### RESPONSE TO SAN MATEO COUNTY TSUNAMI REVIEW SCOPE OF WORK

GSI is please to directly respond to the scope of work for reviewing the Wellness Center site tsunami report by Scott Holmes. For ease of review of our responses by San Mateo County (SMC) officials the SMC scope and questions are provided in italics followed by our response.

*1. PURPOSE: The purpose of this report is to demonstrate that the design of the Wellness Center complies with Section 6326.2(b) of the San Mateo County Zoning Regulations (Tsunami Inundation Area Criteria). The report should answer the following main question and subsequent sub-questions:*

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### Question 1:

*Does the design of the Wellness Center, as described in the report, comply with Section 6326.2 of the Zoning Regulations?*

It is GSI's opinion that the Wellness Center development as proposed complies with Section 6326 of the SMC Zoning Regulations.

*A. Section 6326.2(b) of the San Mateo County Zoning Regulations: This section provides the following criteria for Residential Structures proposed in areas designated as "Tsunami Inundation Areas". Section (b) states "residential structures and resort developments designed for transient or other residential use may be permitted under the following circumstances":*

*1. The applicant submits a report prepared by a competent and recognized authority estimating the probable maximum wave height, wave force, run-up angle, and level of inundation in connection with the parcel or lot upon which the proposed development is to be located.*

*Question 2: What are the qualifications of the report preparer?*

Mr. Holmes is a California licensed professional engineer and has experience in coastal engineering. The qualifications of the undersigned are included in this review/report.

*Question 3: Does the report provide estimates, based on credible and listed sources, of the following, in connection with the parcel or lot upon which the proposed development is to be located: a) probable maximum wave height, b) wave force, c) run-up angle, and d) level of inundation?*

Yes. The maximum tsunami bore height at the site will be less than 1 foot. The force will be minimal. Provided that the finished first floor is 1 foot or greater above adjacent grade there will be no inundation of the structure.

*Question 3.a: How do a) through d) of Question 3 above change with anticipated rises in sea level?*

The response to Question 3 above consider 2.5 feet of sea level rise over the next 75 years.

*2. No structure covered by this section shall be allowed within that portion of the lot or parcel where the projected wave height and force is fifty (50) percent or more of the projected*

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*maximum, unless: (a) the highest projected wave height above ground level at the location of the structure is less than six (6) feet, (b) no residential floor level is less than two (2) feet above that wave height, and (c) the structural support is sufficient to withstand the projected wave force.*

No portion of the site will be subject to bore height or forces that are greater than about 15% of the design tsunami height (6.5 feet) and resulting force. The wave force is proportional to the square of the velocity. Therefore, a 6-foot tsunami will have 36 times the force of a 1 foot tsunami bore.

*Question 4a: Are residential structure(s) proposed within that portion of the lot or parcel where the projected wave height and force is fifty (50) percent or more of the projected maximum?*

No.

*Question 4.a: If "yes" to Question 4, is the following true of the proposed project: (a) the highest projected wave height above ground level at the location of the structure is less than six (6) feet, (b) no residential floor level is less than two (2) feet above that wave height, and (c) the structural support is sufficient to withstand the projected wave force.*

Not applicable

*Question 4.b: With anticipated rise in sea level factored in, would the project comply with Questions 4 and 4.a?*

The analysis herein accounted for 2.5 feet of sea level rise over the next 75 years. This is based upon the latest published and confirmed data from Scripps Institution of Oceanography scientists for the open coast of California. It should be noted that an increase of sea level as much a 4 feet over the next 75 years will not change the level of inundation at the site. The site is reasonably safe from tsunamis due to the breakwater, the ~ 1 mile set back from the breakwater, and elevation above the potential flood levels. The natural grade at the base of the Wellness Center structures is 14 feet NGVD29. The filled grade at the base of the structure is 16 feet NGVD29. The first floor height is 20 feet NGVD29. The office park is similar but the natural grade at the base of the structures varies from 17 feet to 18 feet NGVD29 with the elevation of the first floors varying from 21.5 feet to 23 feet NGVD29.

*3. No structure covered by this section shall be allowed within that portion of the lot or parcel where the projected wave height and force is less than fifty (50) percent of the projected*

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*maximum unless the requirements of subsection b, 2), (a), and (c) are satisfied and the residential flood level is at least one (1) foot above the highest projected level of inundation.*

Not applicable

*Question 5: Are residential structure(s) proposed within that portion of the lot or parcel where the projected wave height and force is less than fifty (50) percent of the projected maximum?*

No.

*Question 5.a: If "yes" to Question 5, is the following true of the proposed project: (a) the project satisfies the requirements of subsection b, 2), (a), and (c) and (b) the residential flood level is at least one (1) foot above the highest projected level of inundation.*

Not applicable.

*Question 5.b: With anticipated rise in sea level factored in, would the project comply with Questions 5 and 5.a?*

Not Applicable. However, the analysis herein accounted for 2.5 feet of sea level rise over the next 75 years. This is based upon the latest published and confirmed data from Scripps Institution of Oceanography scientists for the open coast of California. It should be noted that an increase of sea level as much a 4 feet over the next 75 years will not change the level of inundation at the site. The site is reasonably safe from tsunamis due to the breakwater, the ~ 1 mile set back from the breakwater, and elevation above the potential flood levels. The natural grade at the base of the Wellness Center structures is 14 feet NGVD29. The filled grade at the base of the structure is 16 feet NGVD29. The first floor height is 20 feet NGVD29. The office park is similar but the natural grade at the base of the structures varies from 17 feet to 18 feet NGVD29 with the elevation of the first floors varying from 21.5 feet to 23 feet NGVD29.

*4. Permission under this subsection shall not be granted if the Planning Commission determines that sufficient data, upon which the report required by subsection 1) must be based, is unavailable and cannot feasibly be developed by the applicant.*

*Question 6: Is the report required by subsection 1) based on sufficient data? If not, is the information available or can the preparer feasibly develop the sufficient data?*

It is GSI opinion that the tsunami Report by Scott Holmes meets the standard of practice for coastal engineering and accurately describes the potential tsunami hazard at the site.

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### CONCLUSIONS AND RECOMMENDATIONS

The proposed Big Wave Wellness Center is reasonably safe from tsunami hazards due to its elevation and location relative to the shoreline. The proposed office park, located further inland, is also reasonably safe from tsunami hazards for the same reasons. In addition, the breakwater provides a significant structural barrier to tsunami propagation onto the sites. Figure 3, at the end of this report, provides a graphic that illustrates how an extreme tsunami will propagate to the Wellness Center site. The tsunami wave will break on the breakwater and overtop the structure. It will then propagate across the open water of the protected bay to the shore. Upon reaching the shoreline, the tsunami bore will run up as the grade elevation increases and across a broad area of dense vegetation. If it reaches the site the bore will be less than 1 foot in height with no significant force. The proposed finished floors for both the Wellness Center and the office park are reasonably safe from tsunami inundation due to their elevation above finished grade. The tsunami report prepared by Mr. Scott Holmes meets the standard of practice and accurately describes the potential tsunami hazards at the site. In closing, there is no significant tsunami hazard at the proposed Big Wave Wellness Center or office park site. No recommendations are necessary to mitigate the less than significant hazard from an extreme tsunami to either development. However, because there will be many hours of warning prior to the arrival of a tsunami, an evacuation plan should be in place to protect the center residents from water flowing onto the property.

Should have any questions, please do not hesitate to contact the undersigned at (760) 438-3155.

Sincerely,



**GeoSoils, Inc.**  
David W. Skelly MS, PE/jk



## GeoSoils, Inc.

### ADDITIONAL REFERENCES

Cayan, Daniel R., Bromirski, Peter, D., Hayhoe, Katharine, Tyree, Mary, Dettinger, Michael D., and Flick, Reinhard E., 2008, "Climate change projections of sea level extremes along the California coast," *Climate Change 2008*.

Coastal Engineering Manual 2004, US Army Engineer Waterways Experiment Station, Coastal Engineering Research Center, US Government Printing Office, Washington, DC.

Lander, James F., P. Lockridge, and M. Kozuch, 1993, "Tsunamis Affecting the West Coast of the US, 1806-1992," NOAA National Geophysical Data Center publication.

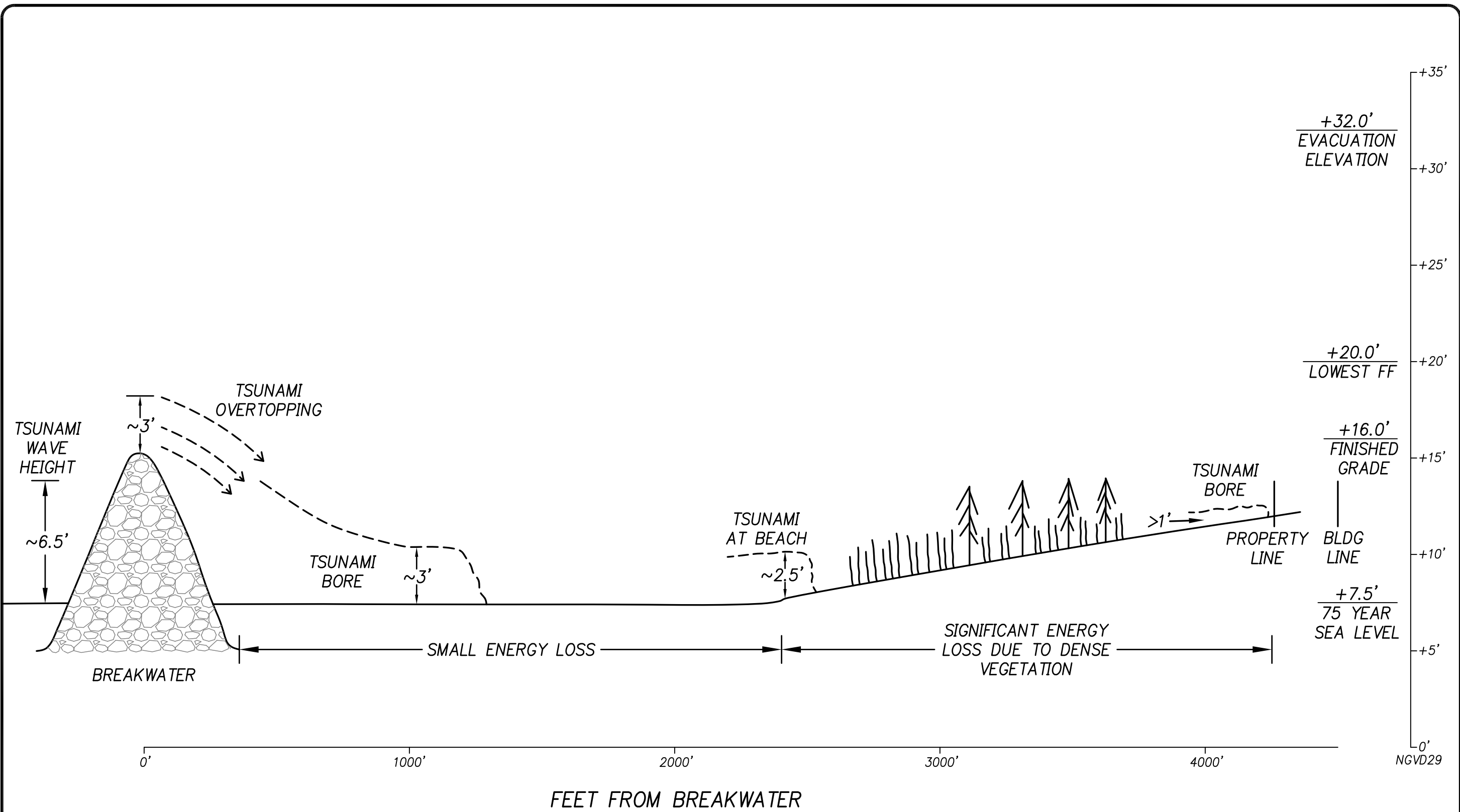
Legg, Mark R. and Borrero, Jose C., Tsunami potential of major restraining bends along submarine strike-slip faults, *in* ITS 2001 Proceedings, Session 1, Number 1-9.

Legg, Mark R., Borrero, Jose C., and Synolakis, Costas E., Evaluation of tsunami risk to southern California coastal cities, *in* The 2002 NEHRP Professional Fellowship Report.

Rivero, Carlos, Shaw, John H., and Mueller, Karl, Oceanside and Thirtymile Bank blind thrusts: Implications for earthquake hazards *in* coastal southern California, in *Geology*, October 2000 edition, v. 28, no. 10, p. 891-894, 5 figures.

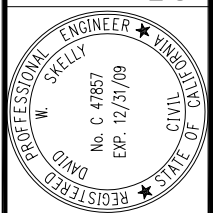
Shore Protection Manual, 1984, 4th ed. 2 Vols, US Army Engineer Waterways Experiment Station, Coastal Engineering Research Center, US Government Printing Office, Washington, DC.

"Tsunami Alert and Excavation Plan On the San Mateo County Coast," Grand Jury County of San Mateo, 2006.



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**GeoSoils, Inc.**  
 Geotechnical • Geologic • Coastal • Environmental  
 5741 Palmer Way, Carlsbad, CA 92010  
 760-438-3155

TITLE: **Big Wave Tsunami Run-up Analysis**  
 CLIENT: Big Wave Group  
 P.O. Box 1901  
 El Granada, CA 94018

DRAWN
CHECKED
DATE 10/13/10
SCALE
JOB NO.
SHEET <b>S1</b>
1 OF 1 SHEETS





# COUNTY OF SAN MATEO

555 COUNTY CENTER, 5<sup>TH</sup> FLOOR • REDWOOD CITY • CALIFORNIA 94063-1665 • PHONE (650) 363-4100 • FAX (650) 361-8220

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DIRECTOR

October 15, 2010

Mr. Jim Eggemeyer, Director  
Department of Planning and Building  
455 County Center, 2<sup>nd</sup> Floor  
Redwood City, CA 94063

Dear Mr. Eggemeyer:

**Subject: Proposed Big Wave Project – Input from County Public Works Director**

As you know, I am the Director of Public Works for the County of San Mateo (the “County”) and, pursuant to Chapter 2.50 of the San Mateo County Ordinance Code, I serve as the County Engineer. In connection with my responsibilities as the Public Works Director and County Engineer, I write to provide input with respect to the above-referenced proposed Big Wave project. In particular, I want to address matters related to the fact that the proposed project lies within what has been identified as a geologic hazard area.

Section 9.3 of the San Mateo County Local Coastal Program (“LCP”) requires that the County apply certain regulations of the Resource Management (RM) Zoning Ordinance to designated geologic hazard areas. In particular and as relevant to this project, the LCP requires the County to apply to this project Section 6324.6 (“Hazards to Public Safety Criteria”) and Section 6326.2 (“Tsunami Inundation Area Criteria”) of the County Zoning Regulations.

Hazards to Public Safety Criteria

Section 6324.6(e) of the RM Zoning Regulations provides, in relevant part, that “[n]o electric substations, domestic water pumping facilities, sewage treatment, pumping, or disposal facilities shall be located in any hazards areas indicated in Section 6326 unless the County Engineer certifies that direct damage or indirect threat to public health and safety would be unlikely in the event of occurrence of the designated hazard(s).”

This subsection of the Zoning Regulations, among other things, prohibits domestic water pumping facilities, sewage treatment, pumping, or disposal facilities to be located in such hazard areas unless the County Engineer certifies that direct damage or indirect threat to public health and safety would be unlikely in the event of occurrence of the designated hazard(s).

In order to address concerns related to the protection of water and wastewater facilities, as identified in Section 6324.6, Big Wave project has proposed the following project features, as described in the attached June 17, 2010 letter from Scott Holmes, Project Engineer:

1. All water recycling systems will be buried and capable of continuous operation in a submerged state. The minimum elevation of the water recycling system manholes will be elevation 18 feet (3.5 feet above the maximum recorded tsunami inundation). All pumps will be submersible and powered from electrical systems that are located at a minimum elevation of 30 feet (approximate elevation of the Tsunami evacuation zone). Electrical connections to the submersible pumps will be waterproof and explosion proof. The system will be designed to continue to operate after inundation if a tsunami of greater than the 200-year tsunami event occurs.
2. The well is located at elevation 26 feet (11.5 feet above the maximum tsunami elevation). The well utilizes a submersible pump capable of continuous operation in a submerged state. The well pump will be submersible and powered from electrical systems that are located at a minimum elevation of 30 feet (approximate elevation of the Tsunami evacuation zone). Electrical connections to the submersible pumps will be waterproof and explosion proof. The system will be designed to continue to operate after inundation if a tsunami of greater than the 200-year tsunami event occurs.
3. As additional backup project contains two (2) days of water and wastewater storage that will prevent a lack of supply or wastewater spillage from occurring until after the tsunami event has subsided.

Based on these design features proposed by the applicant, it is my determination as the County Engineer that direct damage or the indirect threat to public health and safety would be unlikely in the event of occurrence of the designated hazard(s) provided in the RM Zoning Ordinance and that the project complies with the Subdivision Ordinance for hazard protection of water and sewage systems.

#### Tsunami Inundation Area Criteria

Section 6326.2(a) of the County's Zoning Regulations states, among other things, that "the following uses, structures, and development shall not be permitted [in a Tsunami Inundation Area]: publicly owned buildings intended for human occupancy other than park and recreational facilities; schools, hospitals, nursing homes, or other buildings or development used primarily by children or physically or mentally infirm persons."

Mr. Jim Eggemeyer, Director, Department of Planning and Building

**Subject: Proposed Big Wave Project – Input from County Public Works Director**

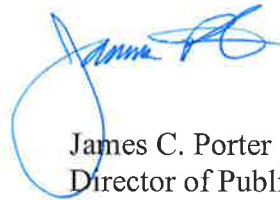
October 15, 2010

Page 3

The Big Wave site lies within a Tsunami Inundation Area and my understanding of the proposal is that at least part of the project site would be used for residency by developmentally disabled adults. With respect to this matter, the Office of the County Counsel has advised me that federal anti-discrimination statutes, such as the Americans With Disabilities Act, the Rehabilitation Act, and the Fair Housing Act, apply to local land use regulations, including those related to zoning. Consequently, the Office of the County Counsel has concluded that, rather than applying Section 6326.2 to exclude disabled individuals from the proposed Big Wave site, the County would have to consider the development of reasonable accommodations for such disabled persons who wish to make use of the Big Wave site. Such accommodations could include other means, aside from an outright ban on disabled persons, by which the safety of such disabled persons could be protected.

Please do not hesitate to contact me with comments or questions regarding this matter.

Very truly yours,



James C. Porter  
Director of Public Works

JCP:sdd

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Jim Porter P.E.  
Director of Public Works  
555 County Center 5<sup>th</sup> Floor  
Redwood City, CA 94063

June 17, 2010

Subject: Request for Compliance Letter for Subdivision Ordinance for Big Wave

Dear Jim:

Thank you for taking the time to meet with me on Wednesday. The Big Wave project is required to comply with the County Zoning Ordinance, the FEIR mitigations and the Subdivision Ordinance for the protection of wells, water systems and sewerage facilities. The project will comply with the Subdivision ordinance in the following manner:

In compliance with the Subdivision requirements for the protection of water and wastewater facilities, the project has the following features:

1. All water recycling systems will be buried and capable of continuous operation in a submerged state. The minimum elevation of the water recycling system manholes will be elevation 18 feet (3.5 feet above the maximum recorded tsunami inundation). All pumps will be submersible and powered from electrical systems that are located at a minimum elevation of 30 feet (approximate elevation of the Tsunami evacuation zone). Electrical connections to the submersible pumps will be water proof and explosion proof. The system will be designed to continue to operate after inundation if a tsunami of greater than the 200 year tsunami event occurs.
2. The well is located at elevation 26 feet (11.5 feet above the maximum tsunami elevation). The well utilizes a submersible pump capable of continuous operation in a submerged state. The well pump will be submersible and powered from electrical systems that are located at a minimum elevation of 30 feet (approximate elevation of the Tsunami evacuation zone). Electrical connections to the submersible pumps will be water proof and explosion proof. The system will be designed to continue to operate after inundation if a tsunami of greater than the 200 year tsunami event occurs.
3. As additional backup project contains 2 days of water and wastewater storage that will prevent a lack of supply or wastewater spillage from occurring until after the tsunami event has subsided.
4. The above systems provide increased protection beyond that of conventional connection to the Municipal Water and Sewer Systems.
5. **SECTION 6326.2. TSUNAMI INUNDATION AREA CRITERIA.** The following criteria shall apply within all areas defined as Tsunami Inundation Hazard Areas:



(a) The following uses, structures, and development shall not be permitted: publicly owned buildings intended for human occupancy other than park and recreational facilities; schools, hospitals, nursing homes, or other buildings or development used primarily by children or physically or mentally infirm persons.

(b) Residential structures and resort developments designed for transient or other residential use may be permitted under the following circumstances:

1. The applicant submits a report prepared by a competent and recognized authority estimating the probable maximum wave height, wave force, run-up angle, and level of inundation in connection with the parcel or lot upon which the proposed development is to be located.

2. No structure covered by this section shall be allowed within that portion of the lot or parcel where the projected wave height and force is fifty (50) percent or more of the projected maximum, unless: (a) the highest projected wave height above ground level at the location of the structure is less than six (6) feet, (b) no residential floor level is less than two (2) feet above that wave height, and (c) the structural support is sufficient to withstand the projected wave force.

3. No structure covered by this section shall be allowed within that portion of the lot or parcel where the projected wave height and force is less than fifty (50) percent of the projected maximum unless the requirements of subsection b, 2), (a), and (c) are satisfied and the residential flood level is at

least one (1) foot above the highest projected level of inundation.

4. Permission under this subsection shall not be granted if the Planning Commission determines that sufficient data, upon which the report required by subsection 1) must be based, is unavailable and cannot feasibly be developed by the applicant.

The County Legal Council has stated the opinion that this ordinance is a clear violation of the American Disabilities Act if 6326.2 (a) is applied to “physically or mentally infirm persons”, while in section (b) allows physically sound individuals without children to safely occupy the same area if parts 1 and 2 (site is 6 feet above the highest inundation level determined by an expert) are followed.

The proposed project complies the following sections of the zoning ordinance:

Section 6326.2.(b).1 : The applicant through the DEIR process has employed a competent Hydrology expert that has estimated the probable maximum wave height, wave runup angle and force at the property after researching 200 years of data. Page IV.H-19 states that analyses identified 52 local tsunamis that occurred between 1806 and 1992. The Final EIR notes that there have been approximately 10 reported local tsunamis including the 2004 Sumatra Earthquake was rated at 9 mw and the 2010 Chile earthquake rated at 8.8 mw. The 2004 Sumatra earthquake did not generate a measurable tsunami. The 2010 Chile earthquake generated a measurable wave that was less than the maximum measures tsunami. Page IV.H-20 of the report identifies 1946 Aleutian Islands teletsunami as generating the maximum height of about 10 feet above mean low tide equal to an elevation of 14.5 feet NGVD (verified by HMB Coast Guard records).



This is 1946 event generated the highest wave in recorded history and is the basis for the 200 year maximum probable height.

Section 6326.2.(b).2 : No structure is allowed in any area subject to wave height or force. The residential floor height is 6 feet above the highest project tsunami.

Section 6326.2.(b).3 : The residential flood level is at 6 feet above the inundation level.

The project also complies with the mitigation Hydro-9 as follows:

1. All structures have first floor elevations 6 feet above the highest project wave elevation (based on a 200 year evaluation of the data).
2. The structure is surrounded by a 4 foot tall wall designed to resist and direct flow away from the buildings.
3. A vegetative buffer of wetlands trees surrounding the property is designed to resist hydraulic flow and resist the transport of debris that may impact the Big Wave Property.

The project complies with the with County Ordinance Section 6326.2, Tsunami Inundation Area Criteria, the criteria established by the Sheriff's Department as outlined in their comment letter 162 and with Mitigation Hydro 9. As stated on page IV.H-61 of the DEIR, the impacts and exposure to tsunami and seiche is less than significant when mitigated.

Sincerely,

Scott Holmes  
Project Engineer

### 3.0 Economic Analyses

#### 3.1 Office Park

Big Wave, LLC contracted with Enright & Company, a real estate appraisal office, to determine if:

- There is a strong market demand from businesses for a class A Office Park on the Coastside
- Coastside residents would be likely to secure employment at the companies that would establish businesses at the Big Wave Office Park. A copy of the report is provided in *Appendix 3.2*. The report, completed July 20, 2007, provided an affirmative to both areas as described in the following excerpts from the Enright & Company report:
  - “The previously identified statistics suggest that demand may be solid for the projects, although a gradual phasing of the project is suggested.”
  - “Interviews with local area businesses indicated that most employees [on the Coastside] would prefer to work closer to their residences, but do not have those options based on limited Coastside opportunity.”
  - “The proposed pricing of the [Big Wave] office condominiums also suggests that demand may be strong.”
  - “Property owners and current business tenants [on the Coastside] lament the lack of good quality product, particularly within a business park setting, and buyer interest for small properties [such as office condominiums] remains generally solid.”
  - “Overall, based on an extensive survey of the needs of local businesses, coupled with current employment demographics and industry trends in general, the proposed subject property is concluded to likely be met with adequate demand.”
  - “The results of the survey data, coupled with numerous conversations with business owners, tenants, and city officials, indicate that local area residents of the San Mateo County Coastside would likely be able to secure employment at companies that could be established at the proposed Big Wave development. The characteristics of the subject citing, coupled with the mentality of local residents (desiring minimal driving times, loyalty to the coastal communities, desire for business park settings in minimally trafficked areas, and the like), suggests that coastal residents will be attracted to employment opportunities likely to be offered at the anticipated project, and furthermore will likely possess the necessary skills required by those employees.”

#### 3.2 Wellness Center

Recurring, inflation-adjusted revenue in perpetuity from the Office Park is the key to the financial sustainability of the Wellness Center. Additionally, the opportunity for Big Wave residents' employment in the Office Park is a unique part of the design for Big Wave. Big Wave Office Park, if built as designed, will provide \$675,000 in today's dollars of recurring, inflation-adjusted annual revenue to the Wellness Center. In addition to providing direct revenue, 50 of the 80 jobs that Big Wave creates for the developmentally disabled (DD) will either be directly in the Office Park or will be generated through

sales to the employees working in the Office Park. These jobs will generate over \$1,000,000 in income that will go directly to the developmentally disabled employees.

If built as planned, the commercial property in the Wellness Center site itself will generate over one million dollars in recurring, inflation-adjusted annual revenue. Mortgages of nearly \$5 million for the Community Center and for the commercial space in the Wellness Center will be offset by this income.

The key to understanding Big Wave's financial sustainability is to recognize the beauty that a recurring, inflation-adjusted revenue stream provides. As Big Wave's recurring revenue increases, and mortgages on property stay stable, the stronger Big Wave becomes financially. After the 30<sup>th</sup> year, once all mortgages have been retired, Big Wave's inflation adjusted recurring revenue stream (based on 3% COLA) will generate over \$4.6 million in annual revenue or \$115,000 per resident.

Big Wave, albeit a non-profit corporation, will always be run with strong fiscal principles. The financial goal of Big Wave is to eventually have revenue cover 100% of resident costs and provide enough annual revenue to continually upgrade services for its residents and the DD community at large.

*Table 3.2* illustrates the financial potential of Big Wave through three scenarios: Model 1 demonstrates the financial sustainability if none of the commercial facilities are built (no financial sustainability exists); Model 2 shows the surplus revenue before all mortgages are paid off; and Model 3 outlines the surplus revenue once all mortgages are paid in full.

- **Model 1** shows annual revenue of \$656,000 which primarily comes from resident fees and some revenue from the Wellness Center's Community Center usage fees and staff rentals. There is no commercial revenue generation as no commercial buildings exist. Model 1 creates an annual deficit of \$656,000. Without the support of the Office Park, unless all residents were able to cover the budget revenue shortfall, the Wellness Center would be unable to function financially.
- **Model 2** illustrates all revenue and costs based on the construction of the commercial development. In this case, even after paying all mortgage costs, the Wellness Center has an annual budget surplus of \$288,600, or \$7,215 per developmentally disabled resident.
- **Model 3** illustrates the budget surplus if all mortgages were paid off in the first year of operation through private donations. The surplus would be \$851,000 annually, or \$21,275 per DD resident. Note that the mortgages may take anywhere from 1 to 30 years to retire and Model 3 is used to show the potential of this financially sustainable project. It should also be understood that the revenue producing assets herein are recurring, inflation-adjusted assets that will grow in time, while much of the costs (e.g. mortgages) will remain fixed.

*Table 3.2* (see next page) also illustrates the anticipated per resident costs with and without subsidized construction and commercial revenue.



Table 3.2: Financial Projections

Financial Projections with and without Office Park and onsite commercial

Model 1: Wellness Center without subsidies from Office Park or commercial lease income from onsite

Model 2: Wellness Center Commercial rented as offices, 225 k SF Office Park

Model 3: Com Ctr, Wel Commercial, res rentals without mortgage, with Mod 2 revenue

Revenue				Model 1		Model 2		Model 3	
Commercial lease income (Wellness Center site)						\$881,600		\$881,600	
Office Park SF assessment, @ \$.05						\$135,000		\$135,000	
Deli Rental office park						\$24,000		\$24,000	
Energy sales, Office park, net after costs						\$156,000		\$156,000	
Market rate residential, 8 units				\$120,000		\$120,000		\$120,000	
Property mgn office park, net after costs						\$24,000		\$24,000	
Water sales (well) to office park						\$12,000		\$12,000	
Rent and Fees, community Center				\$48,000		\$48,000		\$48,000	
Communicat sales, Microwave wi-fi, net						\$36,000		\$36,000	
User Fees from residents, 40 each				\$144,000		\$144,000		\$144,000	
Rentals to staff, 10 units				\$80,000		\$80,000		\$80,000	
Food tickets, \$550 per month, 40 each				\$264,000		\$264,000		\$264,000	
<b>Total Revenue</b>				<b>\$656,000</b>		<b>\$1,924,600</b>		<b>\$1,924,600</b>	
excludes \$.22 SF association fees collected and put into a reserve account for maintenance, \$105,600									
<b>Expenses (all payroll costs includes burden and fringe benefits)</b>									
Total payroll, admin, excludes payroll for caregivers				\$730,000		\$730,000		\$730,000	
Food Prep, 29,760 meals				\$120,000		\$120,000		\$120,000	
Food				\$144,000		\$144,000		\$144,000	
Carrying costs, comm ctr, \$1.8 million				\$156,000		\$156,000		\$20,000	
Carrying cost commercial \$3 million						\$324,000		\$20,000	
Carrying costs 18 units staff/market rents				\$138,000		\$138,000		\$15,000	
supplies				\$24,000		\$24,000		\$24,000	
<b>Total costs</b>				<b>\$1,312,000</b>		<b>\$1,636,000</b>		<b>\$1,073,000</b>	
<b>Surplus Revenue</b>				<b>(\$656,000)</b>		<b>\$288,600</b>		<b>\$851,600</b>	
<b>Resident Purchase Price/ Monthly Costs with subsidized construction</b>									
SF Unit	Price	Mo cost	user fees	Asoc fee	meals	Total cost	adjust cost Cash flow 1	adjust cst CF 2	adjust cst CF 3
1,200	\$240,000	\$1,100	\$300	\$264	\$550	\$2,214	\$3,717	\$1,554	\$259
600	\$120,000	\$550	\$300	\$132	\$550	\$1,532	\$2,625	\$1,052	\$111
400	\$80,000	\$370	\$300	\$88	\$550	\$1,308	\$2,264	\$888	\$65
User Fee = \$300 to cover carrying costs of community ctr. Association fee: \$.22 PSF kept in reserve acct									
<b>Resident Purchase Price/Monthly Cost without subsidized construction</b>									
SF Unit	Price	Mo Cost	user fees	Asoc fee	meals	Total cost	adjust cost Cash flow 1	Adjust cst CF 2	Adjust cst CF 3
1,200	\$420,000	\$1,925	\$300	\$264	\$550	\$3,039	\$4,542	\$2,379	\$1,084
600	\$210,000	\$963	\$300	\$132	\$550	\$1,945	\$3,038	\$1,465	\$524
400	\$140,000	\$648	\$300	\$88	\$550	\$1,586	\$2,542	\$1,166	\$343

Notes and Assumptions

Subsidized construction consists of land, design/engineering, infrastructure donation from Office Park developer

40 DD residents plus housing for staff and market rentals

40,000 SF of residential space

24,000 SF commercial space on Wellness Center site

15,000 SF community center

Resident monthly mortgage costs based on 10% down, a 3.5% special interest rate, insurance/prop tx

Carrying costs for Community Center, commercial and market rate rentals based on market rates

\$.22 psf association fees include maintenance and replacement costs for int./ext. residential units

User fee, \$300 per month per residents, is solely for the carrying costs of the Community Center

Carrying costs for DD residential space excluded from COSTS, Residents to cover these costs

Food service includes breakfast and dinner, 62 meals per month per resident

All earnings neutral income, from operations that generate jobs but no profit, is excluded

Allocation of cash flow for the benefit of the DD residents (shareholders) is calculated as follows:

1. One half of the cash flow is allocated to reduction based on square feet of property owned
2. One half of cash flow is allocated based on number of residents, each of whom equally share returns

If the project is subsidized through 225,000 square feet of Office Park space, the average resident cost for a 600 square foot unit (including mortgage, user fees, association fees and meals) will be \$1,052 per month. This amount is well within the affordability range of most developmentally disabled adults. If, however, there are no commercial subsidies, the average cost for the same 600 square foot unit with living costs would be \$3,038 per month. That amount is well beyond the affordability range of most developmentally disabled adults.

Table 3.3 analyzes the cost to build the Wellness Center and the Office Park, the amount of money the Wellness Center will need to be financially feasible, and the amount of commercial space required for the developers to both subsidize the Wellness Center and to make a reasonable return on their risk and investment.

Table 3.3: Economic Analyses

Economic Analyses (Office Park)				1	2	3	4
TABLE 3.3				Wellness Center	75,000 SF Office Park	150,000 SF Office Park	225,000 SF Office Park
Item							
Land, interest, insurance, carrying costs, 11 years				\$1,900,000	\$2,300,000	\$2,300,000	\$2,300,000
Environmental Impact Report & associated costs				\$100,000	\$300,000	\$300,000	\$300,000
Preliminary Design and Engineering				\$175,000	\$150,000	\$150,000	\$150,000
Wetland Restoration, biology, preliminary Design				\$40,000	\$80,000	\$80,000	\$80,000
Design and Engineering				\$225,000	\$250,000	\$290,000	\$350,000
Supplies and services				\$40,000	\$40,000	\$55,000	\$80,000
City, County, School, Utility fees and bonds				\$400,000	\$800,000	\$1,050,000	\$1,400,000
Other Fees				\$120,000	\$250,000	\$250,000	\$250,000
Legal and expert witnesses				\$75,000	\$150,000	\$150,000	\$150,000
Sitework				\$2,400,000	\$3,900,000	\$4,400,000	\$4,400,000
Offsite Improvements				\$175,000	\$525,000	\$525,000	\$525,000
Wetland Restoration				\$200,000	\$1,000,000	\$1,000,000	\$1,000,000
Walking and Wheel Chair Paths				\$100,000	\$300,000	\$300,000	\$300,000
Road Improvements				\$300,000	\$700,000	\$700,000	\$700,000
<b>Total</b>				<b>\$6,250,000</b>	<b>\$10,745,000</b>	<b>\$11,550,000</b>	<b>\$11,985,000</b>
<b>Total Developer costs, Wellness + Office Park</b>				<b>N/A</b>	<b>\$16,995,000</b>	<b>\$17,800,000</b>	<b>\$18,235,000</b>
Bldg costs, include carrying costs thru construction *				\$13,000,000	\$16,500,000	\$33,000,000	\$49,500,000
Real estate fees on sale (6%)					\$990,000	\$3,150,000	\$4,725,000
<b>Total Cost</b>				<b>\$19,250,000</b>	<b>\$34,485,000</b>	<b>\$53,950,000</b>	<b>\$72,460,000</b>
* Based on \$220 PSF for offices							
Sale Price of Offices (based on \$350 PSF)					\$16,500,000	\$52,500,000	\$78,750,000
<b>Return on Investment (Total sale price less costs including Wellness Ctr. costs paid by Developer)</b>					<b>(\$17,985,000)</b>	<b>(\$1,450,000)</b>	<b>\$6,290,000</b>

The initial budget for land, design engineering and infrastructure for the Wellness Center is \$6,250,000. The costs for the same elements for the Office Park range from \$10,745,000 (for 75,000 sq. ft.) to \$11,985,000 (for 225,000 sq. ft.).

The developers intend to donate the \$6,250,000 the Wellness Center needs if they can realize a reasonable return on investment on the sale or lease of the Office Park. Columns 2 through 4 show the total costs to the developer before the construction begins. This includes donating the \$6,250,000 needed for the Wellness Center. To develop the project, they would need \$16,995,000 for a 75,000 sq. ft. Office Park, \$17,800,000 for 150,000 sq. ft., and \$18,235,000 for 225,000 sq. ft.

The last entry on *Table 3.3*, entitled "Return on Investment," shows the anticipated return on investment after all costs, including the \$6,250,000 donation to the Wellness Center. A 75,000 square foot Office Park would generate a loss of nearly \$18,000,000. A 150,000 square foot Office Park would generate a loss of \$1,450,000. The 225,000 square foot Office Park would generate a positive return of \$6,290,000.

The most sustainable way to construct the Office Park is to design it for 225,000 sq. ft. This design will be a benefit to the Coastside community at large and will be of deep benefit to the developmentally disabled population.

Draft #2



**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.

Attachment X

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.





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**IV. MITIGATION MONITORING AND REPORTING PROGRAM**


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Impact	Required Mitigation Measures	Monitoring Phase	Implementing Party	Enforcement Agency	Monitoring Agency
<b>AESTHETICS</b>					
<b>Impact AES-4</b>	<p><b>Mitigation Measure AES-4: Create a New Source of Substantial Light or Glare which would Adversely Affect Day or Nighttime Views in the Area.</b></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>	Pre-construction/ Construction	Applicant/Contractor	Planning and Building Department	Planning and Building Department
<b>AIR QUALITY</b>					
<b>Impact AQ-2</b>	<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 unpaved access roads, parking areas, and staging areas at construction sites.</li> <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>	Pre-Construction/ Construction	Applicant/Contractor	Planning and Building Department/BAAQMD	Public Works Department/ Planning and Building Department
<b>Impact AQ-5</b>	<p><b>Mitigation Measure AQ-5: Sewage Treatment Odors.</b></p>	Pre-Construction	Applicant/Contractor	Planning and Building Department/RWQCB	Public Works Department/ Planning and Building

Impact	Required Mitigation Measures	Monitoring Phase	Implementing Party	Enforcement Agency	Monitoring Agency
	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.			Department/RWQCB	Department
<b>BIOLOGICAL RESOURCES</b>					
<b>Impact BIO-1a</b>	<p><b>Mitigation Measure BIO-1a: Special-Status Species.</b></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 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 reinspected 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 nonlisted 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.</li> <li>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.</li> </ol> <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>	Pre-Construction/ Construction	Applicant/Botanist/ Contractor	Planning and Building Department/CDFG/USFWS	Planning and Building Department

Impact	Required Mitigation Measures	Monitoring Phase	Implementing Party	Enforcement Agency	Monitoring Agency
	<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 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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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>Impact BIO-1b</b></p>	<p><b>Mitigation Measure BIO-1b: Special-Status Species.</b></p> <p>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 preconstruction nesting bird survey. Provisions of the pre-construction survey and nest 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</p>	<p>Pre-Construction/ Construction</p>	<p>Applicant/Botanist/ Contractor</p>	<p>Planning and Building Department/CDFG/USFWS</p>	<p>Planning and Building Department</p>

Impact	Required Mitigation Measures	Monitoring Phase	Implementing Party	Enforcement Agency	Monitoring Agency
<p><b>Impact BIO-1c</b></p>	<p>to CDFG and USFWS prior to initiation of grading in the nest-setback zone.</p> <p><b>Mitigation Measure BIO-1c: Special-Status Species.</b></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>Pre-Construction/ Construction</p>	<p>Applicant/Botanist/ Contractor</p>	<p>Planning and Building Department/CDFG/Corps/ USFWS/RWQCB</p>	<p>Planning and Building Department</p>
<p><b>Impact BIO-1d</b></p>	<p><b>Mitigation Measure BIO-1d: Special-Status Species.</b></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 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.</p>	<p>Pre-Construction/ Construction</p>	<p>Applicant/Botanist/ Contractor</p>	<p>Planning and Building Department/CDFG/USFWS</p>	<p>Planning and Building Department</p>
<p><b>Impact BIO-4a</b></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>Construction/ Operation</p>	<p>Applicant/Botanist/ Contractor</p>	<p>Planning and Building Department</p>	<p>Planning and Building Department</p>
<p><b>CULTURAL RESOURCES</b></p>					
<p><b>Impact CULT-2a</b></p>	<p><b>Mitigation Measure CULT-2a: Archaeological Resources.</b></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 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-</p>	<p>Pre-Construction/ Construction/Operation</p>	<p>Applicant/Archaeologist/ Contractor</p>	<p>Planning and Building Department/Archaeologist</p>	<p>Planning and Building Department</p>

Impact	Required Mitigation Measures	Monitoring Phase	Implementing Party	Enforcement Agency	Monitoring Agency
	<p>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 shall be conducted to gather baseline data about the nature of the site.</p>				
<b>Impact CULT-2b</b>	<p><b>Mitigation Measure CULT-2b: Archaeological Resources.</b></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>	Pre-Construction/ Construction	Applicant/Archaeologist	Planning and Building Department/Archaeologist/ NAHC	Planning and Building Department
<b>Impact CULT-2c</b>	<p><b>Mitigation Measure CULT-2c: Archaeological Resources.</b></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>	Construction/	Applicant/Archaeologist	Planning and Building Department/Archaeologist/ NAHC	Planning and Building Department
<b>Impact CULT-3</b>	<p><b>Mitigation Measure CULT-3: Paleontological Resources.</b></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,</p>	Construction	Applicant/Archaeologist	Planning and Building Department/Archaeologist	Planning and Building Department

Impact	Required Mitigation Measures	Monitoring Phase	Implementing Party	Enforcement Agency	Monitoring Agency
	professional museum curation, and a report prepared according to current professional standards.				
<b>GEOLOGY AND SOILS</b>					
<b>Impact GEO-3a</b>	<b>Mitigation Measure GEO-3a: Seismic-Related Ground Failure.</b> 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).	Pre-Construction	Applicant/Geologist	Planning and Building Department	Planning and Building Department
<b>Impact GEO-3b</b>	<b>Mitigation Measure GEO-3b: Seismic-Related Ground Failure.</b> 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 propriety piles (i.e., torque-down piles and auger cast piles); and (4) constructing a structural slab that spans supported between columns.	Pre-Construction	Applicant/Geologist	Planning and Building Department	Planning and Building Department
<b>Impact GEO-4</b>	<b>Mitigation Measure GEO-4: Total and Differential Settlement.</b> 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).	Pre-Construction	Applicant/Geologist	Planning and Building Department	Planning and Building Department
<b>Impact GEO-6</b>	<b>Mitigation Measure GEO-6: Expansive Soil.</b> 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 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.	Pre-Construction	Applicant/Geologist	Planning and Building Department	Planning and Building Department
<b>Impact GEO-7</b>	<b>Mitigation Measure GEO-7: Pervious Pavements and Other Water/Wastewater Infiltration Systems.</b>	Pre-Construction	Applicant/Geologist	Planning and Building Department	Planning and Building Department

Impact	Required Mitigation Measures	Monitoring Phase	Implementing Party	Enforcement Agency	Monitoring Agency
	<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>			Department	Department
<p><b>Impact GEO-8</b></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>	Pre-Construction/ Construction	Applicant/Geologist/ Contractor	Planning and Building Department	Planning and Building Department
<p><b>HAZARDS AND HAZARDOUS MATERIALS</b></p>					
<p><b>Impact HAZ-2</b></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>	Pre-Construction	Applicant	Planning and Building Department/RWQCB/CDPH	Public Works Department/ Planning and Building Department
<p><b>Impact HAZ-3</b></p>	<p><b>Mitigation Measure HAZ-3: Hazards Associated with Airport Operations.</b></p> <p>Prior to approval of final development plans, an aviation easement shall be prepared for the project site, in a form satisfactory to the County Director of Public Works. The navigational easement shall be recorded and shown on the vesting tentative map. With approval of the Wellness Center, it is understood that the Wellness Center property owner(s) and tenants, and their successor’s in interest in perpetuity, acknowledge the project’s location adjacent to an airport and the noise level inherent in the use. The following statement shall be included in the details of the aviation easement on the recorded Final Map, prior to the issuance of the Certificate of Occupancy for any residential unit at the subject property:</p> <p>“This parcel is adjacent to the Half Moon Bay Airport. Residents on this parcel may be subject to inconvenience or discomfort arising from airport operations, including but not limited to noise associated with aircraft landings, take-offs, in air maneuvers and fly-overs, and on-the-ground engine start-ups and taxiing. San Mateo County recognizes the value of the Half Moon Bay Airport to the residents of this County and seeks to protect airport operations, existing and future, from significant interference and disruption. With approval of the Wellness Center, it is understood on the part of both the Wellness Center property owner(s) and the Half Moon Bay Airport that airport operations shall take precedence and priority over potential noise complaints received from property owners, residents, staff, guests, and others from the Wellness Center. In the event that the Wellness Center resident(s) or property owner(s) express an inability or unwillingness to accept such noise conditions authorized</p>	Construction	Applicant	Planning and Building Department/ALUC	Public Works Department/Planning and Building Department

Impact	Required Mitigation Measures	Monitoring Phase	Implementing Party	Enforcement Agency	Monitoring Agency
	<p>under the terms of the avigation easement and/or remain unsatisfied with the noise reduction measures being implemented by the airport, the affected resident(s) shall be relocated, with assistance provided by the property owner, to the satisfaction of the Planning and Building Department and/or the Department of Housing. This condition shall be included in all contracts between residents of the Wellness Center and with property owners.</p>				
<b>HYDROLOGY AND WATER QUALITY</b>					
<p><b>Impact HYDRO-3</b></p>	<p><b>Mitigation Measure HYDRO-3: Alteration of 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 building permit 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 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>Pre-Construction/ Construction/Operation</p>	<p>Applicant/Contractor</p>	<p>Planning and Building Department/RWQCB</p>	<p>Public Works Department/ Planning and Building Department</p>
<p><b>Impact HYDRO-4</b></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>Pre-Construction</p>	<p>Applicant</p>	<p>Planning and Building Department/RWQCB</p>	<p>Public Works Department/ Planning and Building Department</p>
<p><b>Impact HYDRO-5</b></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-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</p>	<p>Pre-Construction/ Construction/Operation</p>	<p>Applicant/Contractor</p>	<p>Planning and Building Department/RWQCB</p>	<p>Public Works Department/ Planning and Building Department</p>



Impact	Required Mitigation Measures	Monitoring Phase	Implementing Party	Enforcement Agency	Monitoring Agency
	<p>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 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>Per Technical Memorandum #1 (TM #1), dated May 15, 2009, prepared by Schaaf and Wheeler (included in Appendix H of the DEIR), Stormwater Best Management Practices should serve several hydrologic and water quality functions, including maximizing groundwater recharge, minimizing quantities of stormwater runoff, and reducing pollutant loadings in stormwater runoff.</p>				
<p><b>Impact HYDRO-6</b></p>	<p><b>Mitigation Measure HYDRO-6: Ground Quality.</b></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>Pre-Construction/ Construction/Operation</p>	<p>Applicant/Contractor</p>	<p>Planning and Building Department/CDPH/County Department of Health Services</p>	<p>Public Works Department/ Planning and Building Department</p>
<p><b>Impact HYDRO-9</b></p>	<p><b>Mitigation Measure HYDRO-9: Exposure to Tsunami and Seiche.</b></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</p>	<p>Pre-Construction/ Construction/Operation</p>	<p>Applicant/Contractor</p>	<p>Planning and Building Department</p>	<p>Public Works Department/ Planning and Building Department</p>

Impact	Required Mitigation Measures	Monitoring Phase	Implementing Party	Enforcement Agency	Monitoring Agency
	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.				
<b>LAND USE AND PLANNING</b>					
<b>Impact LU-2</b>	<b>Recommended Mitigation Measure LU-2</b> The property owner shall work with the California Coastal Commission (CCC) to identify and delineate the CCC's jurisdiction over the project site, subject to CCC review and approval. The property owner shall obtain all necessary approvals from the Coastal Commission prior to the initiation of any development within areas of CCC jurisdiction.	Pre-construction/ Construction	Applicant/Contractor	California Coastal Commission/Planning and Building Department	Planning and Building Department
<b>Impact LU-3</b>	<b>Recommended Mitigation Measure LU-3</b> The applicant shall comply with the following recommendations of the State Department of Transportation, Division of Aeronautics: 1) Federal Aviation Administration (FAA) Advisory Circular 150 /5370-2E "Operational Safety on Airports during Construction" shall be incorporated into the project design specifications 2) in accordance with Federal Aviation Regulation, Part 77 "Objects Affecting Navigable Airspace" a Notice of Proposed Construction or Alteration (Form 7460-1) shall be provided if required by the FAA, and 3) the location and type of landscape trees shall be selected carefully so they do not become a hazard to aircraft around the airport.	Pre-construction/ Construction	Applicant/Contractor	Federal Aviation Administration /Planning and Building Department	Planning and Building Department
<b>Impact LU-4</b>	<b>Recommended Mitigation Measure LU-4</b> The applicant shall comply with the recommendations of the County's Coastsides Design Review Officer to implement changes to the Office Park buildings that improve consistency with applicable policies of the LCP and the Community Design Manual, prior to the project approval by the Planning Commission.	Pre-construction/ Construction	Applicant/Contractor	Planning and Building Department	Planning and Building Department
<b>NOISE</b>					
<b>Impact NOISE-1</b>	<b>Mitigation Measure NOISE-1: Construction Noise.</b> 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: <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 condition.</li> <li>• Stationary construction equipment that generates noise levels in excess of 65 dBA Leq 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 Leq.</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</li> </ul>	Construction	Applicant/Contractor	Planning and Building Department	Planning and Building Department

Impact	Required Mitigation Measures	Monitoring Phase	Implementing Party	Enforcement Agency	Monitoring Agency
	<p>types of activities and equipment that would be occurring throughout the duration of the grading and construction periods.</p> <ul style="list-style-type: none"> <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>				
<b>PUBLIC SERVICES</b>					
<i>Impact PS-1</i>	<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>	Pre-Construction/ Construction/Operation	Applicant/Contractor	Planning and Building Department	Planning and Building Department
<i>Impact PS-2a</i>	<p><b>Mitigation Measure PS-2a: Fire Protection Services.</b></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>	Construction	Applicant/Contractor	Planning and Building Department	Planning and Building Department
<b>TRANSPORTATION/TRAFFIC</b>					
<i>Impact TRANS-1</i>	<p><b>Mitigation Measure TRANS-1: Intersection Level of Service and Capacity.</b></p> <p>The property owner shall submit a traffic report to the Community Development Director, at full occupancy of every 60,000 sq. ft. of office space, until full project occupancy, and submit traffic reports bi-annually after full project occupancy. The report shall be signed and stamped by a Professional Transportation Engineer in the State of California and identify the Level of Service (LOS) at the intersection of Cypress Avenue and SR 1, Airport Street &amp; Stanford/Cornell (Study Intersection 3 of DEIR), Broadway &amp; Prospect Way (Study Intersection 2), Prospect Way &amp; Capistrano (Study Intersection 1) and State Route 1 &amp; Capistrano (Study Intersection 8) to evaluate if they maintain a LOS C or better. If Levels of Service fall below existing levels for the intersection of Cypress Avenue and SR1 (LOS C in the AM and LOS D in the PM), the applicant shall coordinate with Caltrans to pay a fair share for the installation of a signal as necessary to ensure that the signal will be installed within 1 year of the date of that report. If traffic reports reveal that the LOS of any of the other intersections listed above fall below LOS C, it shall identify methods for reducing vehicle trips to and from the project site, as well as other roadway or intersection improvements that would result in LOS C or better. The applicant shall implement the measures required by the Department of Public Works and the Planning and Building Department, subject to all necessary permitting and environmental review requirements, within 1 year of the date of that report. In the event that permits required for roadway or intersection improvements are not obtained, the methods for maintaining LOS C or better shall be achieved by reducing vehicle trips to and from the project site.</p>	Operation	Applicant/Contractor	Public Works Department/ Planning and Building Department/CalTrans	Planning and Building Department
<i>Impact TRANS-8</i>	<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>	Pre-Construction/ Construction	Applicant/Contractor	Public Works Department/ Planning and Building Department	Public Works Department/ Planning and Building Department
<b>UTILITIES AND SERVICE SYSTEMS</b>					
	<u>Sewer</u>				

Impact	Required Mitigation Measures	Monitoring Phase	Implementing Party	Enforcement Agency	Monitoring Agency
<b>Impact UTIL-2</b>	<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. Any implementation of Mitigation Measure UTIL-2b would require separate CEQA review and permit review.</p>	Pre-Construction/ Construction	Applicant/Contractor/ Groundwater Consultant	Public Works Department/ Planning and Building Department	Public Works Department/ Planning and Building Department
<b>Impact UTIL-4</b>	<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>	Operation	Applicant	Public Works Department/ Planning and Building Department/State Health Department/RWQCB	Public Works Department/ Planning and Building Department
<b>Impact UTIL-5</b>	<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 landscape areas for winter season dispersal of all wastewater flow not distributed for toilet flushing. The project's use of treated wastewater for irrigation shall be managed and controlled to prevent changes in existing drainage and hydrology that could adversely impact the biology or hydrology of wetland habitats or result in ponding that could result in health, circulation, or structural stability problems. Prior to Planning approval of any grading permit, the applicant shall submit a report, prepared by a biologist/hydrologist to determine appropriate recycled watering levels for all seasons that is consistent with the above requirement and the revised water budget analysis. The report shall be submitted for review by the Environmental Health Division, RWQCB, and the County Planning Department. Use of recycled water for irrigation shall be monitored for two years by a biologist/hydrologist to adjust water levels as necessary based on actual site conditions.</p>				
<b>Impact UTIL-6</b>	<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>	Pre-Construction	Applicant	Public Works Department/ Planning and Building Department	Public Works Department/ Planning and Building Department
	<u>Solid Waste</u>				
<b>Impact UTIL-11</b>	<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>	Construction/Operation	Applicant	Planning and Building Department/Environmental Health Services	Planning and Building Department



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

Western-Pacific Region  
Airports Division

P. O. Box 92007  
Los Angeles, CA 90009-2007

San Mateo County Airports

July 8, 2010

JUL 12 2010

RECEIVED

Mark Larson  
Airport Manager  
Half Moon Bay Airport  
620 Airport Drive  
San Carlos, CA 94070

Dear Mr. Larson:

### **Half Moon Bay Airport Planned Wellness Center**

We are providing comments regarding the proposal to construct a Big Wave Wellness Center (Center) next to Half Moon Bay Airport (HAF). Based on the information available to us, the Center will be built approximately 500 feet west of runway 30. The presence of a center for the developmentally disabled that is so close to the runway represents a use that is not compatible with normal airport operations. Therefore, it is our determination that the selected site is not appropriate. An alternative site outside HAF's influence area should be used for the Center.

San Mateo County is reminded of the requirements of Assurance 21, *Compatible Land Use*. Airport sponsors are required to take appropriate action to restrict the use of land adjacent to the airport to activities that are compatible with normal airport operations. Clearly, a clinical residential center serving disabled patients would not be considered a compatible use so close to the airport and its runway.

Even if the center is not inside the noise contours of HAF, aircraft operations will have some disturbing impact on the Center. Its occupants will surely be aware of normal airport operations because aircraft over-flight noise will occur. The duration and intensity of the noise, even if it is intermittent, will likely be deemed to be an undesirable nuisance by occupants and residents of the center.

From a practical perspective, the consequences of incompatible land uses should not be taken lightly. The airport's neighbors will surely complain about airport noise. Incompatible land uses such as the Center will eventually provoke persistent criticism related to noise, safety, and emissions.

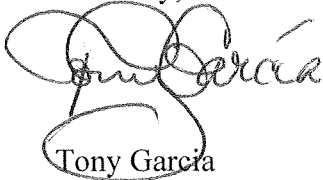
Once incompatible land uses are established, it is the airport that is expected to undertake remedial action to mitigate the offending irritants. For example, the San Mateo County General Plan was formulated to "promote and protect the public health, safety, peace, morals, comfort, convenience and general welfare." Additionally, the "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."

Yet, because of incompatible land uses in the vicinity of HAF, “the County has implemented noise abatement procedures at HAF to further reduce aircraft noise impacts in the surrounding noise sensitive areas.”

The above example discloses the land-use incompatibility shortcoming related to the proposed location of the Wellness Center. The planning and environmental documents proffer that there will not be any negative environmental impacts related to the proximity of the Center to the airport. However, experience actually reveals that the opposite is true. Inevitably, the Center’s users will complain about the airport. The unfortunate public policy reaction to the complaints will inevitably be proposals to impose additional restrictions on normal airport operations. Historically, case after case shows that incompatible land use becomes a quality of life issue for the airport’s neighbors and, thereafter, a losing proposition for the airport.

For these reasons, we must express our objection to the proposed site of the Wellness Center. If you have any questions, please call me at 310-725-3634.

Sincerely,

A handwritten signature in black ink, appearing to read "Tony Garcia", written in a cursive style. The signature is positioned above the printed name.

Tony Garcia

Airports Compliance Program Manager/  
Safety-Certification Inspector







COASTSIDE FIRE PROTECTION DISTRICT

1191 MAIN ST. HALF MOON BAY, CA 94019

TEL (650) 726-5213  
FAX (650) 726-0132



December 22, 2009

To: Lisa Grote  
455 County Government Center  
2<sup>nd</sup> Floor, Mail Drop PLN122  
Redwood City, Ca 94063

From: Battalion Chief Clayton Jolley - Fire Marshal

Subject: Response & Comments –

Big Wave Project PLN 2005-00481 & PLN2005-00482.

Due to the scope of the development, the Coastside Fire Protection District will utilize a third-party plans examiner to assist with the building, sprinkler and site plan review process for this development. Additional fees charged by this consultant will be the responsibility of the developer. We have completed our initial broad review of the planning documents for your development project in Princeton-by-the-Sea and have the following comments.

191-1

- 1.) The fire district as of January 2008 has adopted the 2007 California Fire Code with local amendments, pertinent language pertaining to supplemental water supplies is shown below.

*508.2 Type of Water Supply. Water supplies may consist of reservoirs, pressure tanks, elevated tanks, water mains or other fixed systems capable of providing the required fire flow. The Chief may use any of the individual provisions of Appendix B or any other recognized method for the determination of required fire flow for the specific site.*

*508.2.2.2 Storage of Suburban and Rural Water Supplies. In calculating the water supply available to meet the minimum fire flow required in Section 508.1, swimming pools, ponds and underground cisterns which would require a fire department drafting operation shall not be considered as a primary water source.*

191-2

In order to determine the amount of water needed to provide fire protection to the development the following items shall be submitted: **Site Plan** - Show building location (vicinity map) and legal address. (minimum size 18" x 24"), **Floor Plan** - Show overall floor plan of the buildings, side yards, parking areas, etc., **Occupancy Use** - Indicate occupancy group & division (B,E etc.) and the proposed use of all areas(i.e., retail sales, woodshop, office, etc.), **Type of Construction** - Indicate type of construction of all buildings (i.e., wood frame, concrete tilt-up, masonry, etc.).



2.) **Fire Hydrants:** An approved fire hydrant (Clow 960) must be located a maximum of 500 feet apart and no further than 250 feet measured by way of drivable access from the proposed project. Each hydrant shall be identified by a Blue reflective dot placed on the roadway just off-center of the centerline toward the hydrant. Hydrants must be protected from vehicular impact by curbing or Bollards. The hydrant must have a minimum flow of 1,500 gallons per minute at 20 pounds per square inch residual pressure for a minimum of 2 hours, this is a minimum commercial fire flow, please submit information requested in item #1 for actual flow required which may be substantially larger. Please submit a site plan showing all fire suppression underground piping to the Coastside Fire Protection District through the San Mateo County Planning and Building Department for review and approval.

191-3

3.) **Fire Access Roads:** Fire suppression operations involve heavy pieces of apparatus that must set-up and operate close to the building. California Fire Code and fire district ordinances require construction that allows fire apparatus to be placed directly outside the building. Additionally, it is the developer/owner's responsibility to assure well-marked fire lanes are provided around the entire outside perimeter of the building. When fire protection, including fire apparatus access roads and water supplies for fire protection, is required to be installed such protection shall be installed and made serviceable prior to combustibles being brought on the project site and during the time of construction. Approved signs and painted curbs or lines shall be provided and maintained to identify fire apparatus access roads and state the prohibition of their obstruction. Fire lanes shall be in accordance with Coastside Fire District specification and the California Fire Code.

191-4

4.) **Emergency Building Access:** The proposed project will require the installation of "Knox Boxes" (Emergency Key Boxes) which are required when immediate access is necessary for life saving or fire-fighting purposes. The Chief will determine the location for the key box and provide an authorized order form. All security gate systems controlling vehicular access shall be equipped with a "Knox"; key operated emergency entry device. Applicant shall contact the Fire Prevention Bureau for specifications and approvals prior to installation.

191-5

5.) **Address Numbers:** Building identification shall be conspicuously posted and visible from the street. (TEMPORARY ADDRESS NUMBERS SHALL BE POSTED PRIOR TO COMBUSTIBLES BEING PLACED ON SITE).

Building address numbers shall be either internally or externally illuminated and contrasting with the background so as to be seen from the street or road fronting the building.

Building address number heights shall be sized in accordance with the table noted below. The number stroke shall be 1-inch or larger.

191-6

<u>Distance from Road</u>	<u>Address No. Size</u>
0-50 feet	6-inch
50-100 feet	8-inch
100-150 feet	10-inch
150 + feet	12-inch

If required by the Fire Marshal a monument sign displaying the location of all buildings in the complex must be installed in a prominent location at the entrance to the complex.

191-6

6.) **Roof Covering:** The roof covering of every new building or structure, and materials applied as part of a roof covering assembly, shall have a minimum fire rating of Class "B" or higher.

191-7

7.) **Exiting Plan:** Provide an exiting plan with appropriate code compliant exits and hardware to accommodate the calculated live loads of the building. Exiting plan must meet Chapter 10 (Means of Egress) requirements of the 2007 California Building Code and the 2007 California Fire Code. **Detailing** - Show all proposed walls, **Doors** - Show all door locations, fire-rating (if applicable), direction of swing, self closing mechanisms, width, etc.

191-8

8.) **Exit Door Hardware** - Show detail of exit door hardware, exit door(s) shall be operable from the inside without the use of a key, special knowledge or effort. Exception: Main exit door may be equipped with a keyed-locking device if there is a readily visible sign on or adjacent to the door stating "THIS DOOR TO REMAIN UNLOCKED DURING BUSINESS HOURS". The sign shall be in letters not less than 1inch tall with a 1/4" stroke.

191-9

9.) **Automatic Fire Sprinkler System:** The proposed project must be equipped with an approved NFPA 13 commercial fire sprinkler system throughout. You **will not** be issued a building permit until fire sprinkler plans are received, reviewed and approved by the fire district. **Please be advised that the sprinkler system design shall be based on an Ordinary-Group 2 hazard classification as per NFPA 13 and may be altered to a higher classification if warranted by plan review and building occupancy.**

191-10

10.) **Lighting Layout** - Provide lighting layout. Show full dimensions of light fixtures and relationship to adjacent sprinkler heads.

191-11

11.) **Fire Alarm System:** This project is required to have installed an approved NFPA 72 Fire Alarm System throughout. The system is to monitor any flow through the required automatic fire sprinkler system, any fire sprinkler valve tamper, all heat and smoke detectors, and all required manual pull station devices. The system will also include an exterior bell and interior horn/strobes, which are required to be wired to the alarm system and the flow switch for the fire sprinkler system. This alarm system shall be monitored by a UL listed Central station.

191-12

12.) **Occupancy Load** - Any room having an occupant load of 50 or more where fixed seats are not installed, and which is used for classroom, assembly or similar purpose, shall have the capacity of the room posted in a conspicuous place.

191-13

13.) **Fire Extinguishers** - There must be a fire extinguisher for each 3,000 square feet, travel distance not to exceed 75' per Title 19 CCR as a minimum. Additional or closer extinguishers may be required based on use and occupancy.

Commercial Cooking Areas: Provide one Type "K" 40BC rated fire extinguisher for cooking area, installed within 30' of cooking equipment. Extinguisher to be tagged with the seal of the State Fire Marshal. An UL 300 compliant automatic fire suppression system shall be installed in the hood and duct system in all commercial kitchens.

191-14

14.) **Community Facilities District** - Any commercial project over 4,000 square feet in size will be required to form a Communities Facilities District. **Please be aware that it takes a minimum of 3 months to go through the CFD process.** An occupancy permit will not be issued until all project conditions of the district are completed. Please contact the fire district administration office with questions or to receive detailed information.

191-15

Our review is not construed as encompassing the structural integrity of the facility nor abrogating more restrictive requirements by other agencies having responsibility. This review is limited to documents submitted during planning review and may be altered or made more restrictive by subsequent review of submitted materials. Final acceptance is subject to field inspection, submission of required documents and necessary tests.

191-16

Sincerely,



Clayton Jolley - Battalion Chief

***CAL FIRE***

Coastside Fire Protection District

Cc: File

## **VI. POLICIES AND PROGRAMS**

### **B. POLICIES AND PROGRAMS 2003-2006**

The County will:

#### **GOALS AND OBJECTIVES**

##### **14.1 Maintain and Improve Quality and Affordability of Existing Housing Stock**

Maintain and improve the quality and affordability of the existing housing stock in order to minimize the displacement of existing residents.

##### **14.2 Promote Sufficient Production of New Housing**

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.

##### **14.3 Provide Housing Near Employment, Transportation, and Community Services**

Strive to provide housing in balanced residential environments that combine access to employment opportunities, transportation, childcare and other community services.

##### **14.4 Ensure Equal Access to Housing**

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.

#### **DEFINITIONS**

##### **14.5 Definition of Income Level**

Use the following definitions of income levels:

###### **a. Extremely Low Income Household**

Define "extremely low income household" as a household whose income, with adjustments for household size, does not exceed the qualifying limits for extremely low income households as established by and amended from time to time by the U.S. Department of Housing and Urban Development pursuant to Section 8 of the United States Housing Act of 1937, as amended. The current extremely low income limits are available at the San Mateo County Office of Housing.

b. Very Low Income Household

Define "very low income household" as a household whose income, with adjustments for household size, does not exceed the qualifying limits for very low income households as established by and amended from time to time by the U.S. Department of Housing and Urban Development pursuant to Section 8 of the United States Housing Act of 1937, as amended. The current very low income limits are available at the San Mateo County Office of Housing.

c. Low Income Household

Define "low income household" as a household whose income, with adjustments for household size, does not exceed the qualifying limits for low income households as established by and amended from time to time by the U.S. Department of Housing and Urban Development pursuant to Section 8 of the United States Housing Act of 1937, as amended. The current low income limits are available at the San Mateo County Office of Housing.

d. Moderate Income Household

Define "moderate income household" as a household whose income, with adjustments for household size, does not exceed 120 percent of the County median household income as established by and amended from time to time by the U.S. Department of Housing and Urban Development pursuant to Section 8 of the United States Housing Act of 1937, as amended. The current moderate income limits are available at the San Mateo County Office of Housing.

14.6 Definition of Affordable Housing

- a. Define "affordable housing" as housing with a contract price or rent that is affordable by extremely low, very low, low or moderate income households not spending more than a specified percentage of their income for housing; the maximum percentage of income to be spent on housing shall be determined in accordance with HUD guidelines.
- b. Publish annually the income limits and maximum rent payments considered affordable in unincorporated areas. Maximum affordable sales prices for ownership of affordable housing will be determined by the Planning Division on a case-by-case basis based on the current maximum income limits, interest rates, and other relevant factors.

14.7 Definition of Farm Labor Housing

Define "farm labor housing" as mobile homes or other housing structures intended to house persons or families, at least one of whom derives a substantial portion of his/her income from employment in an agricultural or floricultural operation.

**PROTECT EXISTING AFFORDABLE HOUSING**

**Preserve and Enhance Quality of Existing Housing Stock**

14.8 Strengthen the Low Interest Rehabilitation Loan Program

Strengthen the Low Interest Rehabilitation Loan Program and make it more proactive by:

- a. Targeting available rehabilitation funds to areas with the greatest housing deficiencies; periodically monitor the condition of housing for signs of deterioration to determine areas with greatest rehabilitation needs.
- b. Increasing the number of multi-family rental units rehabilitated by working with landlords to rehabilitate multi-family housing for low income tenants.
- c. Linking multi-family rental housing rehabilitation projects that use public resources with long-term affordability.
- d. Working with San Mateo County cities toward a common definition of substandard housing in need of rehabilitation, and toward better methods of data collection on housing conditions.
- e. Coordinating with neighborhood revitalization and code enforcement programs.
- f. Investigating and securing additional resources for housing rehabilitation.

14.9 Enforce Building Code Requirements

Prevent or eliminate hazardous living conditions by: (a) requiring structures to conform to an accepted set of construction standards; (b) inspecting buildings for deficiencies during construction, upon request or in response to a complaint; and (c) halting improper construction activities.

14.10 Offer Voluntary Code Inspection Services

When adequate staff resources are available, offer the County's building inspection services, upon request, to inspect structures, describe their condition,

and provide a construction history to the extent that such information is available. Consider offering this service at a reduced rate for extremely low, very low or low income residents.

14.11 Promote Energy Conservation in Existing Housing

Support the installation of energy conservation features in existing housing units and promote educational and financial programs that focus on improving the energy efficiency of existing housing.

14.12 Preserve Existing Single-Family Residential Areas

Preserve and enhance the character of existing single-family residential areas by limiting adjacent land use designations to those that are compatible. Consider compatible land use designations to be residential, neighborhood commercial or mixed uses that include multi-family housing; locate compatible land uses in areas currently in transition and along traffic corridors.

**Protect Existing Affordable Housing from Conversion or Demolition**

14.13 Prohibit Condominium Conversions

Maintain the existing rental housing stock by prohibiting condominium conversions until market factors, such as vacancy rates, indicate that there is no longer a shortage of rental housing. Provide an exception for residents or qualified non-profit organizations to convert and purchase condominiums that would be retained as affordable housing.

14.14 Protect Existing Affordable Housing from Conversion or Demolition

Protect existing affordable housing constructed using public resources from conversion to market-rate housing or demolition by:

- a. Continuing to keep, and periodically update, the inventory of assisted units at-risk of conversion to market-rate units.
- b. Respond to any Federal or State Notices including Notice of Intent to Pre-Pay, Owner Plans of Action, or Opt-Out Notices filed on assisted projects.
- c. Encourage local housing sponsors to purchase at-risk housing developments and hold the units as long-term affordable housing.
- d. Consider providing financial assistance from available local, State and Federal sources to facilitate purchase and preservation of long-term affordability for at-risk housing developments.

County of San Mateo  
Environmental Services Agency  
Planning and Building Division

### In-Lieu Park Fee Worksheet

[This formula is excerpted from Section 7055 of the County's Subdivision Regulations]

This work sheet should be completed for any residential subdivision which contains 50 or fewer lots. For subdivisions with more than 50 lots, the County may require either an in-lieu fee or dedication of land.

1. For the parcel proposed for subdivision, look up the value of the land on the most recent equalized assessment roll. (Remember you are interested in the land only.)

Value of Land = 585,063

2. Determine the size of the subject parcel in acres.

Acres of Land = 5.12

3. Determine the value of the property per acre.

- a. Set up a ratio to convert the value of the land given its current size to the value of the land if it were an acre in size.

<b>Formula:</b>	
<u>Parcel Size in Acres (From Item 2)</u> 1 Acre of Land	<u>Value of Subject Parcel (From Item 1)</u> Value of Land/Acre
<b>Fill Out:</b>	
<u>5.12</u> 1 Acre	<u>585,063</u> Value of Land/Acre

- b. Solve for X by cross multiplying.

<b>Formula:</b>	
Value of Land =	$\frac{\text{Value of the Subject Parcel (From Item 1)}}{\text{Size of the Subject Parcel in Acres (From Item 2)}}$ =
<b>Fill Out:</b>	
Value of Land =	$\frac{585,063}{5.12} = 114,270.11$



4. Determine the number of persons per subdivision.

*3 parcels  
1 comm.  
2 res.*

**Formula:**  
 Number of New Lots Created\* X 2.81\*\* = Number of Persons Per Subdivision

\*Example: A 2-lot split would = 1 newly created lot.

**Fill Out:**  
 1 X 2.81\*\* = 2.81

\*\*Average number of persons per dwelling unit according to the most recent federal census (1990).

5. Determine the parkland demand due to the subdivision.

**Formula:**  
 Number of Persons Per Subdivision (From Item 4) X .003\*\*\* Acres/Person = Parkland Demand

**Fill Out:**  
 2.81 X .003\*\*\* Acres/Person = 0.00843

\*\*\*Section 7055.1 of the County's Subdivision Ordinance establishes the need for .003 acres of parkland property for each person residing in the County.

6. Determine the parkland in-lieu fee.

**Formula:**  
 Parkland Demand (From Item 5) X Value of the Land/Acre (From Item 3.b) = Parkland In-Lieu Fee

**Fill Out:**  
 0.00843 x 114,270.4 = \$ 963.30